Centre for International Health

Public Health Law in Timor-Leste

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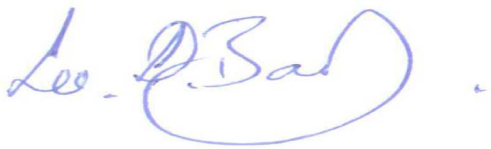
Declaration

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgement has been made.

This thesis contains no material that has been accepted for the award of any other degree or diploma in any university.



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Abstract

Post-conflict, 'fragile' nations face significant health, social, economic and political challenges. The international community is, on the whole, organised and effective in assisting these nations to address urgent priorities. Often, however, prioritisation of immediate concerns has resulted in less focus being given to capacity building, including the fostering of lasting, effective and autonomous systems within these nations.

This study examined the post-conflict, transitional nation of Timor-Leste. In particular, it focused on the potential for a health systems-strengthening approach, public health law, to improve the exceptionally poor level of population health found in Timor-Leste. Public health law has a long history within the developed world of success in facilitating the prevention and control of disease. The extent to which law can assist in addressing key health concerns within the developing world has, however, attracted little attention to date.

This thesis documents a social and political history of Timor-Leste and provides a review of selected population health indicators. An overview of the Timorese health and legal systems is provided with a focus on system capacity, existing public health law and reported strategic directions. The review is complemented by a survey of 245 residents of Dili, the capital of Timor-Leste, in order to ascertain levels of community awareness of, and support for, selected existing public health laws. Further context was provided through in-depth interviews with 19 health and legal professionals living and working in Timor-Leste. Importantly the study was designed and conducted according to guidance provided by four Timorese cultural advisors.

Awareness of law is clearly essential if it is to be effective as a preventive intervention. Community support for law is arguably also fundamental if there is to be widespread adherence to law and political willingness to pursue law reform. Key dependent variables within the community survey and interviews with professionals included awareness of, and support for, public health law amongst a suite of specific regulatory areas including road safety, the sale of alcohol and tobacco to children,

food safety and water safety. These areas were selected due to their existing or steadily increasing importance in the developing world. Quantitative analytical methods included Chi-square for examining differences between survey sub-groups, and Kendall's tau-b for examining correlations between ordinal variables. Qualitative data from interviews was subject to thematic analysis.

Analysis of survey and interview data highlighted a poor level of awareness of selected existing public health laws in Timor-Leste amongst participating community members and health and legal professionals. A number of demographic factors were identified as being statistically associated with levels of awareness within the community and these provide direction for future educative efforts. Encouragingly, this study has also identified a strong level of support for public health law amongst both community and professional groups. Support was high for the legal approach to health law overall and for each of the regulatory areas examined. Attitudinal factors associated with community support were identified and these provide guidance for future efforts to raise understanding and acceptance of public health law in Timor-Leste.

The review of the health and legal systems, however, highlights that there currently exists an incomplete set of laws that lacks cohesion and accessibility in Timor-Leste: an analysis of applicable law requires a detailed investigation of Timorese and Indonesian law, and United Nations regulations. There appears also to be little systemic capacity to enforce existing, or develop additional, law and regulation. Public health law reform, furthermore, does not appear to be among the Timor-Leste government's strategic directions.

This study is one of few undertaken globally on public health law in a developing, post-conflict transitional society. The observation of widespread support for the legal approach to health provides impetus and direction to the proposition of a coordinated and resourced public health law strategy in Timor-Leste. Recommendations have been provided to address some of the current barriers to such a strategy, including capacity constraints, low awareness and low political and public service profile. Finally a theoretical framework is provided to specifically guide further research and implementation of public health law in Timor-Leste and similar settings.

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Chapter One: Introduction and Overview

1.0 Introduction

This thesis makes a contribution to an emerging field of study: that of the role of public health law and regulation in improving health within the developing world. In particular, the thesis examines the case of the post-conflict and 'fragile' nation of Timor-Leste. Findings are presented from a study of community and professional awareness of, and support for, public health law in Timor-Leste. These results are incorporated into a theoretical framework, proposed at the conclusion of this thesis, to guide the further research and implementation of public health law in settings such as Timor-Leste.

This chapter provides an overview of the thesis, beginning with a rationale for the examination of public health law in Timor-Leste. An outline of the aims and methodology of the research is presented and key findings are summarised along with their significance and limitations.

1.1 Rationale for the Study

1.1.1 Public health law: strengthening health system capacity to prevent and control disease.

The most cost-effective and ethically desirable way to improve the long-term health status of a population is arguably through population-wide measures that *prevent* ill health from occurring. Of such measures, health promotion, disease surveillance, education, advocacy and the targeted financing of key programs, for example, are vital in achieving long-term reductions in rates of disease, disability and injury (Detels, 2005; World Health Organization [WHO], 1997). These strategies are usually delivered in concert with a primary health care system that additionally focuses on the early identification and treatment of existing disease (WHO, 1978, 2008d).

However, these strategies, while critical, do not represent an entirely sufficient preventive health approach. Health promotion, for example, is limited, relying largely upon *persuasion* of individuals to change certain health-related behaviours or environments that are considered a risk to health (Garrard et al., 2004; Rose, 1992; Stott, Kinnersley, & Rollnick, 1994). Many people will not alter risk behaviours such as tobacco-use, for example, through encouragement and education on health risks alone. Programs to encourage people to stop smoking are in competition not only with the addictive hold that tobacco has over its users, but also the tobacco industry, which has powerful economic reasons to sell as much tobacco as possible (WHO, 2009e). If public health is the 'organised response by society' to both promote and *protect* health on a population level (National Public Health Partnership, 1998), then entrenched environments and systems that *guard* people from risks to health must certainly also be a key approach.

Public health law can be viewed, historically, as a particularly efficient and influential tool within a 'health systems strengthening' approach (Gostin, 2000; Reynolds, 2004). Indeed, basic health-related regulations focusing, for example, on compulsory quarantine, immunisation, the safety of water supplies, and the provision of warnings regarding tobacco-use, have had an enormous impact on morbidity and mortality rates globally (Mensah et al., 2004a, 2004b; Moulton, Goodman & Parmet, 2007). Law has enabled governments to enforce certain environmental and behavioural changes that would not have been possible through persuasion alone (Gostin, Thompson & Grad, 2007).

The regulatory approach to the improvement of population health can be viewed as part of a tandem strategy to health promotion, namely health *protection* (Parmet, 2007). Health-related law designed to protect populations from risks to health, particularly through communicable disease control measures, has been in place to varying extents throughout the world for centuries (Carmichael, 1991; Gostin, 2000). The foundations for a broad and cohesive public health law approach, however, might be considered to be the English *Public Health Act* of 1848 (Calman, 1998; Reynolds, 2004).

In the developed world, public health law has become a largely accepted health strategy and has proved flexible enough to be occasionally altered in line with societal changes. Over the past decade or more in Australia, for example, a number of States have re-drafted their existing Health Acts to reflect new approaches and to address emerging (and prepare for currently unknown) health risks (e.g., Department of Human Services, 2004, 2005). Internationally, health law has also been updated to allow more effective control of infectious diseases that, through the modern ease of international travel, are now more easily spread than ever before in history (Coker, 2006; Fidler & Cetron, 2007; Richards & Rathbun, 2004; WHO, 2005b).

Modern public health law also takes into account the threat of intentional infection, through bioterrorism or the 'knowing and reckless' infection of sexual partners with HIV, for example (Annas, 2002; Hodge, Gostin, Gebbie & Erikson, 2006; Richards & Birkhead, 2007). Importantly, a mature ethical debate regarding the restriction of individual freedoms for the 'public good' has developed (e.g., Bernheim, Nieburg & Bonnie, 2007; Loff, 1998; Gostin, 2000; Martin, 2006; Reynolds, 2004). Public health law and its related ethical issues are discussed in detail in Chapter 3 of this thesis.

While the success of public health law in developed nations can be charted, it appears that effective systems to develop and enforce public health law are significantly less advanced within developing nations. For much of the developing world, there is sparse legal protection of the population from risks to health (Hazarika et al., 2009; Matin & Lo, 2005; Sein, 2009; WHO, 2006c).

In many countries, including Timor-Leste (see Chapter 3) and Indonesia, for example, it remains legal for children to purchase tobacco products (Achadi, Soerojo & Barber, 2005; Woollery, Asma & Sharp, 2000). In other situations where public health law *is* in place, it may be outdated or ineffective due to a number of factors, including a lack of capacity to enforce it, poor community-level awareness of health risks and associated health laws, or a lack of political will to modify cultural practices or regulate powerful industry groups (Achadi et al., 2005; Gilmore, Collin, & Townsend, 2007; Goodman, Kachur, Abdulla, Bloland, & Mills, 2007; Hazarika et al., 2009).

This thesis has considered the place of public health law within the developing, post-conflict, transitional nation of Timor-Leste. A key strategy was to ascertain community (and professional) awareness of, and support for, selected existing public health laws. This focus reflects the self-evident contention that widespread awareness and support of law are essential for it to have its intended preventative effect. Knowledge of levels of community support is also important due to the tendency for (democratically-elected) governments to be responsive to community attitudes in pursuing policy, including legislative change (Belton, Whittaker, Fonseca, Wells-Brown, & Pais, 2009; Burstein, 1998; McDougall & Edney, 2007; Stanton, 2005; Weber & Shaffer, 1972).

Underpinning this thesis is the argument that health-related law both reflects and targets a nation's health priorities. Indeed, law may act as a 'direction statement' for a population to improve health and well-being and a key means to alter social trends (Wanless, 2004). Public health law may highlight to a population that, while governments play a key role in population health, many aspects of health are an individual's responsibility.

This thesis argues that while highly restrictive law must surely be implemented as a last resort, there is sound evidence to support the proposition that some degree of regulation is both an effective and necessary companion to other public health measures. At present, however, there has been limited formal academic investigation or discussion of the factors that might contribute to the need for, or success of, such an approach in the developing world, particularly within post-conflict nations.

1.1.2 Capacity-building within international aid: An imbalanced focus.

The need for bilateral, multilateral and non-govermental aid throughout the developing world remains constant. Whether a nation's need for external assistance has arisen from conflict, corruption, an ongoing lack of economic capacity, drought or other natural disasters, emergency aid is often essential in supporting the national government's response (Stokke, 2009). Such aid may take the form of direct inter-government payments (grants or loans), practical programs run by other governments

or international non-government organisations (NGOs), or donations and other support to local NGOs, for example (de Hann, 2009).

Over the past decade or more, however, a growing number of commentators have begun to debate the nature and targeting of aid provided to developing nations. Of concern has been the question of whether much aid is, in effect, a 'short-term fix', rather than being used to strategically build capacity within a nation to enable it to effectively address its problems autonomously in the long-term (de Haan, 2009; Glennie, 2008; Moyo, 2009).

Certainly, a range of issues with the implementation of aid have been reported. A common criticism has been that aid organisations can be ucoordinated with each other and may often in fact provide a well-meaning but impractical or unnecessary response, or one that does not adequately account for local wishes, needs or customs (e.g., Habibzadeh, Yadollahie, & Kucheki, 2008; Taffet, 2007). Aid is also not immune to corruption, with reports of food and financial aid, for example, being subjected to siphoning or redirection by corrupt governments or officials (e.g., Goodhand, 2002). Furthermore, aid directed predominantly to one sector of major concern or political interest, such as HIV, detracts from focus and funding in other equally important areas (Anderson, 2009; Shiffman, 2008). One needs only to consider the title ('Dead Aid') of a recent book on African aid (Moyo, 2009), for example, to begin to be concerned about the aspects of aid that are actually effective in the long-term.

Emergency aid directed towards immediate crises, such as restoring peace following conflict or controlling an outbreak of communicable disease following a natural disaster, is arguably essential. It is a key premise of this thesis, however, that such aid should be delivered, where necessary, jointly with a longer-lasting, capacity-building type of assistance. Such aid would aim to equip government agencies, local NGOs and community members with the skills and tools required to address future problems independently.

Recognising that such capacity building aid represents only a fraction of the aid delivered throughout the developing world, the Organization for Economic

Cooperation and Development published the Paris Declaration on Aid Effectiveness (OECD, 2005), which calls for a greater focus on strengthening governance, institutions and systems within developing nations. The decision to focus upon public health law in this study represents a small step in furthering understanding of such systemic, capacity-building approaches in the developing world, specifically the post-conflict nation of Timor-Leste.

1.1.3 Selection of Timor-Leste as a case study.

As reviewed in Chapter 2, Timor-Leste has some of the worst population health indicators of any country. Significant recent occupation and conflict, followed by political independence and the need to completely re-build the central government and public services (United Nations Development Programme [UNDP], 2004), suggests that Timor-Leste is one of the world's nations most in need of systemic governance and institutional capacity-building assistance. This thesis reflects an attempt to contribute evidence and propose recommendations that may assist Timor-Leste in developing its health system to effectively and independently address some of its key health priorities in the long-term.

The creation of a 'new' nation such as Timor-Leste also provides an opportunity to examine the use of law in population health at a particularly valuable period in time. That is, newly independent or post-conflict nations are of necessity heavily focussed on ensuring that their legislative frameworks are appropriate, often largely through 'rule of law reform' (Samuels, 2006). An opportunity therefore exists within Timor-Leste to provide evidence and advice on public health law as the nation's legislative framework is built, in a sense 'taking advantage' of the government's focus on law rather than advocate for integration of health law into an existing system at a later stage.

This study has explored some of the issues related to public health law in Timor-Leste and has identified a number of conditions under which law might be part of a successful approach to population health improvement. Using Timor-Leste as a case study, this thesis finally proposes a theoretical framework to guide further research and implementation of public health law in the developing world, with a special focus on post-conflict, fragile nations.

1.2 Aims and Objectives

The overarching aim of this study was to provide a critical analysis of the potential for public health law to improve population-level health in Timor-Leste. An extensive search of the published and 'grey' literature, however, identified very few academic investigations or critical discussions of the use of public health law in the developing world, and none of specific relation to Timor-Leste. Against this backdrop, the testing of specific hypotheses built upon existing data was not possible and the study necessarily became broadly exploratory in nature.

However, exploratory research is rarely completely unguided: rather, it is possible to extrapolate from theory or findings from related settings (Cresswell, 2003). In this case, while there was little to draw upon of specific relevance to public health law in the developing world, literature from the field of public health law in the developed world provided a sound starting point. Specifically, it has been observed, and may indeed be considered self-evident, that the success of law depends to a large degree upon community awareness and acceptance of the law, and the appropriate agencies' capacity and willingness to enforce it (Achadi et al., 2005; Beijing Review, 2004; European Transport Safety Council, 1999; Gostin, 2000). Community support for law may also be an important factor in encouraging governments to pursue law reform (e.g., Belton et al., 2009; Burstein, 1998; McDougall & Edney, 2007). These issues, having not been formally investigated in Timor-Leste previously, were chosen to be a focus of this exploratory study.

Specifically, the study objectives were:

1. to provide a review of the state of population health within Timor-Leste;
2. to provide an analysis of the health and legal settings within Timor-Leste, with particular regard to system capacity, existing health law and reported strategic directions;
3. to develop and administer a survey to obtain information on community awareness of, and attitudes towards, selected existing public health law applicable in Timor-Leste;

4. to provide further context through the collection of interview data related to the experiences and opinions of professionals who have worked in the fields of health and law in Timor-Leste; and
5. to develop a theoretical framework and propose recommendations for the use of public health law in Timor-Leste that might be tested in similar transitional post-conflict nations.

1.3 Methods

Given the exploratory and cross-sectional nature of the research, multiple research methods, including both quantitative and qualitative approaches, were considered appropriate. A research strategy involving multiple, mixed methods was chosen to allow varying perspectives on the research questions, to provide context and depth, and to 'triangulate' otherwise potentially isolated observations (Creswell, 2003; Denzin & Lincoln, 2005).

Initially, a review was conducted of the published and grey literature relevant to population health in Timor-Leste, including the nation's history, culture and political challenges, specific health indicators, and health system structure, capacity and strategic directions. The literature review also focussed on the legal system and its capacity, including indentifying existing public health law applicable in Timor-Leste. This was accompanied by a review of the broader literature on the history and current status of the field of public health law itself, including ethical issues.

A critical analysis of the available literature was complemented by the collection and analysis of new data through semi-structured interviews with 19 health and legal professionals working in Timor-Leste, and a survey of 245 Timorese residents. Importantly, the study was designed and conducted in accordance with advice provided by cultural advisors.

Key dependent variables of the community survey and interviews included levels of awareness of, and support for, health law. A suite of specific regulatory areas was examined within the themes of road safety, the sale of alcohol and tobacco to children, food safety and water safety. Quantitative analyses included Chi-square for

examining differences between survey sub-groups, and Kendall's tau-b for examining correlations between ordinal variables. Qualitative data from interviews was subject to thematic analysis.

The full research methodology utilised in this study, including literature search criteria, survey and interview design and administration procedures, and the approach to data analysis and ethical issues, is described in detail in Chapter 4 of this thesis.

1.4 Key Findings

This study has highlighted the continuing poor state of population health in Timor-Leste and has identified a range of areas within the national health and legal systems that would require significant development should a formalised public health law strategy be considered by the national government. Significantly, the results of the community survey and interviews with key health and legal professionals have highlighted poor awareness of selected existing public health law. More positively, however, there exists a strong level of support for the regulatory approach to health, at both community and professional level. Key findings are summarised below and discussed in more detail in Chapters 5, 6 and 7 of this thesis.

1.4.1 Awareness of existing public health law.

Widespread awareness of law and regulation is arguably essential if it is to be effective in influencing population-wide behaviour. A key finding of this study was the poor level of awareness of selected health-related laws already applicable in Timor-Leste. Large proportions of Timorese survey respondents and professionals interviewed were either incorrect or unsure regarding the current legality of a range of health-related activities or behaviours.

Over three-quarters of survey respondents, for example, did not appear to know that the sale of tobacco to children was legal at the time of the survey. Almost three-quarters of respondents, regardless of whether they routinely travelled by car, did not appear to know that travelling in a vehicle without using a seatbelt was illegal, and

around half did not correctly report that driving under the influence of alcohol was illegal. Approximately half of respondents were not aware that laws technically existed to ensure food safety or that it was illegal to sell alcohol to a child.

Survey data were further analysed in order to establish whether any demographic or other factors were related to awareness of the health regulations examined in this study. A small number of statistically significant factors were identified. For example, parents were more aware of road safety regulation including seatbelt-use, motorcycle helmet-use and driving under the influence of alcohol. Males were also more aware than females of some regulation, including motorcycle helmet-use, the sale of tobacco to minors and regulation of drinking water safety.

1.4.2 Support for the regulatory approach to health.

As with awareness of law, community support for law is arguably critical in ensuring maximum adherence, and may also be an important factor in achieving government support for legislative reform (e.g., Belton et al., 2009; Burstein, 1998; McDougall & Edney, 2007). Despite poor awareness of what was currently legal or illegal, this study has identified wide-ranging support for regulation as an effective approach to population health. Over four-fifths of community survey respondents agreed with the public health law approach and this was mirrored in results from interviews with health and legal professionals. Demographic variables did not explain variation in levels of support for public health law. Instead, support was related to confidence in the legal system and agreement with a principle of prevention (that is, agreement with the premise that 'prevention is better than cure').

Support for the public health law approach overall was matched by strong support for each of the individual regulatory areas examined in this study. Again, demographic variables did not explain support for any individual area of law. Support for examples of regulation, however, was highly related to whether the respondent thought *others* agreed with the regulation, and whether the respondent also agreed with the public health law approach overall. Another factor related to agreement with a number of regulations was the level of concern over the health issue addressed by, or related to, the regulation.

1.4.3 Obstacles to a coordinated public health law strategy in Timor-Leste.

A wide range of international agencies and reports emphasise that population health indicators remain extremely poor in Timor-Leste (e.g., Democratic Republic of Timor-Leste and The United Nations, 2009; Ministry of Health, Timor-Leste, 2007; World Bank, 2010). It is apparent also from this study's exploration of the Timor-Leste health system that the nation continues to face significant challenges in addressing its population health concerns autonomously. A range of urgent health priorities have in the past been predominantly targeted through individual programs funded by the international donor community and little work of notable success, comparatively, appears to have been focussed on building the autonomous capacity of the health system itself (McGregor, 2007; UNDP, 2004, 2006; WHO, 2004a, 2004c).

In terms of public health law in particular, this study has highlighted that there is minimal structural, or human capacity within the Timorese health system to consult on, draft, implement or enforce public health law. Several public health-related laws do exist but these do not cover a comprehensive range of health risks. Furthermore, there is no comprehensive framework for health law, such as that a consolidated Health Act might provide. As with all law in Timor-Leste, the existing health law originates from multiple eras and is in multiple languages (e.g., much Indonesian law remains in place), creating a lack of cohesion and issues of inaccessibility and uncertainty amongst many as to the law that actually applies.

The Timorese legal system, which ideally would be able to assist the health system in drafting and implementing public health law, is similarly under-developed and under-resourced. Understandably, in the context of a post-conflict society, there has been to date narrow use of the law in health. Rather, limited legal resources have been focussed on constitutional, political, criminal, and human rights matters (e.g., Harrington, 2007). A further obstacle is that, politically, enhancement of public health legislation and its enforcement does not appear to be on the immediate agenda of the national government or public service (Ministry of Health, Timor-Leste, 2007).

Barriers to a coordinated public health law strategy in Timor-Leste are significant. Poor systemic capacity has a long and complex history with influential factors covering the spectra of culture, geography, resourcing, education, training, infrastructure, continued fragility of political governance and the nature of international assistance. Encouragingly, however, this study has identified strong support for public health law amongst the surveyed community and interviewed professionals. Capacity constraints are discussed throughout this thesis (Chapters 2, 3 and 7) and a theoretical framework and recommendations are proposed to further guide the research and development of health law in Timor-Leste and similar settings.

1.4.4 Recommendations and conclusions.

This thesis provides specific recommendations (Chapter 7) for a coordinated public health law strategy in Timor-Leste. It is argued that such a strategy is both worthwhile and achievable, based on the observed potential within the health system (despite its current constraints), the historic success of public health law in other settings, and the widespread support for public health law observed in this study.

Recommendations are provided for the Timor-Leste government, the United Nations, the WHO, and other donor and non-government agencies and advocates. These recommendations focus on the consolidation of Timor-Leste's currently isolated and inaccessible public health laws into a more cohesive and coordinated approach.

Recommendations also reflect the available research on public health law in the developing world and a range of principles argued to be important in progressing a public health law strategy, including ensuring that technical assistance is provided in a capacity-building manner, that communication and evaluation strategies are prioritised, and that human rights considerations are of key focus.

Finally, a theoretical framework is proposed to guide the further research and implementation of public health law in Timor-Leste and similar settings. The framework identifies distinct areas for researchers and policy makers to consider. It

is proposed that this framework be used to guide others in future examinations of public health law in Timor-Leste and similar settings.

1.5 Significance

Law has been shown to be a successful tool within the discipline of public health and has been integrated into the health systems of many nations throughout the world (Martin & Lo, 2009). Published research and critical examination of the role of law in improving the population health status of developing nations, however, has been limited and is currently an evolving area of review. To the author's best knowledge, this is the first study to investigate the level of community awareness of, and support for, public health law within Timor-Leste and among the first to examine these factors in any post-conflict, developing nation.

That this study has identified wide-spread community and professional support for public health law in Timor-Leste is significant. Not only might support suggest a good likelihood of community adherence to (and professional support for the implementation of) public health law, but such data may in fact help encourage the Timor-Leste government to pursue a coordinated public health law strategy. This thesis discusses how, in implementing legislative reform, democratically elected governments can be sensitive and responsive to opinions within the population. Furthermore, the study has identified factors associated with support for public health law, thereby highlighting ways in which support may potentially be enhanced.

The findings of this study provide impetus and direction to the proposition of a coordinated public health law strategy in Timor-Leste. Indeed, this thesis highlights that a number of population health indicators throughout Timor-Leste are poor in areas where public health law might assist, and in areas where law has been shown to be highly successful in other nations (e.g., tobacco control).

Significantly, through an analysis of the health and legal settings in Timor-Leste, obstacles to the further development of public health law have been identified and practical recommendations to overcome these have been provided. While this study has highlighted poor awareness of existing public health law, it has also identified

factors statistically associated with levels of awareness. This study therefore provides the first evidence-based guidance on areas to focus educative efforts should an enhanced public health law strategy be pursued in Timor-Leste.

Furthermore, by proposing a theoretical framework to guide further research and implementation of public health law in Timor-Leste, this thesis has also provided the first structured guidance to the field of public health law within this and similar nations. In the long term, this study will have been most significant if it encourages ongoing research and policy development that leads to the appropriate use of public health law in developing nations to the betterment of the health of their populations.

1.6 Limitations

In all research, methodological decisions are made that restrict or limit the interpretation and use of the findings (Cresswell, 1998, 2003). The limitations to the methodological approach taken in this study are summarised briefly below and discussed in more detail in Chapter 7 of this thesis.

Firstly, a limitation within the review of background literature was the restriction to the English language. It is possible that some literature relevant to health and law in Timor-Leste may exist in Indonesian, Portuguese or Tetun languages, for example.

This study's community survey and interviews with key professionals were also limited by location: Dili, the capital of Timor-Leste. Dili is however not entirely representative of the remainder of Timor-Leste, which is mostly rural or remote and more culturally varied.

The community survey sample, while large for a study of this type in a developing nation (n=245) was not random or of normal distribution. Most notably, the sample was younger in comparison to the wider Dili population and contained slightly more males. In addition, the survey instrument was translated only into the core native Timorese language of Tetun.

These and other limitations, as well as efforts taken to moderate their effect, are further discussed in Chapter 7 of this thesis. Further justification for the methodological decisions made in this study is provided in Chapter 4.

1.7 Overview of Thesis

Chapter 1 has provided an overview of the thesis, including a rationale for the examination of public health law in Timor-Leste and an outline of the aims and methodology of the research. Key findings have been summarised along with their significance and limitations.

Chapter 2 provides important background to the study through a discussion of the cultural and political history of Timor-Leste. The dominant population health concerns in Timor-Leste are outlined and the health system is discussed in terms of its capacity, structure, reported directions and key challenges.

Chapter 3 introduces a background to the history and development of law as a means of addressing core public health concerns. Inherent ethical considerations are discussed and the 'risk-based' approach to public health law is briefly considered. Public health law is then discussed in the context of developing and post-conflict nations. The legal system and applicable law related to public health in Timor-Leste is described, with a focus on a selection of laws specifically targeted for investigation in this study. Some of the current challenges for the Timor-Leste legal system are highlighted.

The approach to the conduct of the research is described in **Chapter 4**, in which the chosen methodologies are discussed and justified. The collection and analysis of data from a survey of 245 community members and interviews with 19 health and legal professionals is explained. The engagement of cultural advisors is outlined and the data collection tools are described, including survey and interview schedule design, translation and piloting. Literature and data collection procedures are described and potential human research ethics concerns are addressed.

Chapter 5 presents data collected from the survey of 245 community members of Dili, the capital of Timor-Leste. The initial presentation of demographic data compares, where possible, the characteristics of the sample to those of the wider population as reported in the most recent Census. The remainder of the Chapter presents survey data related to self-reported health, and knowledge and attitudes related to health, law and selected applicable public health law. Where demographic, health or other variables explain variation within key dependent variables, these relationships are highlighted.

Chapter 6 presents quantitative and qualitative data from a series of semi-structured interviews conducted with a sample of 19 health and legal professionals living and working in Timor-Leste. This Chapter provides an 'insiders' view of the health and legal settings in Timor-Leste, including perceptions of health priorities, system capacity, community knowledge and attitudes, and recommendations for legal approaches to public health in Timor-Leste. Where possible, comparisons are made between the quantitative responses of interviewees and those of surveyed community members to matching questions.

Chapter 7 brings together the main findings from the community surveys and interviews with professionals, and discusses these in the light of existing literature and opinion on health and law in Timor-Leste. Significance and limitations of the research are discussed. A suite of recommendations and a theoretical framework are proposed to guide the further research, development and implementation of public health law in Timor-Leste and similar settings.

Chapter Two: Timor-Leste: Sociopolitical Context and Population Health

2.0 Introduction

This chapter provides context to the study through a targeted review of the setting of Timor-Leste. A background to the cultural and political history of the nation, arguably important in understanding its current circumstances, is provided. The significant population health concerns in Timor-Leste are detailed and elements of the health system's history, capacity, structure, reported directions and key challenges are considered.

2.1 A Brief History

This section provides a brief summary of the location, geography and pre-colonisation history and culture of Timor-Leste. It then outlines briefly the history of Portuguese colonisation, Indonesian occupation and, ultimately, the independence of Timor-Leste.

2.1.1 Location and geography.

Timor-Leste lies in the Pacific Ocean, north-west of Darwin, Australia. In comparison to Australia, Timor-Leste is roughly one-quarter of the size of the State of Tasmania. Within its borders are just under 15,000 square kilometers of land (Cotton, 2004), being roughly the eastern half of the island of Timor, located in the far east of the Indonesian archipelago (Dunn, 2003). In addition, Timor-Leste contains two small islands (*Atauro*, to the North of the capital, Dili, and *Jaco*, to the East of the mainland) as well as a small 'enclave' of land (*Oecussi*) on the north coast of Timor approximately 50 kilometers into West Timor (see *Figure 1*).

***Figure 1*. Map of Timor-Leste[2].**

Timor-Leste is geographically a very diverse nation with large areas of coastal and highland plains and a central mountain range, the highest peak rising to approximately 3000 meters above sea level (Dunn, 2003). As a result of its geographic variations, climate, lifestyle, vegetation and edible crops differ markedly between regions. The main crops produced today include cassava, rice, coffee, and maize, and commercial forestry occurs in some areas (UNDP, 2006; Ministry of Health, Timor-Leste, 2007; Oxfam, 2008).

The climate in the lower lying lands is hot throughout the year, with an average humidity of approximately 80% (UNDP, 2006). As with other tropical nations, a marked wet and dry season significantly influences the lives, and livelihoods, of the people of Timor-Leste. Significant food shortages are known to occur seasonally, particularly towards the end of the dry season, and food insecurity is an issue for

[2] Map obtained from the International Crisis Group and available at: http://www.crisisgroup.org/home/index.cfm?id=4434&l=1

almost two-thirds of the population (United Nations Population Fund [UNPF], 2008; UNDP, 2006). Conditions are also favourable to malaria and other vector-borne diseases, which are endemic throughout the nation (WHO, 2008b).

The majority of the population remains rural and village-based, as it has been for centuries (see 2.1.2). The country is organised into 13 districts, each with four to six sub-districts (Ministry of Health, Timor-Leste, 2007). Arguably, the mountainous terrain has proved a significant challenge for the development of infrastructure and the delivery of services in many of these communities. During the wet season, many areas are isolated by landslide or flood damage to river crossings (Ministry of Health, Timor-Leste, 2007). Few of the roads are paved and many hug steep mountainsides without any barrier protections in place, making travel a risk, particularly in the wet season (Smart, 2005).

2.1.2 Pre-colonisation history and culture.

Timor-Leste arguably has a unique and complex cultural identity. The genetic lineage of the nation's people reflects multiple migrations of groups from Melanesia, continental Asia, and the islands to the west of Timor (Dunn, 2003). Indeed, there may be more than thirty distinct ethno-linguistic groups, although it is generally accepted that there remain sixteen core languages (Dunn, 2003; Hull, 2002; Ministry of Health, Timor-Leste, 2007; Taylor-Leech, 2008). The dominant language, spoken in slightly different dialects throughout the country, is *Tetun*[3].

The daily lives of the people of Timor-Leste appear to have traditionally been communal and village-based. An organised structure of villages, often further divided into tribal groups, came under a local ruler, the *Liurai*, in a kingdom-like structure common to other parts of Asia (Dunn, 2003). Religious beliefs and practices predominantly had an animistic basis, where the spirits of the dead and sacred objects representing good and evil were a part of daily life (Dunn, 2003). In

[3] Both 'Tetun' and 'Tetum' spellings are used interchangeably throughout the literature on Timor-Leste. Tetun has been chosen for use in this study, acknowledging that this spelling was used within a key 2004 Government Decree on its place as a national language (Democratic Republic of Timor-Leste, 2004b).

many areas of Timor-Leste, animistic beliefs persist to this day and seemingly co-exist easily alongside the now dominant religion of Catholicism (Belton et al., 2009).

It has been noted that Timorese society is relatively conservative. A strong sense of family connectedness and obligation exists, within a hierarchical and patriarchic structure. Like other communal settings, the opinions of the family and community are very important and respect for legitimate authority figures is a fundamental social value (Pedersen & Arneberg, 1999). The status of women in society is historically low (Democratic Republic of Timor-Leste and The United Nations, 2009; Pedersen & Arneberg, 1999; UNDP 2006).

While it is widely known that Timor-Leste eventually became a Portuguese colony, then an Indonesian province (see 2.1.3 and 2.1.4), it is perhaps less-well known that this was preceded by earlier contact with the Chinese. Chinese seafarers reached Timor-Leste in the 15th century and, having identified a plentiful supply of sandalwood, began to trade with the Timorese (Dunn, 2003). It was not until the early 16th century that the Portuguese reached and colonised Timor-Leste (de Sousa, 2001).

2.1.3 The Portuguese colony.

As early as 1514, Portuguese seafarers reached the coast of Timor and, like the Chinese, found an abundant supply of sandalwood, swiftly commencing a trade of their own (Dunn, 2003). Although the sandalwood trade continued for many years, the Portuguese presence was largely initially a missionary one, following the early arrival of predominantly Dominican evangelical Christians (de Sousa, 2001). It was not until the early 18th century that colonial government was established on the mainland of Timor, and it was not until the mid-19th century that the border between West (Dutch-governed) and Portuguese East Timor was formalised (Dunn, 2003, de Sousa, 2001).

The Portuguese appear to have initially governed Timor-Leste in a largely indirect manner, leaving the existing system of 'kingdoms' and *Liurai* untouched. Later, however, Timorese men were conscripted into public works and, in 1908, a 'head tax' was applied to all males aged 16 to 60 (Molnar, 2005). While it seems that the

Portuguese solicited local tribal leaders to organise much of this on their behalf, clearly not all Timorese were pleased with colonisation and a number of rebellions were quashed with force by the Portuguese in the late 1800s and early 1900s (Dunn, 2003).

In an attempt to break down the traditionally-based authority and kinship alliances that the Portuguese began to see as a threat, new administrative units were created and, while based on the traditional kingdom structures, confirmation of local leaders was now approved by the Portuguese (Dunn, 2003). Later, further changes saw the Portuguese begin to incorporate some Timorese into the colonial administrative system (Molnar, 2005).

However, in comparison to other colonised regions, the Portuguese had a limited presence (and arguably a limited interest) in Timor-Leste, and the administration had limited developmental impact. In fact, it could be argued that the colony was maintained more as a strategic presence in the region and a place, far away from Portugal, to send out-of-favour Portuguese officials as a form of reprimand (Dunn, 2003). While crops such as wheat, sugar cane, coffee, copra and potatoes were introduced and were successfully exported, infrastructure and economic development was very slow (Dunn, 2003).

A number of events exacerbated the lack of positive development in Timor-Leste. Certainly, the Great Depression affected Portugal, leaving Timor-Leste (further) neglected for some time. However far graver was the Japanese invasion and subsequent four year occupation during the Second World War (Dunn, 2003; Molnar, 2005). While allied (mostly Australian) forces attempted to repel the Japanese, this resistance lasted only approximately one year before the allies retreated (Dunn, 2003). The Japanese army severely punished those Timorese and Portuguese thought to have assisted the allies, and by the end of the war most infrastructure and many villages had been destroyed either by the Japanese army or allied bombing (Dunn, 2003). It has been suggested that between 40,000 and 60,000 Timorese lost their lives due to the war; however many believe that this is likely to be a considerable underestimate (Dunn, 2003; Molnar, 2005).

World War Two was thus a significant set-back for Timor-Leste and rebuilding was an extremely slow process. Certainly this was to a large degree because Portugal had become one of the poorest nations in Europe following the war (Lains, 2003). However, by the 1970s some progress was apparent. Societal changes included an increase in numbers of Timorese children in education, a notable increase of educated Timorese in positions within the public services, and a dominant presence of Timorese in a small national army (de Sousa, 2001; Dunn, 2003). Portuguese efforts in health and social welfare, however, were "unimpressive and have been the subject of a good deal of justified criticism" (Dunn, 2003, p. 37). Indeed, while excusing Portugal to a certain degree due to the difficulties inherent in development within the region, Dunn further argues that despite a long period of colonisation, the Portuguese "left the colony as one of the poorest and least developed countries in the developing world" (Dunn, 2003, p. 43).

Timor-Leste remained under Portuguese rule until the mid-1970s, when Portugal's colonial empire began to decline. Portugal had been unable to develop its economy significantly and, concurrently, rebellion had gripped its other colonies in Africa (Dunn, 2003; Molnar, 2005). Finally, a coup in Portugal on April 25, 1974 brought in new leadership that was inclined to allow the colonies to determine their own future (Dunn, 2003). In this context, there was much uncertainty in Timor-Leste and local political activity began to expand more quickly than ever before. Timorese political parties began to surface and there was a degree of posturing from groups such as business owners, Liurais, and officials that felt their power was threatened by change (de Sousa, 2001; Dunn, 2003).

By May 1974, three dominant political parties had emerged. The Timorese Decocratic Union (UDT) supported autonomy within a federated relationship with Portugal (Molnar, 2005). The Timorese Popular Democratc Association (Apodeti) supported integration into Indonesia, Timor-Leste's closest neighbour (Molnar, 2005). The Timorese Social Democratic Association (ASDT) was an anti-colonial network that became the Revolutionary Front for an Independent East Timor (Fretilin) (Dunn, 2003; Molnar, 2005).

By June 1974, the Portuguese had proposed three options for the future: continued association with Portugal, independence, or integration with Indonesia (Dunn, 2003). It is clear that the Indonesians preferred and pursued the integration option. Indeed, a subversive propaganda campaign was conducted to discredit Timorese groups supportive of independence and encourage the population to support integration with Indonesia (Dunn, 2003; Molnar, 2005). Australia, whom the Portuguese initially turned to for assistance in planning their departure, also clearly supported Indonesian integration and was arguably careful to do little to upset the Indonesian government (Dunn, 2003).

Following a complex but brief period of political instability, uncertainty, and a short civil war (partly fuelled by Indonesian propaganda), Indonesia invaded militarily and occupied Timor-Leste on 7 December, 1975 (Dunn, 2003).

2.1.4 The Indonesian province.

Largely in contrast to Portuguese colonisation, the Indonesian occupation was oppressive and sporadically violent, being marked by widespread human rights abuses (Commission of Truth and Friendship Indonesia Timor-Leste, 2008). It is thought that in 1975, the population of Timor-Leste was at least 680,000 and that, in the early years of the Indonesian military presence alone, 60,000 Timorese lost their lives (Dunn, 2003). In total, estimates attribute approximately 200,000 deaths, almost one-third of the 1975 population, to the Indonesian occupation (Chomsky, 1999). Lives were lost due to conflict, forced migration, malnutrition and unattended public health needs (Philpott, 2007; Ministry of Health, Timor-Leste, 2007).

The Timor-Leste experience of oppression, and majority-held preference for independence, seems to have been largely ignored by the international community for most of Indonesia's occupation. Despite United Nations Security Council resolutions against Indonesia's invasion and occupation (Chomsky, 1999), and despite Australia being the only country to ever recognise Indonesia's claim to Timor-Leste (Shalom, Chomsky & Albert, 1999), significant intervention in the matter was not pursued. Perhaps international powers that could have intervened chose not to do so due to a higher regard for maintaining their strategic and economic relationship with Indonesia. Indeed, the maintenance of a relationship with the most

populous nation in the region must certainly have been prominent among world leaders' minds, as a long history of significant arms sales to Indonesia by the United States and Great Britain testify (Berrigan, 2001; Nevins, 2002).

With seemingly no international government-led move to persuade Indonesia to respect human rights in Timor-Leste, and with strong Indonesian restrictions on media and travel within Timor-Leste, there was little widespread international awareness of the situation on the ground in Timor-Leste (O'Shaughnessy, 2000). A committed network of activists and journalists, however, together with Timorese resistance leaders such as Kay Rala 'Xanana' Gusmao and Jose Ramos Horta, and church leaders such as Bishop Ximenes Belo, continued to report on the widespread human rights abuses and argue for Timor-Leste's independence (Dunn, 2003; Molnar, 2005).

Sadly, significant global attention did not turn to Timor-Leste until after the November 1991 massacre by Indonesian troops of more than 270 Timorese in Dili, infamously known as the 'Santz Cruz massacre' (Shalom et al., 1999). Those killed were attending the burial in the Santa Cruz cemetery of a young man who had been shot by Indonesian troops a few days earlier (Dunn, 2003). In addition to the large number of deaths, 382 Timorese were reported injured and approximately 250 'disappeared' (Commission for Reception, Truth and Reconciliation in Timor-Leste, 2005). Despite great risks, free-lance journalists Amy Goodman and Alan Nairn brought attention to the massacre, however it was secret footage taken by photojournalist Max Stahl that achieved worldwide attention (O'Shaughnessy, 2000; Shalom et al, 1999). Following this incident, international church and human rights groups became both more aware and more vocal, and the East Timor Action Network, which exists to this day, was established (Shalom et al., 1999).

International pressure on Indonesia increased significantly in the 1990s, particularly following the October 1996 awarding of the Nobel Peace Prize to two popular Timorese leaders, Bishop Ximenes Belo and José Ramos Horta (Dunn, 2003). Coincidentally, in 1997 and 1998, Indonesia was dealing with an economic crisis and there were a growing number of organised protests by sections of the community demanding political change (Tadjoeddin, 2002). After lengthy rule, President

Soeharto reluctantly resigned and was replaced by his vice-president, Dr. Habibie (Vatikiotis, 1998).

President Habibie was persuaded by growing international support for Timor-Leste independence to agree to a popular vote under the auspices of the United Nations (UN) (Dunn, 2003). The UN started to prepare for the referendum by setting up the United Nations Assistance Mission for Timor-Leste, UNAMET, established in early June 1999 (Martin & Mayer-Rieckh, 2005).

2.1.5 The referendum.

The negotiations regarding the conduct of the referendum for independence gave much precedence to Indonesian oversight (Dunn, 2003; Martin & Mayer-Rieckh, 2005). While the United Nations was permitted to provide unarmed monitors, it eventually became obvious that their presence and role was wholly insufficient (Nevins, 2002). It is widely accepted that, under the command and/or support of Indonesian forces, anti-independence militia groups undertook a campaign of terror and intimidation, including torture, rape and massacre to dissuade Timorese from voting for independence. This is well documented by investigative journalists on the ground at the time (e.g., Martinkus, 2001) and has been officially documented by, among other investigative bodies, the Timorese *Commission for Reception, Truth and Reconciliation in East Timor* (CRTR, 2005) and the joint Timorese-Indonesian *Commission of Truth and Friendship* (CTF, 2008). Prosecutions as a result of these crimes have been negligible, however, partly due to an Indonesian reluctance to pursue charges and partly due to the strategic preference of key Timorese leaders to move forward with a good working relationship with Indonesia (Harrington, 2007). Despite widespread intimidation aimed at ensuring that the Timorese did not vote for independence, the referendum held on August 30, 1999, saw almost the entire population vote, with a clear majority of 78.5% voting for independence (Martin & Mayer-Rieckh, 2005; Philpott, 2007).

Immediately following the vote, anti-independence groups led a violent assault on the nation's people and infrastructure in which perhaps two thousand Timorese were killed or injured and many public buildings, private homes and businesses were destroyed (Martin & Mayer-Rieckh, 2005; Philpott, 2007). Up to three-quarters of

the estimated population of 850,000 was displaced, seeking refuge in the mountains or being forcibly deported to refugee camps in West Timor (Alonso & Brugha, 2006; Devereux, 2000; WHO, 2000a). A large proportion of health facilities was damaged or destroyed and the emigration of core health professionals, being predominantly Indonesians, caused the "total collapse" of the health system (WHO, 2000a, p. 1).

The United Nations Security Council authorised a multinational peace-keeping force (INTERFET), led by Australia. The first elements of this force were established in Timor-Leste by 20 September (Martin & Mayer-Rieckh, 2005), almost three weeks after the vote for independence and ensuing violence. By late October 1999, approximately two months after the vote for independence, the United Nations Transitional Administration in Timor-Leste (UNTAET) was established to oversee Timor-Leste during its transition to independence (Martin & Mayer-Rieckh, 2005; UNTAET, 1999). By 2000, approximately 9,000 foreign nationals were present, working on reconstruction and development, aid administration and security-related activities (WHO, 2000a). At the same time it was estimated that 70% of the Timorese population was unemployed (WHO, 2000a).

2.1.6 Independence and early national development.

On August 30, 2001, Timor-Leste conducted its first elections for representatives charged with writing a new Constitution (Martin & Mayer-Rieckh, 2005; Molnar, 2005). This 88 member *Constituent Assembly* passed the new nation's Constitution on March 24, 2002 (Democratic Republic of East Timor, 2002a). Under Section 167 of the Constitution, the members of the Constituent Assembly immediately became members of the new National Parliament for a period of five years (Democratic Republic of East Timor, 2002a). The move towards independent government was swift, with the first President, Kay Rala 'Xanana' Gusmao, elected on 18 April, 2002, and a formal government handover from the United Nations occurring on 20 May, 2002 (Martin & Mayer-Rieckh, 2005; Taylor, 2002).

The new government promptly released a National Development Plan, including a five year strategy (2004-2009) aimed at reducing poverty and promoting economic growth in order to fund improvements in health and education (Democratic Republic of East Timor, 2002b). However, with limited finances and few resources, Timor-

Leste was initially unable to fund significant development work itself (Lundahl & Sjoholm, 2009).

Since the initial vote for independence, a range of key global assistance agencies have maintained a presence in Timor-Leste and much development assistance has been provided (UNDP 2004, 2006; UNPF, 2008; United Nations Secretary General, 2008; WHO, 2000b, 2001, 2004a, 2004c, 2006b). This has been complemented by bilateral aid provided by a number of countries (e.g., Australian Agency for International Development [Ausaid], 2008b, 2010). In a notable example, from 2004 Cuba has sent almost 300 health workers to the nation on long-term assignments, while training over 700 Timorese medical students in Cuba (Anderson, 2008). A wide range of non-government organisations have also established bases and programs (Alonso & Brugha, 2006; Patrick, 2001).

The Timor-Leste government faces significant challenges to national development. Indeed, the nation continues to rank extremely low (162nd of 182 nations) on the United Nations Human Development Index (UNDP, 2009). More than 40% of the population exists on less than 55 US cents per day, and over 70% earn less that $2 US per day (WHO, 2006b; World Bank, 2010). Life expectancy at birth is approximately 61 years (60.5 for females and 58.6 for males) (Ministry of Health, Timor-Leste, 2007; World Bank, 2010).

There is much scope for longer-term optimism, however, with revenue beginning to flow to the government from the oil and gas fields in the Timor Sea. In 2008, for example, the government received over 2.5 billion U.S. dollars in profits, fees and company taxes related to petroleum (Democratic Republic of Timor-Leste, 2008). While this is certainly significant and positions Timor-Leste well for the future, the nature of the capacity contraints in Timor-Leste means that it will continue to be reliant upon international assistance for some time (Ausaid, 2008a, 2010; UNDP, 2006; UNPF, 2008).

There is, for example, a lack of local industry, including a lack of employment opportunities and a trained workforce (Democratic Republic of Timor-Leste and The United Nations, 2009; UNDP, 2006). The public service remains significantly

under-trained to deliver key services and reports of endemic corruption are of considerable concern (Ausaid, 2008a, 2008c; UNDP, 2004; UNPF, 2008). Further hampering efforts, the adult literacy rate is low, at approximately 50% (UNDP, 2006).

Population demographics are also influential in development, with the population arguably growing faster, at between three to four per cent, than development has occurred (Ministry of Health, 2007; UNPF, 2008; WHO, 2005a; World Bank, 2008). Furthermore, a relatively large portion, 45.6 per cent, of the population is aged 14 and under: an age group in economic terms generally associated with high-use of services and minimal employment, meaning high government costs and low taxation revenue (World Bank, 2008).

The international community, however, is committed to assisting Timor-Leste in the long-term. In early 2010, the United Nations Mission of Support was extended for a further year (United Nations Security Council, 2010). Other signs are also promising, including increased focus on creating sustainable livelihoods and delivering human services (e.g., UNPF, 2008) and a seemingly growing understanding of effective capacity building strategies in Timor-Leste (e.g., Ausaid, 2008a). All national development, however, is dependent upon the nation's ability to maintain a stable security situation. This is by no means certain: there remain considerable social and political issues that are a continued risk to stabiliy and national development (Brown, 2009; Brown & Gusmao, 2009; Department of Foreign Affairs and Trade, 2010; United Nations Security Council, 2010).

2.1.7 Continued sociopolitical instability.

Stability and security in Timor-Leste have been threatened significantly during its first decade of independence. In early 2006, simmering tensions within both the military and police force surfaced (Brown, 2009; Brown & Gusmao, 2009; International Crisis Group, 2006). At issue was a long-standing perception that members originating from the West of the nation were discriminated against in preference to those coming from the East who were historically more prominent in the resistance against Indonesia (Cotton, 2007; International Crisis Group, 2006). During February 2006, approximately one-third of the military and a smaller group

of police deserted and did not comply with orders to return to their barracks: subsequently they were stood down from duty (Anderson, 2006; Cotton, 2007). In April, protests by the former soldiers and their supporters became violent and clashes with the remaining military occurred, during which deaths and significant damage to infrastructure were reported (Philpott, 2007; The Asia Foundation, 2009). As occurred following the referendum in 1999, residents fled the renewed violence, many eventually moving into Internally Displaced Persons camps in Dili (Ministry of Health, Timor-Leste, 2007).

The crisis eventuated in the resignation of the Prime Minister, Mari Alkitiri, and the intervention of an international military response led by Australia (Anderson, 2006; The Asia Foundation, 2009; International Crisis Group, 2006). Violence, however, particularly youth gang-related, did not subside immediately, and two years later it was estimated that 100,000 persons were still displaced (The Asia Foundation, 2008). The establishment of over 60 temporary camps was necessary to meet the basic needs of displaced persons (Zwi et al., 2007). Many services closed down or were disrupted, simply because staff were themselves caught up in the conflict (Ministry of Health, Timor-Leste, 2007; Zwi et al., 2007).

Further outbreaks of violence occurred in February and March 2007 in the lead-up to the Presidential elections (Anderson, 2006). Subsequently, in February 2008 an assassination attempt on both the Prime Minister and President was narrowly averted, but left President Jose Ramos-Horta seriously injured (Brown, 2009). A leader of a group of defecting troops in the 2006 crisis, Alfredo Reinado, was implicated in the assassination plot, and was killed at the scene by Presidential body guards (Anderson, 2006).

Such instability has had serious effects on development in Timor-Leste. Violence and the resulting displacement of the population have arguably had significant effects, for example, on education, health and wellbeing (UNPF, 2008). Delivery of public services has suffered, through the displacement of staff and damage to facilities, and through resources being targeted to urgent security priorities rather than standard ongoing programs and services (Zwi et al., 2007). Episodes of violence also typically result in the exodus of international aid workers, and arguably

also negatively influence the decisions of other aid workers to consider serving in Timor-Leste (Kingsbury & Leach, 2007). Instability and violence has also been a challenge to the fledgling industry sector, including tourism (Borgerhoff, 2006).

2.2 Population Health Indicators

This section reviews some of the major population health indicators in Timor-Leste. It is important to note, however, that population level data collection and analysis faces many challenges in Timor-Leste, including limited resourcing and the remoteness and difficult terrain of much of the country (Ministry of Health, Timor-Leste, 2007). Indeed, on the World Bank Statistical Capacity Indicator, Timor-Leste rates well below the average of all low-income countries (World Bank, 2009). Population prevalences of many conditions therefore need to be interpreted with a greater level of caution than in other, more developed nations.

It is clear, however, that health in Timor-Leste, across a range of indicators and data sources, is extremely poor. Maternal and child mortality and morbidity rates are very high (World Bank, 2010). Communicable diseases, including respiratory infections, tuberculosis, and diarrhoeal diseases are common (WHO, 2008a). Malnutrition and vector-borne diseases such as malaria and dengue fever are also persistent and pervasive (WHO, 2008b). Furthermore, as with developing nations elsewhere, chronic and non-communicable diseases and injury are becoming increasingly significant problems (Ministry of Health, Timor-Leste, 2007; WHO, 2004b). These and other population health concerns in Timor-Leste are discussed further in this section.

2.2.1 Maternal and child health.

Birth and childhood are recognised to be particularly vulnerable stages of life and the health of women and children is therefore subject to special focus and resourcing throughout most of the world (WHO, 2005c). Within the developing world, particularly post-conflict, fragile nations, women and children are arguably especially vulnerable.

A large proportion of Timorese women, almost half, are of child-bearing age (generally considered to be between 15 and 49 years) (Ministry of Health, Timor-Leste, 2007). The rate of child-birth amongst Timorese women is also high. The total fertility rate has been estimated at between 6.5 and 8.9 births per woman (Ministry of Health, Timor-Leste, 2007; World Bank, 2008, 2010). As comparison, the fertility rate in 2008 in Timor-Leste's closest neighbour, Indonesia, was estimated at 2.2 births per woman (World Bank, 2010).

A high fertility rate presents as a considerable issue in a nation such as Timor-Leste, where health and other systems (e.g., education) remain in development. The conditions for both child-birth and child-rearing are not ideal. The widespread incidence of diarrhoeal diseases, for example, is directly related to a lack of access to safe water, with children being particularly susceptible to infection (UNDP, 2006). Approximately 50 per cent of households utilise groundwater for drinking and cooking, which is at risk of contamination by sewerage, naturally occurring bacteria and other environmental waste (Ministry of Health, Timor-Leste, 2007; Oxfam, 2008; UNDP, 2006).

The rate of infant mortality in Timor-Leste is extremely high, being estimated at between 70-95 per 1,000 live births (Ministry of Health, Timor-Leste, 2007; World Bank, 2010; WHO, 2006b). This represents a worse outcome than observed in the wider WHO South-East Asia region (WHO, 2006a). The most common causes of infant mortality in Timor-Leste are acute respiratory infections, diarrhoea, dengue fever, malaria, or complications associated with prematurity and birth trauma (WHO, 2006b). Many of these factors also account for the very high under-five mortality rate, which has been estimated at betweem 93 and 130 deaths per 1,000 live births (Ministry of Health, Timor-Leste, 2007; World Bank, 2010).

Among surviving children, healthy development is uncommon. Approximately half of all children have moderately stunted growth and one in four are severely stunted (Ministry of Health, Timor-Leste, 2007; World Bank, 2010). Up to half of all children aged under five are underweight (WHO, 2004a; Word Bank, 2010). A contributing factor is parasitic infection and resulting nutritional deficiency: a 2006 investigation by the Ministry of Health and the WHO found that 90 per cent of

children in sampled districts had a parasitic infection and over 25 per cent had two or more concurrent infections (Ministry of Health, Timor-Leste, 2007).

More significant acute malnutrition, or wasting, is also high, with almost one in five children in their second year being wasted (Ministry of Health, Timor-Leste, 2007). Not surprisingly, around one-third of children under five (and one-quarter of pregnant women) have anaemia (World Bank, 2010). Child malnutrition is associated with food shortages, limited exclusive breastfeeding, and a lack of parental knowledge of age-appropriate nutritional requirements (WHO, 2004a). Malnutrition is also no doubt influenced by "the vicious cycle of illness and poor appetite" (WHO, 2000a, p. 15).

In the period 2000-2006, for every 100,000 live births there were an estimated 660 to 800 maternal deaths (WHO, 2006a; Ministry of Health, Timor-Leste, 2007; UNDP, 2006). By comparison, this maternal death rate is up to three times that observed in Indonesia in 2000 (WHO, 2000a). Overall, throughout their reproductive years, one in every ten Timorese women dies during pregnancy or from pregnancy-related causes (Ministry of Health, Timor-Leste, 2007). Unrelated to pregnancy, gender-based violence is also common with an estimated half of all women in 'intimate relationships' subject to domestic assault (Ausaid, 2008d; UNDP, 2006).

Attendance by skilled personnel is thought to occur in less than one-fifth of births throughout the nation, and is perhaps as low as 12% in some remote areas (World Bank, 2010; WHO, 2004a; Ministry of Health, Timor-Leste, 2007). Leading up to birth, there is also poor access to reproductive health services, with less than half of pregnant women receiving any formal antenatal care (WHO, 2004a).

A significant issue in maternal health is arguably the underlying gender inequity still evident in Timor-Leste society. It has been suggested, for example, that gender inequity is an issue in the low priority placed on the education of women in regards to their health and their childrens' health (UNDP, 2006). Certainly, without appropriately-targeted health promotion and education, many women may simply not see the need to attend maternal and child health services. Likewise, inequity arguably plays a role in other access barriers to appropriate services. These barriers

may be service related, such as perceived discrimination or inappropriate care, or they may be more family-centered, such as a lack of support from family members in attending services (UNDP, 2006). Improvements in maternal and child health in Timor-Leste will require not only improved quality and coverage of services, but societal change. This is recognised by the Timorese Government in its National Development Plan and in work towards Millenium Development Goals three and five, those related to empowering women and improving maternal health (Democratic Republic of East Timor, 2002b; Democratic Republic of Timor-Leste and The United Nations, 2009).

2.2.2 Immunisation.

Immunisation is a fundamental approach to the control of communicable disease. Through sufficient population-wide immunisation coverage, many diseases can be controlled and, in some cases, eradicated (Malone & Hinman, 2006).

The most recent (2008) data of immunisation coverage in Timor-Leste reported that 67 per cent of the population had received standard 'DTP3' protection against diphtheria, tetanus and pertussis, representing an increase from estimates of 55 per cent in 2005 (WHO, 2009a). A notable increase has also occurred between 2005 estimates and 2008 data of coverage against measles (from 48% to 68%). Progress with other immunisations has been less notable. Coverage against polio, for example, is thought to have risen from 55 per cent in 2005 to only 57 per cent in 2008 (WHO, 2009a).

While increases in immunisation rates are positive, coverage remains low in comparision to most other nations (World Bank, 2010). There is a range of complex hurdles to overcome in delivering an effective, population-wide immunisation strategy in Timor-Leste. As with all elements of the health system, resources and geography are key challenges. Furthermore, as immunisation is traditionally a strategy that can be successfully delivered through maternal and child health services, community health centres and mobile clinics (WHO, 2005c), access and service issues for mothers in this sector (see 2.2.1) clearly play a significant role.

In the absence of incentives or regulation (such as requiring all children attending school to be immunised), obtaining maximum population coverage of immunisation will also depend to a large degree upon community understanding and acceptance of immunisation as a preventive health measure. Such awareness is currently low (Ministry of Health, Timor-Leste, 2007), yet crucial in ensuring people consent to their first vaccination and equally crucial in ensuring that people return for subsequent, staged vaccinations. For immunisation for which multiple exposures are necessary for full protection (e.g., DTP3, which requires three injections), a significant drop-out rate of eight per cent has been observed between the first and third injection (WHO, 2009a). Unfortunately, in many of these cases, the initial successful vaccination will not have resulted in adequate long-term disease coverage.

Many social, geographic, financial and attitudinal barriers to health services access exist in Timor-Leste and increased immunisation rates will require these to be addressed in tandem with improved public education on the benefits of immunisation. Impressive isolated programs such as the National Immunisation Days for poliomyelitis in 2000 and 2002, and a special campaign for measles vaccination in 2003 (WHO, 2004a), have shown that this is possible in Timor-Leste, despite the challenges.

2.2.3 Communicable disease.

Communicable disease accounts for approximately 60 per cent of all deaths in Timor-Leste (WHO, 2004a, 2006b). Most notably, there is a persistent and strong potential for outbreaks of malaria, diarrhoeal disease and acute respiratory infections, as well as dengue fever, Japanese encephalitis, cholera, typhoid, and tuberculosis (Ministry of Health, Timor-Leste, 2007; WHO, 2003a, 2004a, 2006b).

Malaria, in particular, is considered endemic in Timor-Leste. Sadly, the highest mortality rates are observed in children (Ministry of Health, Timor-Leste, 2007). Peak transmission periods of malaria are July/August and December/January, although a longer transmission period has been observed in the east of the country due to a prolonged wet season (WHO, 2000a).

There were 33,524 reported cases of laboratory-confirmed malaria in 2006 (WHO, 2008c). While this may seem to be a large number of cases, the World Health Organization has estimated the *actual* (i.e., including unreported) number of cases in that year to be well over 500,000, being by far the worst estimated case rate per population across South-East Asia (WHO, 2008c).

While initiatives to combat malaria in Timor-Leste have been delivered by many groups, and have concentrated on the availability of treatment, provision of preventative measures such as insecticide-treated mosquito nets, and the development of mosquito control methods and epidemic preparedness, it is clear that efforts to date have not resulted in significant progress (Democratic Republic of Timor-Leste and The United Nations, 2009; WHO, 2008b). Ongoing issues include poor diagnosis, incomplete national surveillance data (combined with a limited capacity for data analysis), and insufficient coverage of population-wide prevention initiatives, including community education (Democratic Republic of Timor-Leste and The United Nations, 2009). Prevention of infection is critical, particularly as access to treatment is poor and, moreover, because the drug-resistant *P. faciparum* form of malaria is widespread (WHO, 2004a, 2008c). It is clear that a far greater and sustained effort will be required to control malaria in Timor-Leste.

Control of tuberculosis is also a significant challenge for Timor-Leste. Its prevalence in 2007 was reported as 378 cases per 100,000 persons, being the worst reported rate in South-East Asia; however it is estimated that only 87 per cent of cases are detected (WHO, 2009c). Annual mortality due to tuberculosis is approximately 50 to 100 per 100,000 (Ministry of Health, Timor-Leste, 2007; WHO, 2008a; 2009d). While raising the detection rate of cases will be important in order to limit contagion, a further challenge will be improving the rate of directly-observed treatment success from 79 per cent (WHO, 2009c). This will of course require considerable resources, training of health staff, and significant community engagement.

Malaria and tuberculosis are established problems in Timor-Leste and, while being addressed with limited resources, strategies are nonetheless in place to address them. This could not be said for emerging communicable disease concerns such as sexually transmitted infections and HIV. Surveillance suggests that sexually transmitted

infections may be reasonably common, particularly in urban centres and among sex workers (WHO, 2004a). Some sixty per cent of female commercial sex workers in Dili in 2003, for example, were found to have herpes (Ministry of Health, Timor-Leste, 2007). Of concern, the prevalence of sexually transmitted infections is a known risk factor for increasing the likelihood of HIV transmission (Flemming & Wasserheit, 1999). Prevalence of HIV, however, appears to be so far low (Chevalier, Carmoi, Sagui, & Pierre, 2001), with limited sentinel surveillance carried out between 2001 and 2003 identifying only eight cases (WHO, 2004a). Conservative modeling of HIV rates based on current levels, however, suggests that Timor-Leste could have a population of 5000 persons living with HIV by 2025 (AusAid, 2006a).

Evidence-based efforts to improve sexual health in Timor-Leste inevitably confront the influence of the dominant Roman Catholic Church, a powerful influence on a significant proportion of the population (Belton et al, 2009; Pedersen & Arneberg, 1999). Safe sex through condom-use is apparently rarely discussed and certainly not encouraged by Catholic religious leaders (AusAid, 2006a). There is a correspondingly poor community-wide awareness of sexually transmitted infections and HIV, their causes and available treatments (AusAid, 2006a; Ministry of Health, Timor-Leste, 2007; WHO, 2004a). Confounding matters, under Indonesian occupation, the promotion of contraception was often coercive and was viewed by many as politically motivated population control or the 'Javanisation' of Timor-Leste (Pedersen & Arneberg, 1999). Due to the range and strength of embedded cultural issues in this area, progress is likely to be a significant long-term challenge in Timor-Leste. Increased prevalence of sexually transmitted infections and HIV are therefore likely to remain significant potential population health risks.

2.2.4 Non-communicable disease and injury.

Globally, non-communicable diseases account for 60% of all deaths and, of these, 80% are in the developing world (WHO, 2005d). The WHO reports an increase in cardiovascular disease, diabetes and diseases associated with tobacco-use in these settings, and a growing trend towards these conditions affecting people at younger ages (WHO, 2005d, 2008d, 2009e). An increase in chronic disease is likely to be associated with a range of factors related to development, including increased sedentary behaviour, overweight and obesity, and changes in diet and physical

activity levels (WHO, 2008d). Over time, Timor-Leste will arguably not be immune to these concerns and population health planning will need to take them into account.

A particular concern for the future in Timor-Leste is an anticipated high prevalence of chronic diseases related to tobacco-use, such as lung cancer and chronic obstructive pulmonary disease (WHO, 2009e; Woollery, Asma, & Sharp, 2000). Although accurate recent statistics are unavailable, smoking prevalence in Timor-Leste is thought to be high, particularly among men, of whom approximately 60% are thought to use tobacco products (Ministry of Health, Timor-Leste, 2007). Tobacco-use is also related to poor tuberculosis outcomes (WHO, 2009c, 2009d, 2009e), an additional problem in Timor-Leste.

Reductions in rates of tobacco-use, judging by outcomes of tobacco control initiatives in other countries, are likely to require a significant and sustained effort over many years (WHO, 2009e). Timor-Leste does not currently deliver a national tobacco control program of the type arguably required, in which population-wide measures such as education, restriction of access to children, and fiscal levers such as increased taxation of tobacco products are thought to be essential pillars (Ahmad & Billimek, 2007; Ahrens, 2009; Daynard, Gottlieb, Sweda, Friedman, & Eriksen, 2006; Ministry of Health, Timor-Leste, 2007; WHO, 2009e; Woollery et al., 2000). Enhanced education on the health risks of smoking, and advice and assistance in 'quitting', would be important first steps (WHO, 2009e).

Injury is also an increasing problem in the developing world, including Timor-Leste (WHO, 2004a, 2004b; Ministry of Health, Timor-Leste, 2007). Indeed, road trauma is considered likely to increase by as much as 80% in developing countries by 2020 (WHO, 2004b). In Timor-Leste, unroadworthy vehicles, a lack of sufficient driver training and enforcement of traffic regulations, and a lack of traffic calming measures (such as stop signs or traffic lights), represent a significant danger to road users and pedestrians alike (Ministry of Health, Timor-Leste, 2007; WHO, 2004a). Similarly, as commercial and industrial sectors expand, an increasing number of work-related injuries are likely to be seen unless due consideration is given to raising risk awareness and preventative occupational health and safety in general (Ministry of Health, Timor-Leste, 2007).

The Ministry of Health agree that there has been an insufficient approach to injury prevention in Timor-Leste (Ministry of Health, Timor-Leste, 2007), noting that with its "agrarian social base, with minimally enforced public health regulations, with a poorly developed road system and subject to harsh climatic conditions, Timor-Leste exhibits all the classic characteristics of a country prone to endemic injury-trauma status" (Ministry of Health, Timor-Leste, 2007, p.103). Already, treating injuries at primary and secondary health care facilities represents a significant proportion of the medical and nursing workload (Ministry of Health, Timor-Leste, 2007; WHO, 2004a).

Despite being of major importance in mortality and morbidity rates, non-communicable diseases and injury prevention are of low priority on the global health agenda. Low priority has been given to these areas, perhaps as they are not explicitly mentioned in the Millenium Development Goals which have driven the targeting of much donor funding. This presents as a significant issue in the development of a comprehensive, robust health system in Timor-Leste.

2.2.5 Environmental and other population health issues.

Environmental health in Timor-Leste is evidently poor. There exists extremely limited formal collection of household garbage and, furthermore, of hazardous medical or industrial waste (Adhikary, 2002). In many areas, household waste is disposed of in open bins, resulting in it spreading widely either through weather or scavenging animals and many people burn their household waste: a practice that spreads highly toxic plastics and other air pollutants (Ministry of Health, Timor-Leste, 2007).

While refuse management is a highly visible issue, access to potable water and adequate sanitation is arguably the dominant environmental health concern in Timor-Leste (Democratic Republic of Timor-Leste and The United Nations, 2009; UNDP, 2006; Ministry of Health, Timor-Leste, 2007). It is thought that only just over half of the population has access to safe drinking water and less than half have access to adequate sanitation (Democratic Republic of Timor-Leste and The United Nations, 2009; UNDP, 2006). The significance of this cannot be overstated: the lack of safe

drinking water throughout Timor-Leste is thought to be a major predictor of child mortality due to diarrhoeal illness (Ministry of Health, Timor-Leste, 2007). Many Timorese must obtain their own water from a range of sources such as wells and rivers and may not have the facilities (or may not appreciate the need) to boil the water before consumption (UNDP, 2006; UNPF, 2008).

Food-borne disease is also a significant issue in Timor-Leste. Poor handling and storage of food products, including a lack of refrigeration and ability to wash food with clean water, reflect a widespread lack of capacity in food safety (Ministry of Health, Timor-Leste, 2007). Further to this, cyclical food shortages, particularly during November to February, can leave almost three-quarters of households suffering regularly from hunger (UNDP, 2006; WHO, 2003a). This is caused in part by weather but also by argricultural practices including inadequate storage of crops and widespread deforestation leading to land degradation and erosion (UNDP, 2006; UNPF, 2008). Imported and processed or packaged foods, which may offer a safe and stable alternative, are of limited availability and generally far too expensive by local standards for widespread consumption (Democratic Republic of Timor-Leste and The United Nations, 2009).

Timor-Leste exhibits the core food, water, and sanitation concerns common to other developing nations in which there is limited infrastructure and where most inhabitants are impoverished and under-educated on risks to health (Ministy of Health, Timor-Leste, 2007; WHO, 2004a). These issues remain long-term, difficult challenges for Timor-Leste to overcome.

2.3 The Health System

Thus far in this Chapter, a background has been provided to the history of Timor-Leste and some of the major population health concerns have been highlighted. The following section provides a review of the development of the Timor-Leste health system and discusses its capacity to improve population health.

2.3.1 Under Portuguese and Indonesian rule.

As noted (2.1.3), the Portuguese developed minimal infrastructure within Timor-Leste. The few health facilities that were created during their administration were concentrated in urban communities, predominantly for the use of the colonists themselves and there was apparently no strategy to investigate and address the health needs of the Timorese population (Dunn, 2003; Smart, 2005). Subsequently, reliance on traditional healers and treatments remained pervasive, particularly in rural and remote communities (Ministy of Health, Timor-Leste, 2007; Smart, 2005).

Subsequent Indonesian administration of Timor-Leste reflected the fact that it was a military occupation, with little early concern for the health of the population (Dunn, 2003). However, gradually, an organised health care system was established (mainly to service Indonesian migrants) consisting of community health centres, village health posts and eight district level hospitals (Morris, 2001). Prior to independence, the main hospital in Dili had up to 11 specialists and a central health laboratory for disease testing (Morris, 2001; Smart, 2005).

Unfortunately, very little of the health system development initiated by Indonesia resulted in improved outcomes for the Timorese. Indeed, mistrust of the Indonesians, poor access to services and, reportedly poor service meant that many Timorese continued to rely on traditional health practices (Morris, 2001). The main hospital in Dili was also very costly to the majority of Timorese, who were required to pay for even simple procedures, including basic dressings (Dias, 2000). Reportedly, patients were also persuaded to visit private practices set up by Indonesian doctors, who would require prescriptions to be filled at pharmacies that they also privately owned, leading to the suggestion that “The Indonesian doctors who came [to Timor-Leste] were almost always more interested in their own financial gain than in improvements in the health of the people” (Dias, 2000, p. 6).

It is also apparent that Indonesia provided the Timorese with little if any involvement in planning or managing the health system (Morris, 2001). While under the Portuguese there was effectively *no* health system, under Indonesia the system

installed was chronically under-accessed as it was not based on analysis of local needs, and very little community trust existed (Dunn, 2003).

2.3.2 Transitional arrangements.

The violent aftermath of the vote for national independence in 1999 resulted in a national humanitarian crisis, with widespread death, injury and trauma, the collapse of public services, and the displacement of approximately three-quarters of the population (Martin & Mayer-Rieckh, 2005; WHO, 2000a). In terms of health services, almost the entire health infrastructure was destroyed or damaged (Alonso & Brugha, 2006; WHO, 2000a, 2004a). In addition, most core health personnel (who were Indonesian) departed Timor-Leste (Tulloch et al., 2003).

With limited effective health infrastructure, and almost no workforce, the health system collapsed and the already poor health of the population was placed under significant threat (Morris, 2001; WHO, 2004a). Due to a breakdown of disease surveillance and management, for example, the control of malaria was hampered and its incidence tripled (WHO, 2000b, 2001). To this day, the nation has found it extremely difficult to rebuild health infrastructure and, in particular, establish a sufficient and well-trained workforce (Ministry of Health, Timor-Leste, 2007).

United Nations agencies, the WHO and numerous international government and non-government organisations began to reach Timor-Leste to provide humanitarian assistance shortly after the deployment of peacekeeping troops in August, 1999 (Martin & Mayer-Rieckh, 2005; Tulloch et al., 2003; WHO, 2004a). Throughout the following approximately two year emergency phase, direct health care was provided almost exclusively by international organisations: an early review of health service provision identified 15 international and six local non-government organisations, 23 church organisations, four military contingents and two private agencies providing health care services during this time (WHO, 2000a). Under these arrangements, by June 2000, it was estimated that almost half a million medical consultations had been provided (WHO, 2000a).

Under the United Nations Transitional Administration, an Interim Health Authority consisting of 16 senior Timorese health professionals was established (Tulloch et al.,

2003; WHO, 2000a). In August 2000, this body evolved into the first Division of Health Services within the transitional government (Tulloch et al., 2003). It became increasingly apparent that trained local medical personnel were scarce, with estimates of between 12 to 35 local doctors remaining in Timor-Leste (Morris, 2001; Smart, 2005; WHO, 2000a). The nation is yet to recover from a serious lack of capacity in trained medical and allied health staff, and also in senior and middle management positions (Ministry of Health, Timor-Leste, 2007).

The early presence of the WHO in Timor-Leste has arguably had a very positive impact. Its mission has been to "cooperate and collaborate with the Government of the Democratic Republic of Timor-Leste, and other developmental partners in Timor-Leste to provide the greatest possible contribution to improving the health of the people of Timor-Leste" (WHO, 2004a, p. 30). The WHO played an important early role in coordinating the many donors and non-government organisations that amassed to assist the Timorese people. While implementing its own programs in key areas such as communicable disease control, nurse education, and child and maternal health during this period, a pivotal role of the WHO was supporting the initial development of the Timor-Leste Ministry of Health (WHO, 2000a, 2000b, 2001, 2004a, 2004c).

In the lead up to independence, as responsibility shifted to the Ministry of Health (established late 2001), many non-government organisations shifted their focus to community development as opposed to direct health care delivery (WHO, 2004a). A large amount of responsibility for health care planning and delivery now fell to the new Ministry, which arguably had limited capacity without continued international assistance.

2.3.3 Post-independence.

Restoring health infrastructure and improving population health were clear early priorities for the independent government of Timor-Leste, as signalled in the National Development Plan released in 2002 (Democratic Republic of Timor-Leste, 2002b). Capacity restraints, however, including a lack of finances and of a trained and experienced public service, have been major impediments to a truly independent approach (UNDP, 2004, 2006). Until revenue began to flow from the nation's oil

and gas reserves in the Timor Sea in 2008 (Democratic Republic of Timor-Leste, 2008), most health funding came from the Trust Fund for East Timor, an international fund established to rebuild the nation, and from other multilateral and bilateral donor relationships (Tulloch et al., 2003; WHO, 2004a). Many of the key personnel and advisors involved in rebuilding efforts have been foreign nationals, employed through donor agencies and international non-government organisations (UNDP, 2004).

As responsibility shifted to the new government, many services previously provided by the United Nations were scaled back in a managed way. This was an important stage in development, as it allowed the new government to begin to experience a level of autonomy and responsibility (Alonso & Brugha, 2006). Perhaps, in terms of domestic politics, this also satisfied many Timorese who had become somewhat frustrated with the transitional administration and a perceived slow progress towards independence (Smart, 2005). While the final responsibility for health in Timor-Leste now rested with the national government, it was widely acknowledged that ongoing assistance from the international community would be required for some time (UNDP, 2004, 2006; UNPF, 2008; WHO, 2004, 2004c). There has arguably been insufficient time to develop a lasting capacity within the health system, whether in terms of a skilled local workforce or a comprehensive set of health policies, programs and infrastructure.

Poor access to health services remains a considerable problem in Timor-Leste, particularly in rural communities where the nearest health facility may be several hours away on foot (Democratic Republic of Timor-Leste and The United Nations, 2009; Ministry of Health, Timor-Leste, 2007). Q*uality* of service remains a significant issue also, with the Ministry of Health (2007) acknowledging that well-resourced health services complete with sufficiently trained local staff were rare, resulting in negative community perceptions of health care. Disease surveillance systems and laboratories with diagnostic capacities remain extremely limited and, in addition, many of the rural health facilities themselves reflect conditions in the wider community, including unreliable access to safe water, electricity and communications (Zwi et al., 2007). For these and other reasons, many Timorese continue to prioritise the use of home-based traditional remedies and, where these

fail, visit traditional healers (Ministry of Health, Timor-Leste, 2007; Zwi et al., 2007).

The Ministry of Health is tasked with rebuilding the health system and ultimately ensuring the availability, accessibility and affordability of health services to all Timorese (Ministry of Health, Timor-Leste, 2007). The Vision of the Ministry is '*Healthy East Timorese in a healthy East Timor*', reflecting not only a focus on the health of people but also on the relationship between health and the environment (Ministry of Health, Timor-Leste, 2007). It is noteworthy for the purposes of this study that the Mission of the Ministry of Health includes commitments to promoting community and stakeholder participation and *regulating* the health sector (Ministry of Health, Timor-Leste, 2007).

The Ministry identifies its role as including both 'stewardship' and service provision. Stewardship is referred to as the 'head office' tasks of setting policy direction, *health regulation*, organisational monitoring and surveillance, inter-sectoral engagement and the development, administration and financing of the public health care system (Ministry of Health, Timor-Leste, 2007). Service provision refers to the actual delivery of health care services, including community engagement, disease prevention and control, and health promotion (Ministry of Health, Timor-Leste, 2007). At the operational level, the Ministry provides health services through arrangements with health centres, health posts and mobile clinics that each serve geographically-defined populations. A recently approved Basic Services Package defines the core roles and responsibilities of each service unit (Ministry of Health, Timor-Leste, 2007).

Currently, there remains one national hospital, located in Dili, which houses the nation's only significant specialist medical and diagnostic services (Zwi et al., 2007). Across the 13 districts there are five regional hospitals and 66 Community Health Centres (Ministry of Health, Timor-Leste, 2007; Zwi et al., 2007). Of the Community Health Centres, nine have some in-patient capacity and limited laboratory facilities: the remainder provide basic medical care, as well as preventive and health promotion services (Zwi et al., 2007). In addition, there are 174 health posts at the sub-district level that are staffed, generally, by a nurse and a midwife;

however mobile clinics that are run from Community Health Centres augment this capacity intermittently (Ministry of Health, Timor-Leste, 2007; Zwi et al., 2007). Systems supporting health delivery, such as pharmaceutical and medical equipment supply, are located in the capital and distributed via the Autonomous Medical Stores System (*Servicos Autonomo de Medicamentos Equipamentos de Saude*, or 'SAMES') (Ministry of Health, Timor-Leste, 2007; Zwi et al., 2007).

The relatively recent deployment throughout the nation of a significant number of health staff from Cuba, including 286 doctors, has appreciably added to service delivery capacity (Anderson, 2008; Ministry of Health, Timor-Leste, 2007; Zwi et al., 2007). While it is understood that Cuba plans to maintain this presence for the foreseeable future, the language barrier and cultural sensitivies remain significant issues in the ability of the Cubans to consult effectively with Timorese patients and train local staff (Zwi et al., 2007).

Groups such as the WHO are also continuing to assist the Timor-Leste Government by providing technical assistance and program delivery. In its Country Cooperation Strategy 2004-2008 (WHO, 2004a), the WHO outlined four priority areas, being:

- support for health policy and *legislation development*;
- donor coordination and partnerships for health development;
- health systems development; and
- interventions for priority health problems.

The WHO argues that by acting as a close partner, it "can provide direct technical assistance and policy briefs describing the experience of other countries and their likely implications and adaptation for Timor-Leste. Furthermore, the World Health Organization's neutral position should help the government to avoid the mistake of developing policies and programmes of a short-term nature or to meet the requirements of a specific donor" (WHO, 2004a, p. 22).

Certainly, experiences in Timor-Leste have demonstrated that reliance on donor assistance in health development is problematic. Donor agencies typically have unique priorities, approaches and constraints and many donors can only deliver

short-term projects that do not build capacity that remains in place on their departure (de Haan, 2009; Glennie, 2008; Moyo, 2009). It has been noted that these conflicting priorities and ways of working "often lead to confusion and managerial complexities which create an extra burden for the limited staff of the Ministry of Health" (WHO, 2004a, p. 23). In this context, guidance from an overarching development plan becomes very important.

2.3.3.1 Overarching plans and frameworks.

Nation-wide planning and policy development in Timor-Leste has been underpinned by a National Development Plan (NDP), released in 2002. In regards to health, this plan proposes:

- an emphasis on localised preventive and promotive health care;
- to limit hospital and specialist care expenditure to less than 40% of overall recurrent expenditure;
- to optimise accessibility and coverage through the adoption of primary health care principles;
- a collaborative inter-sectoral approach to health care;
- to prioritise services and programmes that aim to improve health status of vulnerable groups, including children, women, and rural populations; and
- a recognition of the importance of effective management and *regulatory systems* and processes, qualified, experienced and motivated personnel, strong programmes of education and training, strategic policy directives, appropriate nation-wide health information systems and viable administrative support mechanisms (Democratic Republic of East Timor, 2002b).

The Government's Health Policy Framework reaffirms the principles found within the National Development Plan, including an emphasis on primary and preventive health care and the recognition that multiple determinants of health require a multi-sectoral approach (Ministry of Health, Timor-Leste, 2007). The Health Policy Framework outlined a Basic Services Package, finally completed with technical assistance in 2007, which determines the minimum roles, functions, staffing levels and infrastructure support for primary health care and hospital services (Ministry of Health, Timor-Leste, 2007).

Further overarching government planning guidance is outlined in the 2006 Timor-Leste Human Development Report (UNDP, 2006). The plan is stongly focussed on poverty reduction, and improving inequity in access to key services, including education and health. The report promotes a continued focussing on partnerships in the development of the nation, noting the presence of over 400 non-government organisations in Timor-Leste (UNDP, 2006). A further strategy is de-centralisation of government: the report notes the basis for this in the nation's Constitution and highlights that little move has been made towards distributing authority to the local level, thereby allowing targeted local approaches (UNDP, 2006).

As with most governments, expenditure (and therefore, to a degree, policy) is determined centrally in Timor-Leste. Since 2004 the Ministry of Planning and Finance, with technical assistance, has centrally administered a Sector Investment Programme to guide the funding of departments and agencies (Ministry of Health, Timor-Leste, 2007). The Ministry of Health has noted that the Sector Investment Programme has been largely "operational and imposed" (Ministry of Health, Timor-Leste, 2007, p. 20) and perhaps not linked well enough strategically to the desired directions of the Ministry of Health. The Health Sector Strategic Plan 2008-2012 is an attempt to proactively address this, by clearly outlining the Ministry of Health's proposed priorities and directions.

2.3.3.2 The Health Sector Strategic Plan 2008-2012.

In September 2007, the Timor-Leste Ministry of Health, under Minister Dr Nelson Martins, released the *Health Sector Strategic Plan 2008-2012*. Broadly, the document outlines 57 strategies that aim to:

- improve accessibility to, and demand for, quality health services;
- strengthen management and support systems; and
- strengthen coordination, planning and monitoring (Ministry of Health, Timor-Leste, 2007).

Of the 57 strategies identified, 32 are described as 'cross-cutting', that is, they aim to maximise efficiencies by targeting multiple problems. Of these 32 strategies, a core

group of 17 strategies is proposed that spread across 10 key areas (Ministry of Health, Timor-Leste, 2007, p. 136) (see Table 1).

Table 1. ***Core strategies of the Timor-Leste Health Sector Strategic Plan 2008-2012***

Area	Strategy
• Health services delivery	1. Further improve coverage and access to health services especially for the poor, the remote and other vulnerable groups through appropriate location of health facilities and the strengthening of outreach services
	2. Strengthen delivery of basic health services by ensuring that the directives of the [Basic Services Plan] are implemented at all mobile clinics, health posts, health centres and hospitals
	3. Strengthen delivery of quality care, especially maternal and child health services, in all facilities through capacity development measures such as BEOC, IMCI and nutrition continuing professional development programs
• Behaviour change/health promotion	4. Change for the better the attitudes of health care providers sector-wide to effectively communicate with consumers especially in relation to the needs of the poor and other vulnerable groups through sensitisation and the building of good interpersonal skills
	5. Strengthen activities to promote better community appreciation of the value of effective evidence-based medicine and health care
• Quality	6. Develop a culture of quality improvement in public health service delivery and management through the use of quality practice and professional standards
• Human resource development	7. Strengthen human resource planning to reduce mal-distribution of the numbers and type of workforce through identification of posts and the reallocation of staff
	8. Introduce a broad-based incentive scheme to assist in appropriate deployment of qualified staff across the health care sector
	9. Increase the number of skilled midwives through enhanced pre-service and articulated training opportunities and through improved supervision and control measures at work
	10. Strengthen the capacity of nurses and allied health professionals in community-based work
	11. Strengthen the skills, know-how and attitudes of managers at all tiers of the health system
• Financing	12. Further develop the system of financial management and strengthen financial management capacity throughout the sector
• Asset management	13. Develop a systematised approach to asset management that includes appropriate standards, technical guidelines, protocols and audit practices for asset procurement, maintenance and replacement, renewal and disposal
• Organisational development	14. Organisational and management reform of structures, systems and procedures in the Ministry of Health to respond effectively to change as per the accepted recommendations of the functional analysis
• HMIS	15. Prepare an information master strategic plan that would guide the appropriate phasing-in of different information sub-systems
• Gender equity	16. Promote gender mainstreaming in the MOH, improve awareness of gender issues throughout the health workforce and provide affirmative action opportunities for women
• Research	17. Establish an operational research centre to assist in developing research capacity within the health sector of Timor-Leste to address health and system challenges and inform clinical and public health practice.

Within the framework of the plan, working principles include a "priority emphasis on prevention and control of communicable and selected chronic and non-communicable diseases, on trauma and related injury, adolescent health, and the wellbeing and health of vulnerable groups" (Ministry of Health, Timor-Leste, 2007, p. 9). Priority diseases include malaria, dengue fever, sexually transmitted infections, HIV/AIDS, tuberculosis, leprosy, respiratory tract infections, diarrhoeal and parasitic diseases, hypertension, diabetes, and smoking related diseases (Ministry of Health, Timor-Leste, 2007). There is also a clear intention of the Ministry of Health to focus on child and maternal health (specifically through reduced infant and child mortality rates, maternal mortality ratio, and total fertility rate), and on developing a more effective and efficient health system (Ministry of Health, Timor-Leste, 2007).

Legislation is mentioned throughout many of the 57 strategies of the plan, however in the majority of cases it is to state that drafting of law and regulation had not yet commenced. Public health legislation reform does not appear as a strategy in and of itself, nor does it appear within the 10 key areas of work and 17 essential strategies chosen for "urgency, cost-effectiveness and feasibility" (Ministry of Health, Timor-Leste, 2007, p. 135). The plan, then, confirms that public health law is not on the Ministry of Health's core agenda, and that health services delivery and organisational reform will remain the key focus. The lack of mention of legislative assistance in the 'technical assistance needs' section of the plan's appendices further reinforces the view that legislative reform in general is not a priority for the period of the plan (Ministry of Health, Timor-Leste, 2007).

The Ministry of Health, however, notes that the Health Sector Strategic Plan was prepared in a context of social and political unrest and that this has contributed to a lack of certainty across several areas. In particular, "the pressing need for reform, while acknowledged by key stakeholders both within and outside the Ministry of Health, is being approached with a level of caution that reflects not only an appreciation of the extent of capacity development needs within the Ministry but also a sense of what is achievable within the public sector arena of Timor-Leste" (Ministry of Health, Timor-Leste, 2007, p. xiii). Subsequently, the Ministry argues

that the plan might be best seen as flexible, with regular reviews taking into account any changes in sociopolitical circumstances and capacity to manage change.

2.3.4 Summary of health system challenges.

In attempting to improve the health of the Timorese people, system-wide infrastructure and human resource capacity constraints continue to be key challenges for the Ministry of Health and its partners. As has been shown, these issues are largely the result of successive periods of colonisation or occupation that arguably did little to create even the basics of an autonomous public health system.

Key structural issues of concern include:

- a low population coverage of, and unequal access to, adequate health and public services,
- low coverage and lack of access to clean water and sanitation;
- under-developed health information systems for monitoring and analysis of health indicators; and
- a lack of a sufficiently trained workforce, and a poor capacity to attract, develop and manage human resources (WHO, 2006b).

As a result of these ongoing structural issues, there is in Timor-Leste a continued reliance on cooperation (and difficulties in coordination) with donors and international program providers and advisers (Ministry of Health, Timor-Leste, 2007; WHO, 2006b).

More positively, with a steady income stream from petroleum exports, financing should become less reliant on the international community (Democratic Republic of East Timor, 2002b; Democratic Republic of Timor-Leste, 2008; UNDP, 2006; UNPF, 2008). However, additional funding alone will not result in a ‘quick-fix’ for the structure and operation of the health system, nor will it necessarily improve population health significantly in the short-term. Rather, it will take time to train an effective workforce and to build an infrastructure that is to all extents possible truly equitable to all Timorese, regardless of their geographical location. It will also take time to develop appropriate health system policies and procedures in order that these

trained staff can deliver services effectively and in a coordinated way, while allowing for local variations. Furthermore, many causes of poor population health in Timor-Leste are related to deeply-embedded social and cultural factors and these, also, will take significant time to address.

Indeed, social and cultural factors, and the role of community participation in the health system, cannot be underestimated. There remains in Timor-Leste a persistently poor community-wide level of knowledge of health in general and, importantly, of healthy daily practices such as safe food handling and protection from malaria, for example (Ministry of Health, Timor-Leste, 2007). Engagement of the population with the health system must surely start with the basics of education and health promotion to ensure that Timorese are a) are aware of ways to prevent illness, b) aware of how a health service can assist them in illness, and c) sufficiently convinced to actually change health-related behaviours, including both preventive health actions and attending health services.

There are significant geographic and economic disincentives for many Timorese to attend health services, and an acknowledged widespread lack of confidence in the quality of care available (Ministry of Health, Timor-Leste, 2007). Indeed, the Ministry of Health agrees that there is a "widespread belief that instances of closed facilities, inadequate clinical performance, inconsistent and, at times, weak management and supervisory practices, and inappropriate attitudes among [Ministry of Health] staff, when taken together, have had a detrimental influence on utilisation rates within the public health sector" (Ministry of Health, Timor-Leste, 2007, p. 39).

This, in part, surely underlies the observed persistent reliance on traditional medicines and traditional healers (Ministry of Health, Timor-Leste, 2007; Zwi et al., 2007). Research has confirmed that a wide range of problems are treated at this level: indeed, interviewed traditional healers tended to be of the opinion that they could manage all problems, and reported that they generally did not refer people on to a doctor or health service (Rogers, 2001). It will be a key challenge for the Ministry of Health to find a way to both bring the population onside, and work proactively and sensitively with traditional healers.

A further considerable problem potentially affecting the health system is ongoing social and political instability in Timor-Leste (see 2.1.7). Most recently, long-standing civil and political tensions resulted in a period of prolonged violence and displacement throughout 2006 to 2008 and the effects of this are arguably still evident (Brown, 2009; Brown & Gusmao, 2009). During any further periods of such intense instability, health services would again no doubt struggle to cope with demand. It must be noted however that within the recent crisis period, the Ministry of Health, with UNICEF, acted opportunistically, vaccinating and providing other treatments (such as de-worming and vitamin A supplementation) and preventative health interventions (such as long lasting insecticide treated nets) for approximately 30,000 displaced persons living in camps (Ministry of Health, Timor-Leste, 2007). The overall health system re-building focus, however, clearly stalled in this period and further periods of instability are also likely to have a similar effect.

The Ministry of Health note a number of risks to their agenda for population health improvement, including:

- poor macroeconomic growth threatening stable government allocation to the health sector;
- interruption of support from international agencies as a result of changes in their policies or because of political instability;
- potential for prolonged political instability impacting directly on the Ministry and population health;
- resistance to change within the Ministry and government *particularly concerning legislative review* and human and financial resource management issues;
- a lack of support for proposed workforce incentives designed to improve retention and skills;
- inadequate attention to health promotion and health seeking behaviour; and
- inadequate integration of vertical services and programs (Ministry of Health, Timor-Leste, 2007).

A Sector Working Group has been established to discuss how the Ministry of Health should engage and coordinate initiatives with other Ministries and with its wide

range of supporting partners. A goal of this group will be to progress towards a framework for a sector-wide approach to health, including greater coordination of donor activities (Ministry of Health, Timor-Leste, 2007). The Ministry recognises that it will be a key task to reach agreement with partners on the type of technical assistance required, and how this will be provided and coordinated (Ministry of Health, Timor-Leste, 2007).

It is worth noting that where examples of success have been observed in the Timorese health sector (e.g., in controlling polio), influential factors have included "strong commitment, active political participation at the highest level, technical and financial support from partners, insightful strategic planning, effective mass media campaigns and sustained community participation" (Ministry of Health, Timor-Leste, 2007, p.33). These observations should hopefully provide encouragement to the health sector to continue a sustained level of commitment to reform and rebuilding.

2.4 Chapter Summary

This Chapter has provided a social and political context to this study, through a brief review of the history and development of Timor-Leste. It has been argued that successive colonial and military occupations of Timor-Leste have done very little to improve the exceptionally poor health of the Timorese, nor have they left the nation with even the basics of an autonomous health system.

The Chapter has reviewed the development of the post-independence health system and the many significant challenges faced in this endeavour by the Timorese government. Core national strategies have been discussed, including the Health Sector Strategic Plan 2008-12. It is apparent that while regulatory strategies are mentioned in overarching government plans, and in the Country Cooperation Strategy of the WHO, the Ministry of Health itself does not place public health law amongst its key priorities. Indeed it specifically notes, as a challenge, resistance to changes within the Ministry and government regarding legislative review.

The following Chapter reviews the field of public health law and examines its current place in Timor-Leste. Challenges within the legal system, which ideally could assist the health system with public health law, are considered.

Chapter Three: Public Health Law

3.0 Introduction

This Chapter examines the history and development of the field of public health, with a focus on the use of law as a means of addressing core public health concerns. Given that law fundamentally places restrictions on the freedoms of individuals, the ethical issues associated with the legal approach to public health are also considered. Subsequently, the utility of a 'risk-based' approach to public health law is discussed, in which law is applied in a graduated manner in accordance with an objective assessment of the level of public health risk being managed.

Public health law is then considered in the context of developing and post-conflict nations. In particular, the legal system and applicable law related to public health in Timor-Leste is described, with a focus on the regulatory areas targeted for investigation in this study: road safety; the sale of alcohol and tobacco to children; water safety; and food safety. Finally, current challenges for the Timor-Leste legal system are highlighted.

3.1 Public Health and Law

3.1.1 Public health.

Public health has been defined as "what we, as a society, do collectively to assure conditions in which people can be healthy" (Institute of Medicine, 1988, p. 1). A key principle that defines public health is that most effort is directed towards initiatives that influence the entire population (or sub-populations) and not those that directly target individuals *per se* (Parmet, 2007). Public health, then, does not equate to therapeutic or curative health service delivery. Rather, underlying most public health activity is the principle of prevention; that is, that the best way to improve the long-term health status of a population is the design and delivery of population-wide measures that *prevent* ill health from occurring (Detels, 2009; McGowan, Brownson, Wilcox, & Mensah, 2006; National Public Health Partnership, 1998).

The field of public health has historically been associated with several core issues of concern, often referred to as 'traditional' public health areas: such fundamental issues include ensuring the safety of food and water supplies (often referred to as 'environmental health' issues) and minimising the spread of communicable disease throughout a population (Clasen & Sugden, 2009; Porter, 1999). Immunisation against communicable disease was a major early public health strategy, built upon the development of a smallpox vaccine in the early 19th century (Stewart & Devlin, 2006). These early areas of public health practice are well-established core elements of modern public health agency activity (Detels, 2009; Kux, Sobel, & Fain, 2007; Locke, Falk, Kochtitzky, & Bump, 2007; Malone & Hinman, 2007).

As public health practitioners are primarily concerned with the prevention and management of population-wide risks to health, the science of epidemiology is also crucial to the public health approach. The monitoring of rates and outbreaks of disease within the community, and establishing their causes, are fundamental means by which public health agencies seek to protect people from health risks as early as possible (Aschengrau & Seage, 2003; Detels, 2009; Neslund, Goodman, & Hadler, 2007).

In the 20th and 21st centuries, such 'traditional' public health activities have been complemented by an increased focus on other risks to population health, including health-related behaviours such as tobacco-use, alcohol-use, poor diet and low rates of physical activity. Once the use of tobacco products was linked to serious disease, for example, key strategies of public health agencies and advocates became the provision of health warnings regarding tobacco-use and lobbying for restrictions on the sale and use of tobacco products (Chapman, 2007). The eventual banning of the sale of tobacco products to children in many countries, provision of health warnings, and restrictions on smoking in public places, have been extremely effective public health-led strategies, contributing in large part to a lower population rate of smoking and lung disease seen in much of the developed world today (Ahmad & Billimek, 2007; Chapman, 2007; Hagquist, Sundh, & Eriksson, 2007; WHO, 2009e; World Bank, 2009).

More recently, public health has been seen to concentrate even more intensely on health risks associated with modern lifestyles and environments (e.g., Kavanagh, Thornton, Tattam, Thomas, Jolley, & Turrell, 2007; Kvaavik, Batty, Ursin, Huxley, & Gale, 2010). Epidemiology has, for example, highlighted in many nations a gradual, population-wide increase in body weight that has been liked to a range of modern socioeconomic factors, including the increased availability, marketing and lower cost of some food types low in nutritional value but high in energy or fat (Alderman, Smith, Fried, & Daynard, 2007; Swinburn, Sacks, & Ravussin, 2009). Combined with increases in sedentary behaviour caused largely through other societal changes (e.g., increased automation of previously manual work environments), these factors have contributed to observed population-wide rises in rates of obesity, cardiovascular disease, and diabetes (Cummins & Macintyre, 2006). Modern public health approaches seek to understand and influence the behavioural and environmental factors that create such population-wide health concerns and that make healthy behaviours difficult to maintain for many people.

Public health is now an extremely broad and complex area of practice. Indeed, the modern concentration on identifying and influencing the *determinants of health* (Marmot, 2005) means that much public health activity may appear on the surface to have seemingly little to do with health itself. That is, many of the determinants of population health status are now acknowledged to be social and economic, such as poverty, social isolation and discrimination (WHO, 2008e). Some health issues can be traced to how people are influenced by the 'built environment', such as a lack of open space or safe footpaths to encourage physical activity (Giles-Corti, Wilson-Roberston, Wood, & Falconer, 2010; Kavanagh et al., 2007). Traditional public health approaches arguably do little to address these issues; therefore the development of novel, evidence-informed strategies and partnerships with other 'non-health' agencies are a core part of the modern public health approach (Krech, 2010).

While the field of public health is constantly developing, well-tested approaches continue to remain core elements of public health strategy. Epidemiology remains critical: through routine monitoring of population level health data, causes of disease can be identified and the beginnings of an outbreak can be recognised and controlled

quickly (Aschengrau & Seage, 2003). Similarly, the provision of population-wide education related to health risks, and the encouragement of behaviour and environmental changes through health promotion initiatives, play an essential ongoing role in public health strategy. Health promotion has, indeed, been acknowledged world-wide as a primary element of public health strategy, including within a number of key international Declarations and Charters (WHO, 1978, 1986, 1997).

In terms of preventing ill health, however, health promotion has intrinsic limits as it relies predominantly upon education, persuasion and encouragement to bring about behavioural and environmental change (Stott, Kinnersley, & Rollnick, 1994). There are, of course, many powerful disincentives and barriers to such change. A classic example of the limits of health promotion is in the field of tobacco control. Tobacco-use is an extremely addictive behaviour, and often associated with popularity and social attractiveness among young people in particular (Chapman, 2007). Anti-smoking messages are also faced with well-funded campaigns from the tobacco industry that promote tobacco-use (Annas, 1996, 1997; Chapman, 2007; World Bank, 1999). If a public health goal includes minimising population exposure to tobacco smoke, stronger approaches must be considered in order to supplement health promotion (Daynard, Gottlieb, Sweda Jr., Friedman, & Eriksen, 2006; WHO, 2009e). The following section will discuss the history and development of such an approach to public health strategy: public health law.

3.1.2 Public health law and regulation.

> *"…law and the legal process* [is] *the inseperable companion of the public health process … the history of public health has in many respects been a legal history."* (Reynolds, 2004, p. 3).

The use of law to protect populations from health risks is arguably much older than the broad field of public health as it is known today. As early as 1448, for example, the Venetian Senate established mandatory quarantine of travellers by sea who were suspected of carrying the plague (Carmichael, 1991). Quarantine law approaches were taken up in the 'new world' also, initially at local level in parts of North America in the 1600s, then at State and Federal level in the 1700s (Gostin, 2000).

Work towards international rules, designed to achieve a degree of worldwide harmony in approaches to quarantine, began with the first International Sanitary Conference in Paris, France, in 1851 (Gensini, Yacoub, & Conti, 2004).

The earliest formalisation of a broad, national public health law approach, however, might be regarded to be the English *Public Health Act* of 1848 (Reynolds, 2004). This Act brought together all of the major public health issues of the time, including those related to poverty, such as inadequate housing, water, sewerage systems and food (Calman, 1998). It clearly acknowledged the government's role in protecting the health of the population and established means to enable this, including 'inspectors of nuisances' and a range of penalties (Calman, 1998).

Today, law and regulation aimed at reducing risks to health may take many forms and address many specific health issues. In some jurisdictions, law related to public health may be more or less comprehensively collected, or at least cross-referenced, in an overarching, cohesive Public Health Act. The State of Victoria, Australia, is one such example, with its 2008 *Public Health and Wellbeing Act* (Department of Human Services, 2004, 2005; Parliament of Victoria, 2008). However, even in the presence of such an overarching act, many laws of relevance to health may also be contained within a range of other legal fields such as consumer and environment protection, or occupational health and safety, for example (Grad, 1998; Reynolds, 1997, 1998a, 1998b, 2004).

Public health outcomes may also be gained through law in areas more traditionally associated with finance. The increased taxation of tobacco products, for example, has become a key public health law approach and is recognised to be one of the most effective interventions in reducing rates of smoking (Chapman, 2007; Gostin, 2000, 2004; Reynolds, 2004). Indeed, given what is now known about the social determinants of health (Marmot, 2005; WHO, 2008e) human rights law focussing on equity, poverty and discrimination might also be viewed as public health-related law, through its health protecting and enhancing outcomes. The breadth of legal approaches possible is arguably a natural result of the broad range of factors that can influence human health and behaviour.

As public health aims to influence entire populations, law can be viewed as providing "a most obvious form of collective response since, typically, it imposes general obligations and is addressed to the whole community" (Reynolds, 2004, p. 3). Law and regulation may also target populations indirectly through, for example, the introduction of mandatory minimum standards that govern food and water supply safety (Clasen & Sugdem, 2009; Lang, 2006). These basic, industry-specific approaches, while potentially affecting the entire population, are not likely to raise widespread concerns over the restriction of individual or economic freedoms. However, the imposition of restrictions on the use of certain goods deemed to be dangerous to health (such as tobacco), or on certain 'risky' behaviours (such as riding a motorcycle without wearing a helmet), is more likely to be controversial regardless of how evidence-informed and well-intended those restrictions may be (Coben, Steiner, & Miller, 2007; Houston, & Richardson Jr., 2007; Jones & Bayer, 2007; Mertz & Weiss, 2008).

This balance between restriction and freedom decisively characterises the field of public health law, defined by Gostin (2000, p. 4), as "the study of the legal powers and duties of the state to assure the conditions for people to be healthy…and the limitations on the power of the state to constrain the autonomy, privacy, liberty, proprietary, or other legally protected interests of individuals for the protection or promotion of community health".

While certainly not free of controversy or need for careful ethical consideration (see 3.1.3), the use of law in protecting the health of the public has historically been extremely effective. In the area of road safety, for example, it has been demonstrated that motorcyclists in states with universal motorcycle helmet laws are significantly less likely to sustain severe traumatic brain injury or die than mototcyclists who are free to ride without a helmet (Coben, Steiner, & Miller, 2007). Similarly, laws requiring seatbelt-use in motor vehicles and alcohol restrictions for drivers have had an unquestionably positive effect on injury and mortality rates in road traffic accidents (National Highway Traffic Safety Administration, 2003; Carpenter & Stehr, 2008; Cohen & Einav, 2003). The strength of the legal approach is highlighted by reviews that have shown that health promotion campaigns encouraging drivers who speed or drink alcohol to become 'responsible citizens' are

far less effective than those that highlight the probability of being 'caught-out' and the severity of the associated penalty (Donovan, 1991).

A further notable use of public health law concerns the protection of people from the consumption of (or 'second hand' exposure to) tobacco products, now widely accepted to be addictive, poisonous and, for many of those exposed, lethal (Chapman, 2007; WHO, 2009e; World Bank, 1999). While not completely banning the sale of tobacco products, as has Bhutan (Koh, Joossens, & Connolly, 2007), many governments have acted to protect their populations from associated health risks. Although it remains in most jurisdictions an (adult) individual's choice to smoke tobacco products, a wide range of jurisdictions have enacted legal means to encourage smokers to stop smoking through, for example, increasing the price of tobacco products, requiring tobacco companies to print graphic health warnings on cigarette packets and restricting youth access to tobacco products (Ahmad & Billimek, 2007; Ahrens, 2009; Hagquist et al., 2007; WHO, 2009e; Woollery et al., 2000). Legal moves have also been made to protect non-smokers from exposure to tobacco smoke, through laws banning smoking in key public places such as workplaces, public transport and restaurants (Daynard et al., 2007). A balanced approach to public health law, targeting individuals and industry, essentially sharing the resonsibililty for health, is highlighted in the case of tobacco.

In recent years, the role of law in public health has been further highlighted as the result of several high profile international communicable disease outbreaks. With the modern ease of international travel and the presence of novel, potentially untreatable communicable diseases such as Severe Acute Respiratory Syndrome (SARS), Avian Influenza ('Bird Flu') and H1N1 ('Swine') flu, many nations have enacted or strengthened laws governing quarantine and disease notification (Coker, 2006; Misrahi, Foster, Shaw, & Cetron, 2004; Richards & Rathbun, 2004). These laws act as powerful and arguably *necessary* tools able to slow or stop the spread of such infections. Modern public health law also takes into account the threat of *intentional* infection, through bioterrorism or the 'knowing and reckless' infection of sexual partners with HIV, for example (Parliament of Victoria, 2008; Richards & Birkhead, 2006).

The use of law to address a health issue is no doubt an attractive option to governments and public health agencies. Indeed, as Wanless (2004) argues, regulation is perhaps the most direct and cost-effective of the available 'government levers' to achieve positive population health outcomes. Some commentators in fact have been so impressed by the potential of law to address a range of modern day public health issues to remark that "The opening decades of the 21st century are virtually certain to be a golden age in public health law" (Moulton, Goodman & Parmet, 2007, p. 18).

Public health law is indeed a cost-effective and seemingly-simple population-level intervention. A study of the cost-effectiveness of public health interventions globally highlights that legal approaches are amongst the top 10, including: taxation of alcohol, tobacco and unhealthy foods; regulating the level of salt in products such as bread, cereals and margarine; and implementing smoke-free workplaces and public places (Vos et al., 2010). Public health law theoretically does many things at once: it provides a clear statement on risks to health and what level of risk society is willing to tolerate; it directs the actions of government, industry and individuals and encourages responsibility for health; it can directly manage health conditions through minimising spread of communicable disease, for example; and, as a preventive health measure, it can potentially reduce health service-use.

The apparent simplicity of the approach, though, belies the complex socio-political and ethical process involved in creating and enforcing a law. Having the legal power to detain and isolate an infectious and uncooperative patient with highly contagious tuberculosis, for example, arguably simplifies a potentially high-risk situation: however important questions of ethics remain.

Public health law typically involves a degree of coercion or restriction of behaviour in order to protect the health of individuals or populations (Gostin, 2000). With many laws, such as the restriction of smoking in public places, or the forced isolation of an infectious individual, the freedoms of some members of a society are essentially sacrificed for 'the greater social good' (Lemstra, Neudorf & Opondo, 2008; Senanayake & Ferson, 2004). Furthermore, often the freedoms of some are sacrificed for their *own* good, such as in the case of enforcing motorcycle helmet-use

(Jones & Bayer, 2007). Such laws raise criticisms of paternalism and questions as to the basis on which governments can interfere in individuals' daily lives when those individuals are in fact not risking the health of others. Certainly, open debate must therefore be conducted regarding the appropriate balance between individual and community rights (Childress et al., 2002; Gostin, 2004; Loff, 1998; Martin, 2006). The following section considers some of these social and ethical aspects of public health law.

3.1.3 Social and ethical considerations and a'risk-based' approach.

The approval of law is, in democratic nations, a matter for members of the population that have been elected to either national or jurisdictional (state or local) governments (Carvan, 2005; Cook, Creyke, Geddes & Holloway, 2005). The design of subsidiary regulations that operationalise law is often delegated to departments within the public service infrastructure, although regulation too must usually be tabled for approval by the relevant government and made public through, for example, publication in a 'government gazette' (The University of Melbourne, 2008). Having laws passed by legitimately elected population representatives and made publicly transparent are important underpinning 'checks and balances' in a democratic system of government.

Importantly, there are limits to what a government can legislate. Firstly, legal Constitutions set out the role of a government and its powers to legislate. Such fundamental, guiding principles and limitations on governments can usually only be changed through national agreement: in Australia's case through the agreement of the majority of voters nationally, as well as the majority of voters within a majority of States (Carvan, 2005; Cook et al., 2005). Law makers must also ensure that any local or national law does not go against the intent of any international legal agreements that the nation may be signatory to. When ratified by a government, legal instruments such as the *International Declaration of Human Rights* limit legislative powers by 'guaranteeing' a range of personal freedoms (Annas, 1998; Kinney, 2001). Other international treaties or agreements such as the WHO *Framework Convention for Tobacco Control* or *International Health Regulations*, when signed, further direct national governments' implementation of specific

legislation (Bettcher et al., 2009; Fidler & Cetron, 2007; Taylor, 2002; Wilson, McDougall, Fidler, & Lazar, 2008; WHO, 2005b).

Secondly, democratically elected governments are usually, although to varying degrees, sensitive to the views of the general public when considering legislation. That is, governments can in effect self-limit the legislation they are prepared to propose or pass due either to their own moral philosophies, or concerns about unpopular laws damaging their chances of being re-elected (Belton et al., 2009; Burstein, 1998; Houston, & Richardson Jr., 2007; Jones, & Bayer, 2007; McDougall & Edney, 2007; Stanton, 2005; Weber & Shaffer, 1972). Regardless of such considerations, regulation that reflects social trends has been argued to be far more successful than that which does not, for the simple reason that people are much more likely to abide by restrictions where there is acknowledged to be widespread acceptance of their need (Wanless, 2004).

In reference to the appropriateness of laws there are clearly a range of practical considerations, not the least of which is whether a law achieves its purpose: for example, as a deterrent of certain behaviour (Cook et al., 2005). However, more fundamentally, discussion on the suitability of law is largely centered on *ethics*, being the study of the values associated with human behaviour, in particular those social rules and norms ('rights and wrongs') that influence human behaviour and how it is viewed (Laster, 2001; Wacks, 2006).

Democracies collectively address such ethical issues in relation to law. That is, legislation is debated by elected population representatives (and is often the subject of direct community consultation). Should populations disagree with legislation, they have the opportunity to remove the government at the next popular election. Through such an iterative process, it can be argued that nations generally arrive at some degree of social agreement on what activities should be regulated, and furthermore on the nature of any sanctions. Indeed, common ethical or moral philosophical questions in relation to law include 'does the punishment fit the crime?' and, more fundamentally 'should the action in fact be considered a crime?' (Laster, 2001; Wacks, 2006). The way in which societies answer these questions

differs across nations and cultures and has changed over time as societies evolve (Laster, 2001; Wacks, 2006).

Public health law faces similar complex ethical questions to other areas of law (Bernheim, Nieberg, & Bonnie, 2006; Childress et al., 2002; Gostin, 2004; Kass, 2009; Loff, 1998; Martin, 2006). Being unfortunate enough to contract tuberculosis, for example, almost certainly would never today be argued to be a *crime* akin to murder, however having tuberculosis can in fact put the lives of others at risk. Forcibly denying the freedom of movement of a patient with tuberculosis who does not voluntarily submit to temporary quarantine or treatment may be viewed as a necessary action to control the spread of what is clearly a contagious and devastating disease (Senanayake, & Ferson, 2004; WHO, 2009c, 2009d). As discussed at 3.1.2, forced quarantine has indeed been a largely accepted facet of the public health approach for many centuries.

Certainly there could be argued to be a basis for such restrictive action under some Constitutions and the *Universal Declaration of Human Rights*, for example, which states that in the exercise of personal freedoms one must not impinge upon the rights of others (United Nations, 1948). In the case of contagious tuberculosis, failing to agree to quarantine or treatment may put others at risk. However, not every case of tuberculosis is the same: some cases may present more of a risk of contagion than others (WHO, 2009c). It must be asked, then, whether every patient should be treated the same under law regardless of the level of risk they pose to the wider community. Indeed, it has been argued that in utilising legal approaches to health, it must always be asked whether "a coercive intervention truly reduce[s] aggregate health risks, and what, if any, less intrusive interventions might reduce those risks as well or better" (Gostin, 2000, p. 20). Certainly a mature ethical debate must take place regarding individual freedoms versus public good.

A further example of both the potential success of public health law and its inherent problems with restricting human freedoms is the case of motor cycle helmet-use. As discussed at 3.1.2, mandating that motorcyclists must wear a protective helmet has been associated with fewer deaths and less significant injuries in many jurisdictions (Coben et al., 2007; Mertz & Weiss, 2008). Concern over individual freedoms,

however (in this case the freedom to choose what one wears) have resulted in universal helmet laws being repealed in many American states, due predominantly to public pressure (Coben et al., 2007; Houston, & Richardson Jr., 2007; Jones & Bayer, 2007). The effect of the repeal of these laws has been a return to previous rates of motorcycle-related death and serious head injury (Mertz & Weiss, 2008).

The case of helmet-use requires a different ethical consideration than for tuberculosis in that riding a motorcycle without a helmet appears to present a risk to the rider but to no one else, while failing to maintain treatment for tuberculosis potentially puts many at risk. However, a range of justifications for intervening in enforcing helmet-use may be presented, such as minimising risk for the individual motorcyclist, the cost to society of hospitalisation and rehabilitation of head-injured motorcyclists, and the emotional and financial cost to familes, attending medical staff and indeed anyone who might observe a serious head injury accident (Mertz & Weiss, 2008).

Two examples, motorcycle helmet-use and the control of tuberculosis, have been very briefly discussed to highlight that the questions of 'whether the punishment fits the crime' and 'whether there is indeed a crime per se' persist strongly in public health law. Indeed, these questions should certainly remain at the forefront of law makers' minds. There is arguably no 'right' answer in such ethical deliberations. Rather, society must come to a broad agreement on what restrictions to freedom it is prepared to tolerate and under what circumstances. Modern proponents of public health law have attempted to moderate this issue by proposing a 'risk-based' approach to public health law (Reynolds, 2004).

Over the past decade or more in Australia, a number of States have re-drafted their existing Health Acts to address emerging (and prepare for currently unknown) health risks, and to reflect new approaches such as allowing for a greater focus on risk analysis (and graduated response) in enforcement of law (e.g., Parliament of the Australian Capital Territory, 1997; Parliament of Victoria, 2008).

This 'risk-based' approach to public health law potentially provides it with greater flexibility (Reynolds, 2004). Ideally, administrators and enforcers of regulation would be required to conduct an objective, evidence-informed risk analysis in regard

to a particular situation and would be permitted to choose accordingly from a range of graduated responses, instead of enacting a prescribed, universal response. By focussing on the potential outcome (risk to health), rather than on a standardised method of regulating the action itself, administrators of law would be provided with the ability to 'tailor' responses and, in theory at least, would not unnecessarily impinge upon others' rights, or impinge upon them only to the level required and no further (Reynolds, 2004). Such a focus on outcomes of behaviours is more aligned with a 'consequentialist' ethical approach, rather than a 'deontological' approach where the intrinsic 'rightness' or 'wrongness' of behaviour is the focus (Laster, 2001; Wacks, 2006).

Law has become an integral element of the public health approach (Parmet, 2007; Gostin et al., 2007). Indeed, law has been credited with playing a significant role in some of the twentieth century's "great public health achievements", including the control of infectious disease, road safety, fluoridation of drinking water, tobacco control, vaccination, and food safety (Moulton et al., 2007, p. 4). The approach clearly, as with law in general, does entail serious ethical issues, though these have been shown to be manageable given democratic political processes, careful and transparent analysis of individual versus community rights, and a move towards a tempered and objective risk-based approach to enforcement. However, much of the success of public health law has been observed, studied and reported on in developed and politically stable nations. If the approach has been so successful, a logical question appears to be the extent to which it has been, or could be utilised in the developing world, where the majority of global ill health is situated.

3.1.4 Public health law in the developing world.

Public health law is typically not a core focus in the developing world, where, in the context of often limited human and financial resources, it is clear that difficult choices must be made in the targeting of investment. Indeed, there is typically substantial competition for resources across multiple sectors such as health, education and housing, for example (Stokke, 2009; de Hann, 2009). Furthermore, within the health sector itself, there may be multiple areas of need and competing agendas regarding how to address those needs (Tulloch et al., 2003). Compounding these challenges, investment in health in some developing nations, both by those

countries' own governments and by donor agencies, appears in many cases to have been gradually falling over time (Sein, 2009).

Understandably, with limited available resources, addressing immediate, high-risk health issues is a high priority for many governments and donors. This might typically involve delivering medical treatment strategies to directly manage large numbers of cases of serious endemic illnesses such as malaria, for example (e.g., WHO, 2000a). While a portion of this effort may indeed go into prevention and control and not simply towards treatment, significantly less support is typically given to establishing sufficient and lasting capacity to enable developing nations to address their health needs independently in the long term (Sein, 2009). Health systems development or strengthening, in particular, is not often a first-order priority (Alliance for Health Policy and Systems Research, 2004, 2008a, 2008b).

On review of the available, predominantly peer-reviewed literature[4], existing legal strategies in the developing world tend to be quite basic and limited in scope, with little if any investment directed towards community education or consistent enforcement (Achadi et al., 2005; Conrad et al., 1996; Goodman et al., 2007; Hawkes, 2007; Hazarika et al., 2009; Hyder, Waters, Phillips & Rehwinkel, 2007; Falope, 1991; Leowski & Krishnan, 2009; Makubalo, Lansang, & Figueroa, 2009; Martin & Lo, 2009; Ministry of Health, Timor-Leste, 2007; Pervin, Passmore, Sidik, McKinley, Nguyen Thi Hong Tu, & Nguyen Phoung Nam, 2009; WHO, 2009e).

While a low prioritisation of the legal approach to public health is likely to be a major issue hindering its use in resource poor developing nations, these nations often lack the local capacity in any case (see 3.1.4.1) to either enforce existing laws where they exist, or to review and modify these laws where they are 'outdated' (e.g., where they do not take into account changing national or international circumstances such as new diseases and changing social trends) (Howse, 2009).

[4] For the literature search methodology used in this study see 4.6.

Howse (2009) observed in a study of 14 Pacific Island states, that early twentieth century powers existed, in some cases allowing quarantine and mandatory treatment of persons with communicable diseases with no proportionality or staging of responses, no right to appeal and no regulated time-limiting of the response. While noting that legislation in these nations had occasionally been reviewed in recent history, Howse (2009) observed that these reviews were not comprehensive and it appeared unlikely that resources would be dedicated towards such a task within a decade.

Further, issues of cultural appropriateness and local understanding and awareness of law are additionally problematic in some nations where, for example, existing law was passed by colonial powers (Howse, 2009). These and other barriers to effective public health law in developing nations are discussed below.

3.1.4.1 Challenges.

Drafting of law is arguably a reasonably inexpensive strategy, particularly in comparison to the cost of many primary or tertiary health care interventions. Competition for financial resources in the face of competing priorities, then, does not completely explain the apparent lack of development of effective systems of public health law in the developing world. A range of additional factors of potential influence are discussed below.

Most obviously, issues of human resource capacity in developing nations may deter law-makers from pursuing public health law. Where laws are observed to be requiring reform or greater enforcement, the requisite health and legal expertise and enforcement capacity may be lacking, minimising the ability to create appropriate and effective legal frameworks (e.g., Judicial System Monitoring Programme, 2006b). However, it may often be the case that existing laws are assumed to be operating effectively (Howse, 2009). This may also be a reflection of the local human resource capacity. A review of health leadership capacity in the Solomon Islands (Asante, Roberts, & Hall, 2011), found a dominance of focus on primary health care, a lack of leadership and management capacity at a central or provincial level, and a lack of the use of health data in decision making. While a low capacity to reform law may be an obvious outcome of such issues, it is likely to also be the

case, then, that the capacity to recognise the need for law reform is minimal in many developing nations. As discussed in the example of Timor-Leste (see 2.3 and 3.2), workforce capacity issues in the developing world cannot be underestimated. Indeed, arguably no amount of international aid can create an effective local workforce in the short-term. Drafting of law, however, could be inexpensively undertaken with international assistance and could furthermore be completed in such a way (through mentoring, training, advice and support) as to build capacity in the nation's health and legal sectors.

A lasting capacity to *enforce* law, however, is critical. It is possible that, in recognising this, governments may initially focus legislative reform efforts in areas of law for which there is an existing enforcement capacity. Food safety law, for example, arguably requires its own infrastructure including sufficient numbers of trained and authorised food premise inspectors (Kux et al., 2007; Lang, 2006). Where these do not exist, the cost of employment and training, and of policy and procedure development, might be substantial. Comparatively little additional resources might be required for less reforming legislation which, for example, might propose changes to law enforceable by an existing police force. This may explain the presence of compulsory motorcycle helmet law in some developing nations (e.g., Conrad et al., 1996; Hyder et al., 2007; Pervin et al., 2009), with lesser obvious focus on other areas requiring a novel enforcement mechanism.

Indeed, as noted by Mok, Gostin, Das Gupta, & Levin (2010), public health is often significantly dependent on the judicial system to enforce compliance with health-related law. This may be especially so in the case of environmental pollution or other practices such as the targeting and sale of tobacco to children, in which enforcement may involve challenging the practices of businesses and industry bodies. Firstly, the cost of pursuing these matters through the courts in the absence of other legal means is usually very high. Secondly, it has been noted that there often exists in developing nations a lack of working partnerships between health and legal departments and personnel. Combined, these factors suggest that judicial systems do not always pose a credible deterrent to behaviours or practices that risk health (Mok et al., 2010). Furthermore, it has been observed that law can be hindered when specific regulations intended to enforce provisions of the law have not been made, such as with the

Ugandan Public Health Act (Kasimbazi, Moses, & Loewenson, 2008). Similarly, policy commitments might exist but are not necessarily effective if not reflected in law (Kasimbazi, Moses, & Loewenson, 2008).

Concurrent with enforcement, public health law, to be fair, arguably also requires the raising of population-wide awareness. That is, the ability of law to act as a preventive strategy is surely directly linked to whether or not people actually know the law exists and whether they understand what it entails and its rationale. In licensing food handlers and food premises to ensure certain safety standards, for example, clearly a parallel infrastructure of education and training must also be available so that all food handlers understand the law, the basics of food hygiene and associated health risks. Gostin (2000) briefly discusses this issue in terms of social and economic fairness of public health law. However, most discussions of regulation or enforcement tend to overlook a basic precondition of following a law: *awareness* (e.g., Jacobson, Hoffman & Lopez, 2007; Kux, 2007).

In developing nations, however, awareness of law cannot be assumed. For many reasons, including under-developed communication strategies and infrastructure and a population-wide low level of education (and poor education and training infrastructure), awareness-raising may be difficult in these settings (e.g., Barnes, 2007). Similarly, cultural acceptability of law should not be assumed, particularly when law in some developing nations was passed by previous 'colonial' powers and may be outdated (Howse, 2009, 2011) (see 3.1.4.2).

Another factor potentially deterring developing nations from public health law development might be economic burden. Cost is clearly a limiting factor in public health intervention in the developing world (Stokke, 2009; de Hann, 2009; Sein, 2009) and adhering to new regulations may be associated with unavoidable financial costs for individuals, business and government. The costs associated with adhering to food safety regulation, for example, might include the training and licensing of food handlers and the upgrading of equipment, including the purchase by business of means to refridgerate food in transport and on food premises. If the requirements of law are likely to be almost impossible to meet (e.g., refridgeration in the case of food safety where there is no existing or regular supply of electricity and equipment is

expensive or unavailable), it would be difficult to argue for the passing of such a law until such time as economic conditions supported it.

For purely political reasons, governments may also be reticent to introduce law that might be perceived as aiming to restrict or control people or industry. It is conceivable that this may be particularly so in 'fragile' nations such as Timor-Leste, where the nation is attempting to recover from a history of occupation and oppression. Popularly elected governments in particular are arguably responsive to community and industry attitudes (Belton et al., 2009; Burstein, 1998; Gilmore et al., 2007; Houston, & Richardson Jr., 2007; Jones, & Bayer, 2007; McDougall & Edney, 2007; Stanton, 2005; Weber & Shaffer, 1972) and it is possible that governments may feel the introduction of law to be fraught with reminders of past efforts to 'control' the population. Furthermore, in the case of tobacco control, for example, it is well known that the tobacco industry exerts often enormous lobbying efforts and pressures on governments in order to ensure that they are as free as possible from restriction in selling tobacco products (Chapman, 2005). It should be remembered that industry pressure is apparent in the developing as well as the developed world (Achadi et al., 2005; Annas, 1997; Gilmore et al., 2007).

This section has briefly outlined a number of potential barriers to effective public health law in developing nations, across the spectrum of financial and human capacity, political willingness and prioritisation, community awareness, cultural acceptability, and governance. Situations across developing nations are of course vastly different and it may be that public health law is not prioritised for a number of the above, or other, reasons. There are many reasons to believe, however, that an increased importance placed on health law in developing nations, even early in development, would be an appropriate and realistic approach and one that is worthy of more attention.

3.1.4.2 Guidance.

The developing world is not free from advice on direction in public health law. The WHO *Framework Convention on Tobacco Control*, for example, requires signatories to move towards banning the sale of tobacco products to children, for example (WHO, 2003b, 2009e). Similarly, the WHO 2008-2013 *Action Plan for the*

Prevention and Control of Noncommunicable Disease advises nations to strengthen health systems, including in public health legislation (WHO, 2008f). The *International Health Regulations* provide a further framework for public health law regarding the control of communicable diseases (WHO, 2005b).

A number of supportive papers can be located from within the scientific literature, such as discussions of the economic benefits of helmet law and their implications for low income nations (Hyder et al., 2007), and the positive impact of helmet law on child injury rates in Vietnam (Pervin et al., 2009), for example. Goodman et al (2007) also discuss pharmacy store regulation in Tanzania, and why many workers in these settings 'break the rules' (i.e., there is infrequent inspection, poor follow-up of sanctions, and endemic corruption amongst regulatory staff). Alternatively, however, many researchers examining health policy or health systems in the developing world have overlooked public health law completely (e.g., Backman et al., 2008; Gonzalez-Block, Lucas, Gomez-Dantes, & Frenk, 2009; Kruk & Freedman, 2008).

There is no consensus in the literature that provides evidence for the best methods of implementing strategies to enhance public health law and its effectiveness in developing nations. A number of stand-out, peer-reviewed and other papers are however discussed in this section.

Most recently and notably, Howse (2009, 2011) published the final review and report of a two year, AusAid-funded project delivering a 'model public health law for the Pacific', based on an analysis of the public health law in 14 Pacific island nations: the Cook Islands; Federated States of Micronesia; Fiji; Kiribati; Nauru; Niue; Palau; Papua New Guinea; Republic of Marshall Islands; Samoa; Solomon Islands; Tonga; Tuvalu; and Vanuatu.

Based on experiences in these settings, Howse (2011, p. 5) notes that "Review and amendment of public health legislation is slow, complicated, resource intensive, potentially controversial and not for the faint-hearted." Certainly, the process of legislative review is a complicated one even in well-resourced Western nations,

while in a developing nation the full range of additional barriers already described (see 3.1.4.1) provide further challenges.

Public health staff interviewed in Howse's (2011) study wished for a less complex and more user-friendly public health law framework and approach, using language consistent with the setting. One of the most commonly held views amongst these interviewees related to the cultural appropriateness or acceptability of law, and the need to acknowledge and incorporate customary approaches to law, which Howse (2011, p. 2) labelled as one of the "core elements" of her model public health law approach for the Pacific.

Howse (2011) noted that federal or regional level law could not be assumed to cover the entire population in many nations. That is, society is often organised in traditional ways, particularly at the village level, and these "customary methods of social organisation" (Howse, 2011, p. 5) are often not taken into account or respected in prevailing legal systems. A government stepping in to enforce a law when a community has already, perhaps very effectively, self-regulated in the area might simply cause undue conflict. When such issues are not considered, law may have "limited or even, possibly, negative value" (Howse, 2011, pg. 6). Indeed, as Bennett & Carney (2010) note, law is not created in a vacuum, rather it is usually developed (as discussed in 3.1.3) in the context of social, ethical and cultural factors. Where law was created without acknowledgement of indigenous culture, by 'colonial' powers (Howse, 2011), it is not likely to be widely acceptable, understood or effective.

Not only are cultural and ethical perspectives in some nations often markedly different to those reflected in the prevailing 'colonial' law, significant cultural differences may also exist between the nation and international advisors present to advise on law reform. The emphasis on family and community values in many cultures, as opposed to a relative tendency towards autonomy within some 'Western' cultures, is one such well observed difference (Barclay, 1998). The effects, for example, of quarantining an individual from a largely communal setting, where group survival and economies depend on family labour, might be more marked, or at least different, to the quarantining of an 'average' individual in a Western society.

Similarly, closing a school or other public places to minimise spread of infection might have less of an effect where highly communal life will carry on regardless in homes and villages (Bennett & Carney, 2010).

In terms of acceptability and adherence to regulation, it should not be assumed that the ethical frameworks underpinning much law are equally applicable across nations. This can in fact even be observed within and between Western nations, with many North American States (or at least strong lobby groups within them) taking issue with motorcycle law impinging on individual freedoms, for example (see 3.1.3), while this law appears to have remained relatively unchallenged in any significant way in Australia. Regardless of the presence of literature outlining the benefits of such a law in Viet Nam, a developing Asian nation (e.g, Pervin et al., 2009), comprehensive analysis of the underlying cultural issues and acceptability of transferring such a 'paternalistic' public health law approach to a developing nation setting appears to be lacking within the literature. Whether such paternalism is in fact effective in saving lives and reducing injuries is in fact an entirely different question.

Similarly, it should not be assusmed that a risk-based approach to regulation and enforcement, aiming to provide tempered or staged responses according to objective risks to health, necessarily fits within all cultures. It remains to be seen, for example, whether a nation that traditionally paid extremely high respect to its elders would find it acceptable to treat two tuberculosis cases, one young and one old but equally infectious, the same. Strict isolation and forced treatment might perhaps be viewed very differently in this instance, even though both cases potentially involve very similar objective risk of infection to others.

Mok, Gostin, Das Gupta, & Levin (2010, p. 509) argue that looking further than conventional legislative approaches (e.g., regulating individual and business activity, licensing and inspecting premises), may assist developing nations with effective public health regulation and standards, where "limited resources, limited judicial capacity, and slow judicial systems" might make these approaches unsuccessful. These authors argue for a range of approaches, based on ease, observed success, and cost-effectiveness in developing nations.

Under a “cascading hierarchy of sanctions”, Mok et al (2010, p. 513) suggest providing simple education on the health risk might be a first step, followed, if required, by a formal notice to cease a particular activity. Public disclosure (e.g., mandating product safety information be displayed, or ‘naming and shaming’ of a business) might then follow if required. More expensive and resource intensive interventions such as formal inspection, temporarily closing a business (e.g., a food premises), or prosecution, might then follow only if necessary (Mok et al, 2010).

In view of cultural and practical issues in the relative acceptability and effectivess of the various regulatory options available, it may not be advisable (Howse, 2009, p. 2) to attempt to address health issues in developing countries with solutions created in developed countries in a “one size fits all” manner. While it is not argued that cultural differences, or a lack of understanding or awareness, are sufficient reasons not to progress law reform (few would advise leaving domestic violence unchecked because it was a ‘cultural’ practice, for example – although this too could be criticised by some as paternalistic), it is important to understand the cultural factors that may influence the success of a law. Research and consultation therefore are highly adviseable.

Howse’s (2011) guidance, based on research in the Pacific, suggests that there is a place not only for internal (e.g., government departments) and external (e.g., consumer groups) stakeholder consulation, but for genuine community consultation. Such public involvement might indeed engender a greater sense of community ‘ownership’ and understanding of the law and at the very least should provide those undertaking law reform with a comprehensive understanding of the local and cultural factors likely to affect the implementation of law.

Other reviews, based on research in African nations, also observe that “Improved practice could also be stimulated by ensuring wider public debate and input to laws when they are under development … and improved health literacy on legal provisions for the public through mass media and civil society” (Kasimbazi, Moses, & Loewenson, 2008). Community consultation effectively may be able to do many things: obtaining relevant input into law; create awareness of the cultural factors

likely to affect implementation; and also broaden a community's awareness of legal issues, rights, responsibilities and proposed legislation.

Consultation needs to take into account local or cultural factors that might impede genuine engagement. For example, women in many developing country cultures will not openly express their views when males are present. People in many areas of many nations might have poor literacy or access to techology, therefore a consultative approach relying heavily on the internet or written submissions would be unlikely to be productive. In a community setting, villagers may not voice their concern in the presence of village elders.

Howse (2011, p. 16) also advises that recruiting a senior 'champion' of the legislative review process would be helpful. This person would provide regular briefings to politicians, negotiate between departments and facilitate communication, be present at public consultations, support legislative review staff, perhaps liasie with the media and generally "help unblock the process, which inevitably happens from time to time". Officers with public health content knowledge and legal knowledge would of course be required to conduct the majority of the drafting work and these would be numbered according to the size of the review and deadline demands (Howse, 2011).

While discussion so far has centered on guidance in the development of public health law, advice also exists on its implementation. Kasimbazi, Moses, & Loewenson (2008, p. 40), in a study of the public health law of Kenya, Uganda and Tanzania, observed that while in some cases useful law existed, it could be strengthened through:

- stronger partnerships, including between government departments (e.g., health and justice, or health and education)
- better coordination between levels (i.e., central and local) of government
- strengthening the capacity of agencies and regulatory bodies in terms of their operations, technical knowledge and expertise, reporting and accountability, infrastructure and equipment, financial resources, number and skills of staff

- providing public information on existing policies and laws including raising awareness of the existence of the rights and the available avenues for redress or appeal
- public health training for legal personnel to increase competencies in the courts to manage public health cases.

Khaleghian and Das Gupta (2005) also offer guidance on the delivery of essential public health functions in general in developing nations. These authors raise a number of important questions in relation to these settings, such as whether 'managerial autonomy', often regarded as important in allowing local adaptation and the professional development of an indigenous workforce, is always appropriate. In the case of law enforcement and provider licensing "where conformity and consistency are essential" (Khaleghian & Das Gupta, 2005, p. 1087), these authors do not recommend decentralised managerial autonomy at local levels.

Indeed, these authors note that in some countries, decentralisation in general has led to corruption in some cases, and ineffective practice in others where local areas have not been adequately trained or supported. In other cases, local areas 'doing their own thing' have not been able to be effectively managed by weakened central agencies (Khaleghian & Das Gupta, 2005). So, while it has been argued above that public health law may need to take into account local and cultural differences, decentralisation of enforcement does not appear, necessarily, to be an ideal means of achieving this. Khaleghian and Das Gupta (2005), however, suggest additional options such as making local areas financially and socially accountable for their actions, or deconcentrating central staff to local areas, rather than decentralisation of powers to local authorities per se.

3.1.4.3 Regional and international considerations.

With the exception of law allowing the quarantining of international travellers thought to pose a risk to others' health, public health law traditionally deals mostly with endemic or local risks to health within a nation's borders. Historically, this is not out of place. Law in general has typically been viewed as a matter for sovereign nations to determine, with the applicability and enforcement of international law viewed by many as questionable (Fidler & Cetron, 2007).

However, it is clear that there are a range of risks to public health in a modern, 'globalised' world, in addition to cross-border transfer of communicable diseases, that stem from factors well outside a particular nation's physical boundaries. Indeed, leading researchers such as Gostin have been criticised for taking a national approach to public health law analysis and discussion, neglecting these international considerations (e.g., Fidler, 2002; Fidler & Cetron, 2007; Bettcher et al., 2007).

Fidler (2002), points out that 'globalisation' has created a world in which populations and governments are highly connected, and argues for public health to take a population focus that looks across national boundaries. Fidler observes, for example, that while the United States uses law to regulate tobacco consumption in its population, "Simultaneously, the government uses national and international trade law to pry open the markets of a developing country for cigarettes in order to increase U.S. tobacco companies' exports" (Fidler, 2002, p. 151).

Certainly, while this practice might be in accordance with law (and it is assumed to be up to the nation receiving the cigarettes to regulate consumption), it does appear to conflict with a globalised view of public health, that is, a sense of responsibility for the health of all 'others', not just in one's own country. An option here might be to allow the export of potentially harmful goods only to nations that have in place a legal framework to minimse harm from those goods in their population. Exporting cigarettes to a nation that allows children to smoke seems morally questionable, although it is acknowledged that this view might not be held by all cultures and could be criticised as paternalistic.

When international considerations such as these are taken into account in discussions of public health law, coercion, in the traditional use of the term, can take on an expanded meaning. Powerful nations (such as the United States in the above example) or organisations, such as the World Bank and International Monetary Fund, "can coerce countries to adopt policy changes that affect public health in exchange for financial assistance … A government's public health policies may also be coerced by the 'global market', manifested in the power of multinational corporations and their need for attractive investment and trade environments" (Fidler,

2002, p. 152). A government, for example, might conceivably not pursue tobacco law reform if it meant that a large tobacco manufacturing company, employing many people and providing much taxation income, might threaten to move its business to another nation with less restrictive law.

Many nations have laws to protect populations against the import of threats to public health, though these predominantly cover immediate disease risks. Perhaps, in a globalised, highly interconnected and interdependent world, consideration should also now be given to internationally consistent regulation of the export of threats to public health. Certainly, as Fidler argues (2002), there is perhaps already a strong basis for this in internationally agreed documents: signatories to the WHO Constitution, the International Declaration of Human Rights, and the International Covenant on Economic, Social and Cultural Rights are all required to protect public health, technically speaking regardless of where people are from. Harmon (2009) furthers this argument and strongly advocates for the World Health Organization to take a lead role in pursuing action to achieve a better 'harmonisation' of law that influences the public's health across nations. Magnusson (2007) also advocates for a better understanding and regulation of how international trade law and policies of the World Trade Organization, affect public health.

Regarding harmonisation across regions more broadly, however, many argue for caution in assuming that one single model would fit each nation (Bennett & Carney, 2010; Howse, 2011). Typically, international law is not akin to domestic law in that it exists in the form of treaties, or in a less tangible way in an often unwritten agreement between nations on consistent practices or general principles of law (Fidler & Cetron, 2007). Treaties, while creating obligatons for nations, typically allow for these obligations to be enacted in a nation "using 'all appropriate means' or by gradual means" (Howse, 2011, p. 25). This provides flexibility in how each nation might go about ensuring it passes locally relevant law. Described as "soft law" by Bennett and Carney (2010, p. 108), such international approaches generally provide guidelines that allow multiple nations to respond to the same issue in accordance with their own legal and cultural requirements, rather than attempt to impose a consistently worded, prescribed law.

The Asia-Pacific Economic Cooperation (APEC) group, for example, has developed guidelines to assist members to plan for pandemic influenza. These guidelines provide concrete actions a nation should undertake to prepare for a pandemic but acknowledge that these actions should: "Accommodate[s] the economy's unique culture, systems, institutions and arrangements including all levels of government and governance, economy, ownership of institutions, essential services and infrastructure, vital supplies, trading arrangements, law and regulations, emergency response arrangements, and the role of government, family and community in emergencies and social support, considering geographic challenges" (APEC Health Task Force, 2007, p. 4). A great deal of flexibility is therefore provided.

As has been discussed throughout this section (3.1.4), law is best not considered in isolation of local and cultural factors. This applies to the application of a nation's law to its own people(s), but also in efforts to 'harmonise' or make consistent law between nations. While harmonisation between nations may be recommended in order to take a regional and international view of public health that is "increasingly influenced by global challenges and policies" (Kasimbazi, Moses, & Loewenson, 2008, p.3), flexibility appears necessary in how nations achieve this.

3.1.4.4 Potential benefits.

Public health law is, as discussed, a relatively inexpensive strategy to undertake, at least in its formative stages. It is also, relative to many other strategies, conceptually a *lasting* preventative health strategy. Certainly law can be repealed, however this would normally be a much longer and more difficult process as compared to simply ceasing funding for a health promotion program, for example (Anderson, 2009; Laster, 2001). Arguably, by framing the protection of health into a system of law and regulation, the background for health to receive a continued high level of priority is, in theory, established. Public health law might, for example, not only establish community-wide obligations, but the roles, structures and accountabilities required to implement and monitor that law (Gostin, 2000; Reynolds, 2004). Public health law, once established, is in effect almost a 'guaranteed' continuing strategy, notwithstanding the need to prioritise enforcement and community education. In comparison, health promotion programs may 'come and go' according to changes in policies, donor priorities and internal funding (Shiffman, 2008).

Furthermore, there is strong argument that effective systems of public health law in the developing world are *essential*. One of the developing world's foremost health priorities, the control of communicable diseases, *cannot* be achieved without some regulation (e.g., Taylor, A., 2002). For example, public health agencies might be unable to effectively distribute resources and control disease if there was no system of mandatory notification of cases, particularly where rates of voluntary notification were low (Neslund et al., 2007). Similarly, the spread of tuberculosis, particularly amongst a population that did not understand its cause or transmission, would be extraordinarily difficult to control without an ability to temporarily enforce quarantine and/or medical treatment as a last resort (Senanayake & Ferson, 2004; WHO, 2009c). Minimising exposure of non-smokers to harmful second-hand tobacco smoke also seems to be an impossible task without some regulation of smoking in public places, in effect creating public areas where non-smokers can freely move without risk to health.

In another example, authorities who were aware of an HIV-infected sex worker knowingly continuing to practice unsafe sex would be severely limited without the ability to issue some sort of desist order. In an ideal world, of course, HIV-infected sex workers might be supported into other occupations, however a legal approach is clearly an unfortunate but necessary fall-back position for cases where individuals do not cooperate and continue to put the health of others at risk (Richards & Birkhead, 2007). It would seem most appropriate to deal with such matters as health issues under health law rather than through the criminal court system, which might be costly and result in disproportional or ineffective punishments (Gostin, 2000; Reynolds, 2004).

Public health law is arguably also required in the developing world to provide some level of protection for the expected consequences of industrial and economic development. Effective regulation of chemical safety, air quality, waste disposal, and road use, for example, is arguably necessary to protect the general population from risks associated with increased industry, pollution and road traffic (Locke et al., 2007; Sein, 2009). These problems may be relatively new to many developing nations and they may be considerably under-prepared to address them. Law has

proved effective in providing a framework for management of these types of issues. Certainly, experience in the developed world clearly demonstrates that voluntary approaches to controlling risks are not likely to be as successful (Huff, 2007).

Foreign investment in a developing nation (and therefore further economic development) is also potentially risked where international trust in the effectiveness of a health system is low. Low confidence in a nation's health and safety might affect tourism, the establishment of investments in new businesses, and the ability to successfully and safely export goods (Sein, 2009). An effective legal system to guarantee that health risks are controlled may send an important signal to other nations that health is taken seriously. Socially, public health law could also act as an important 'direction' statement to the whole population, highlighting that population health should be valued and protected.

3.1.4.5 The case of post-conflict developing nations.

While many developing nations may have at least cursory health and legal systems, in a post-conflict nation the very infrastructure supporting these systems may have been damaged through war or other violence (e.g., WHO, 2000a, 2004a). Hospitals, health posts, administration buildings and the water and sanitation infrastructure may have been destroyed (Rubenstein, 2009). Indeed, the population itself might not only be suffering from the range of significant health issues common to many developing nations, but the additional effects of widespread physical violence. In Rwanda, for example, the number of displaced, traumatised, injured and killed associated with a genocide that lasted approximately three months extended into the millions (Brundtland, 2000). In situations such as this, there may be considerable population-wide mental health issues due to severe stress and trauma, including torture, rape, homelessness and persecution (Kortmann, 2001; Modvig, Pagaduan-Lopez, Rodenberg, Salud, Cabigon, & Panelo, 2000). Many of the trained staff required to rebuild and run appropriate health services may have been displaced along with a large proportion of the population (e.g., WHO, 2000a) and it may be difficult and costly to attract them back. Public health law is arguably not an effective strategy in addressing these immediate issues.

It is clear, then, that assistance to post-conflict nations must focus on immediate areas of concern. However, in an effort to ensure that stability is achieved, it is surely also important to concentrate on the re-establishment of core functions of government (Brinkerhoff, 2005; Samuels, 2006). The importance of this stability for the future of the nation, it has been argued, requires that at each stage of the reconstruction process it is essential to meld immediate assistance with significant *policy* approaches (Alliance for Health Policy and Systems Research, 2008b; Alonso & Brugha, 2006; Waters, Garrett, & Burnham, 2007). In the re-construction of a health system, it would appear to be most efficient to develop and implement public health law *as re-construction occurs,* instead of attempting to later introduce law 'on top of' an existing health and legal system.

However, re-establishing a public service infrastructure capable of achieving this is not a simple task in a post-conflict nation. There may be lingering political tensions, and episodes of re-emerging violence, such as has been observed in Timor-Leste (see 2.1.7). Furthermore, post-conflict nations, like most developing nations, are considerably dependent on donor funding, and therefore on donor priorities (e.g., de Haan, 2009; Habibzadeh, 2008). Public health law, as has been discussed, may be a useful and sustainable approach but is not always amongst these immediate priorities. Furthermore, there may be confusion over local, state and federal roles in health and law, and over the role and authority of temporary administrative authorities such as the United Nations, for example (Lucas, 2002; McGreggor, 2007; Stokke, 2009; Tulloch et al., 2003).

While it has been argued that public health law may have an important role in both developed and developing nations' population health, the case of a *post-conflict* developing nation deserves particular urgency and attention, due to the scope of the immediate health crises and the urgent need to regain stability. Indeed, improved health may in fact lead to economic recovery and contribute to the prevention of renewed violence (Rubenstein, 2009). The following section discusses public health law in the post-conflict setting of Timor-Leste.

3.2 Timor-Leste: The Legal Context

3.2.1 Background.

In 2002, the first national elections in the newly independent Timor-Leste saw the establishment of a 'Constituent Assembly', tasked with developing the nation's Constitution (Martin & Mayer-Rieckh, 2005; Molnar, 2005). Following passage of the Constitution in the same year, and as permitted under the Constitution (Section 167), this elected group was then transformed into the first National Parliament (Democratic Republic of East Timor, 2002a).

Under the Constitution, law is passed in Timor-Leste by a unicameral (one house) National Parliament consisting of between 52 and 65 elected representatives of the population, each serving terms of up to five years. An elected President maintains important powers including command of the Defence Force, the power to veto legislation and to call referenda on issues of national interest (Democratic Republic of East Timor, 2002a). The President also officially swears-in the nation's Prime Minister, being the agreed leader of the dominant party or coalition within Parliament (Democratic Republic of East Timor, 2002a).

Interpretation of the law in Timor-Leste, as in other democracies, is the domain of the judiciary. As with all elements of Timorese national infrastructure, the establishment of an effective judiciary has been hindered by available capacity, most notably being limited human resources (Judicial System Monitoring Programme, 2006b; Ministry of Justice, Timor Leste & United Nations Development Programme, 2002; UNDP Justice System Programme, 2010). It has been noted that the majority of the judiciary (including judges, prosecutors, public defenders and other public servants) are relatively inexperienced and have had limited opportunity to access high quality education, training and support (Judicial System Monitoring Programme, 2006b). The Ministry of Justice has, however, established its own central development body, the *Centro de Formação*, which exists to provide on-going training (Judicial System Monitoring Programme, 2006b). A Judicial System Monitoring Program, supported by a range of International donor bodies, also exists to provide monitoring, analysis, advice and support regarding law in Timor-Leste (Judicial System Monitoring Programme, 2006a, 2006b). The United Nations

Development Programme provides wide ranging assistance and sector training through the UNDP Justice System Programme (UNDP Justice System Program, 2010)

The legal system in Timor-Leste is complicated. Law and regulation in force at various times has included that created by the Portuguese, Indonesians, United Nations Transitional Administration, and by the independent Timorese Government itself (United Nations Integrated Mission in East Timor, 2008). Combined with a lack of legal experience and expertise within both the National Parliament and judiciary, this complexity has been the source of confusion on many occasions regarding applicable law in Timor-Leste (e.g., Democratic Republic of East Timor, 2002c, 2003, 2003a).

The first regulation of the United Nations Transitional Administration in East Timor (UNTAET) in 1999 established that laws in force within Timor-Leste prior to 25 October 1999 continued to apply in so far as they did not conflict with standard international human rights instruments and were not superseded by UNTAET or, later, by an independent Timor-Leste Parliament (UNTAET, 1999). While the death penalty and a number of specific Indonesian laws around defence and social control were repealed, the first UNTAET regulation effectively confirmed the inheritance of much of the law of Indonesia.

The passing of the Timor-Leste Constitution in 2002, also, allowed for the continued application of much previously applicable law. The Constitution states that "Laws and regulations in place in East Timor shall continue to be applicable to all matters except to the extent that they are inconsistent with the Constitution or the principles contained therein" (Democratic Republic of East Timor, 2002a, Section 165). Significantly, at the time of passage of the Constitution, a substantial body of regulation had been passed by the United Nations Transitional Authority, and in recognising pre-Independence law, the Constitution had effectively recognised both Indonesian and UN regulation. This was further confirmed by the passage of the second law of the new National Parliament (law 2/2002) which stated "Legislation applicable in East Timor on 19 May 2002 shall remain in force *mutatis mutandis* for

everything not contrary to the Constitution and principles enshrined therein" (Democratic Republic of East Timor, 2002c, Section 1).

However, the entire premise for the application of pre-Independence (specifically Indonesian) law in Timor-Leste was put in doubt by a Court of Appeal decision in July 2003 which stated that because the Indonesian occupation of Timor-Leste between 1975 and 1999 was unlawful under international law, Indonesian laws were never validly in force. Thus, argued the Court of Appeal, prior to 25 October 1999 the applicable law in Timor-Leste should be considered to be the law of Portugal and where there were gaps in current Timorese law, the law of Portugal should apply (Democratic Republic of Timor-Leste, Court of Appeal, 2003).

A reversal of this position, however, came through the passage of law 10/2003 of the National Parliament, in which it was specifically determined that law applicable in Timor-Leste included:

- The Constitution of the Republic;
- Laws of the National Parliament and Government of the Republic; and
- Subsidiarily, regulations and other legal instruments from UNTAET, as long as these are not repealed, as well as Indonesian legislation that was in force 'de facto' in Timor-Leste, prior to 25 October 1999 (as determined in UNTAET Regulation No. 1/1999) (Democratic Republic of Timor-Leste, 2003a).

It is the case, then, that unless repealed or superseded by the Timor-Leste Parliament through the passage of new law, and unless a law is incongruent with the Timor-Leste Constitution or UNTAET regulation 1/1999, UNTAET law current at the time of Independence and Indonesian law current at the time of Indonesian handover to UNTAET remains applicable in Timor-Leste.

Clearly, effective law enforcement and community education on the legal system (including on community rights and obligations under law) has been almost impossible in Timor-Leste while the exact nature of applicable law has been debated. Certainly a very low level of community awareness or understanding of law in general has been observed in the community (The Asia Foundation, 2001, 2008,

2009; Judicial System Monitoring Programme, 2006a, 2006b). As a result, a considerable concern is that the general population may feel out of touch with their legal system, or possibly somewhat cynical regarding its operation and effectiveness. It is certainly true that the nation could be considered to have had a sometimes 'lawless' history and many perpetrators of serious crimes have not yet been tried (Commission of Truth and Friendship Indonesia Timor-Leste, 2008; Commission for Reception, Truth and Reconciliation in East Timor, 2005).

Indeed, it is the matters of crime and human rights, and certainly not public health law, with which the Timorese justice sector has been preoccupied (Judicial System Monitoring Programme, 2006a, 2006b; Ministry of Justice, Timor Leste & United Nations Development Programme, 2002; UNDP Justice System Programme, 2010). Establishing basic legal frameworks to re-build security and perceptions of justice in Timor-Leste are of course critical (The Asia Foundation, 2008, 2009). The resources of the government and justice system have also been directed towards involvement, together with Indonesia, in a lengthy period of analysis and reporting on responsibility for past crimes (Commission of Truth and Friendship Indonesia Timor-Leste, 2008; Commission for Reception, Truth and Reconciliation in East Timor, 2005).

With the complexity of the 'applicable law' issue, and a perception of a lack of efficiency and progress in areas such as prosecution for serious crime, it could well be asked whether ordinary Timorese are satisfied with their legal system, and what dissatisfaction might in fact mean. Certainly, it could be expected that disenchantment or cynicism regarding the legal system in general may not bode well for the success of legal approaches, including public health law. Accordingly, in this study, data was collected on general public perceptions of law, in order to adequately inform its recommendations related to public health law in Timor-Leste.

3.2.2 Legal recognition of a right to health.

Arguably, to ensure that a government will act where possible to improve and protect the health of its citizens, there must be some recognition of a right to health under law, or at the least some statement of government responsibility or intent written in

law (Gostin, 2000). Despite the difficulties in establishing an effective legal system in Timor-Leste, the law, importantly, has not neglected health.

The Constitution of Timor-Leste states that all citizens have the right to health and medical care and, furthermore, the duty to protect and promote these (Democratic Republic of East Timor, 2002a, Section 57). In the same section of the Constitution, the State is charged with the duty to promote the establishment of a free (where possible) and universal national health service, managed through a decentralised and participatory structure (Democratic Republic of East Timor, 2002a, Section 57).

Elsewhere in the Constitution, the state's duty to promote the health of the country's youth is specifically mentioned (Section 19) and health protection for consumers of goods is also guaranteed (Section 53). This latter guarantee arguably may be taken to include the safety of purchased food and water. Section 61 further outlines the right to a humane, *healthy* and ecologically balanced environment (Democratic Republic of East Timor, 2002a), which is essential for population health. More specifically, the right to housing that meets satisfactory standards of hygiene is outlined (Section 58).

The Constitution further allows for the melding of international law into the Timorese legal system. Once ratified, rules and standards provided within international conventions, treaties and agreements will apply in Timor-Leste, and all existing rules that are inconsistent with these will become invalid (Democratic Republic of East Timor, 2002a, Section 9). This paves the way for considerable health law reform. For instance, under the Timorese National Parliament ratification in December 2004 of the WHO Framework Convention on Tobacco Control (WHO, 2010), the government will be expected to act to regulate tobacco sales to children, although as of 2010 a scan of Timorese legislation highlights that it was yet to do so.

Finally, the Constitution also affirms a national determination to respect and guarantee human rights (Democratic Republic of East Timor, 2002a). In interpreting fundamental rights, the Constitution (Section 23) defers to the Universal Declaration of Human Rights (UN, 1948), which itself provides:

- the right to a standard of living adequate for health and wellbeing;

- the right of equal access to public services; and
- the right to life, liberty and security of person.

There is, then, a legal basis in Timor-Leste for the government's promotion and protection of health. Although this requires some interpretation (as is the case in any nation), there exists the basis for an effective system of public health law.

3.2.3 Public health law in Timor-Leste.

As has been discussed, (see 2.3, 3.2.1) both the health and legal systems in Timor-Leste continue to develop slowly in the face of significant capacity challenges, with policy and program implementation remaining substantially supported by developmental assistance. In terms of public health law, a coordinated, comprehensive public health law strategy (such as might be based in an overarching Health Act) is not currently a feature of the approach to health in Timor-Leste. Nevertheless law of relevance to public health can be identified.

It would not have been possible to investigate all law related to public health in the present study. Public health itself is an area of practice that is extremely wide in scope and it is arguably difficult to define its boundaries (Porter, 1999). Traditional public health law is somewhat more defined in scope (including regulation in sanitation and communicable disease control, for example); however in a modern interpretation, public health law could potentially also entail a significant range of other laws of relevance to public health, including planning law and elements of taxation law, for example (see 3.1.2).

Therefore a limited selection of public health law was chosen for examination in this study. Those areas chosen reflect some of the key and emerging areas of health need in the developing world. These examples of law, and the reasons for focussing on them, are outlined in Table 2. While other law of relevance to public health is also discussed in this section, it is that summarised in Table 2 that is the primary focus of this study.

Table 2. ***Public health law chosen for investigation in this study***

Area of law	Reasons chosen for investigation
Road safety (specifically seatbelt use, motorcycle helmet-use and driving under the influence of alcohol)	• Road trauma is already a significant concern in low- and middle-income nations, which bear the brunt of 90% of all road trauma deaths (WHO, 2009f). Road trauma is a significant concern in Timor-Leste (Ministry of Health, Timor-Leste, 2007), which has: o poorly maintained roads and a high proportion of vehicles that are unroadworthy; o inadequate traffic calming infrastructure (e.g., stop signs, speed limits and traffic lights); o inadequate driver education and licensing; o considerable sharing of roads with pedestrian and animal traffic.
Sale of tobacco to minors (defined as aged under 18)	• Progress made in reducing tobacco-use in the developed world has been more than compensated for by rising tobacco-use in the developing world (WHO, 2009e). • Tobacco-use in Timor-Leste, particularly among young males, is thought to be high (Ministry of Health, Timor-Leste, 2007). • A key approach in successful tobacco control programs has been to restrict the sale of tobacco to minors, however whether this strategy would be supported in the developing world needs to be investigated, rather than assumed.
Sale of alcohol to minors	• Alcohol increases the risk of injury, violence, mental health problems, and a range of other serious health conditions (WHO, 2007a). • In the context of development, foreign investment, tourism, and 'westernisation' of a culture may act to increase the attraction of alcohol, particularly to young people (WHO, 2007a). • As with tobacco-use, a key component of alcohol control programs has been the restriction of the sale of alcohol to minors. It needs to be asked how this strategy would fit in the context of the developing world.
Food safety	• Food safety is a significant concern across the globe: even in industrialised nations, up to 30% of the population are affected by foodborne disease annually (WHO, 2007b). • In Timor-Leste, most food is prepared in the home from basic ingredients. However food products prepared by others are sold in markets, stores and by mobile vendors (Oxfam Australia, 2008). The percentage of such food consumed in Timor-Leste is likely to rise with economic development and tourism, making food safety regulation increasingly important.
Water safety	• The safety of drinking water is a core, traditional public health issue of relevance across the globe (WHO, 2008e). • Many significant bacterial and parasitic infections are transmitted through water. Therefore the quality of water supplied to the population, where this occurs, should arguably meet minimum standards so as not to cause ill health.

A range of law relevant to health in general, and of some relevance to public health specifically, can be located in Timor-Leste. In the Health Sector Strategic Plan (Ministry of Health, Timor-Leste, 2007), for example, the Ministry of Health provides the following summary of law related to health in Timor-Leste (see Table 3).

Table 3. ***Ministry of Health-provided summary of health-related law in Timor-Leste***

Law	Description
Government Decree No. 5/2003	Establishes the objectives, competencies and organic structure of the Ministry of Health.
Government Decree No. 2/2004	Regulates the Health Autonomous Medical Store (SAMES).
Decree-Law No. 12/2004	Regulates the import, storage, export and sale of human-use pharmaceuticals.
Decree-Law No. 14/2004	Regulates the practice of health professionals.
Decree-Law No. 10/2004	Regulates the provision of medical certificates for absence from work due to ill health.
Government Decree No. 10/2004	Establishes the National Health Systems, including the components, structure, vision, principles and objectives of the overall health systems, as well as the structure and roles of the National Health Services.
Decree-Law No. 18/2004	Regulates the licensing, operating and monitoring conditions of private health units.
Government Decree No. 1/2005	Regulates the disciplinary code of health professions.
Decree-Law No. 1/2005	Establishes the legal framework of hospitals of national health services.
Decree-Law No. 2/2005	Establishes the legal framework of the Institute of Health Science.
Decree-Law No. 9/2005	Regulates Epidemiological Surveillance Systems.
Decree-Law No. 14/2005	Regulates the Sanitary Surveillance Authority.
Government Resolution No. 2/2005	Establishes the medical faculty at the national university.
Ministerial Orders	• Technical rules for the functioning and good practice of pharmacies; • Conditions of hygiene and technical adequacy of installations and means of transport of medicines; • Applicable rules to donations of medicines, medical consumption goods, medical equipment and others, to health institutions; • Licensing fees on pharmaceutical activities.

The summary provided by the Ministry of Health in Table 3, however, focuses only on law passed by the independent Timor-Leste Parliament and omits some law that is of substantial relevance to health, such as that related to road safety. As has been seen, under the Timor-Leste Constitution (and under further clarifying law) a range of law promulgated by both the United Nations Transitional Administration, and Indonesia (prior to 25 October 1999), remains applicable in Timor-Leste if it meets certain criteria (see 3.2.1). A manual search of applicable law in Timor-Leste using these criteria reveals the following additional pieces of legislation that are potentially influential in public health (see Table 4). To complement community-level data collected on awareness of public health law in this study, only those laws applicable at the time of study fieldwork (November, 2004) are noted.

Table 4. ***Additional law of relevance to public health in Timor-Leste***

Law	Description
Indonesian regulation PP/81/1999	• Neither the United Nations Transitional Administration, nor the independent Timor Leste Parliament, had passed law in relation to tobacco control at the time of the study. Technically, under the Timor-Leste Constitution (and under subsequent clarifying legislation), Indonesian law (PP/81/1999) passed on 5 October 1999 applied in Timor-Leste (however subsequent Indonesian modifications PP/38/2000 & PP/19/2003 would not apply). • The Indonesian law bans tobacco advertising in electronic media and requires health warnings in advertisements and tobacco packaging. It further specifies maximum tar and nicotine content and bans smoking in some public places. While it prohibits tobacco product vending machines from being located in areas accessible to children, it does not ban the sale of tobacco to children *per se* (Republic of Indonesia, 2010).
Indonesian Law UU/7/1996	• Neither the United Nations Transitional Administration, nor the Timor-Leste government, had passed legislation to replace or repeal the Indonesian Food Act, which governs the production, storage, transport and distribution of food. It provides technical criteria for safety, quality and nutrition, and regulates the labelling and advertising of food products. • Other related regulation specifically governs the maximum allowable levels of heavy metals (03725/B/SK/VII/89), micro-organisms (03726/B/SK/VII/89) and pesticide residues (881/Menkes/SKB/VIII/1996 & 711/Kpts/TP270/8/96) (Republic of Indonesia, 2010).
Indonesian Law UU/8/1999	• This law covers consumer protection, including the obligations of business to ensure the human safety of their products (thereby covering purchased food and water safety) (Republic of Indonesia, 2010). Note: the Constitution of Timor-Leste also provides for the health and safety of consumer goods (Democratic Republic of East Timor, 2002a).
Indonesian Minister of Health Regulation 86/Menkes/Per/IV/1977	• There is little formal alcohol regulation in Indonesia, however this law prohibits the sale of alcohol to persons aged under 21 years (Republic of Indonesia, 2010). There does not appear to be any corresponding law in Timor-Leste that would over-ride this.
Timor Leste Decree Law 4/2004	• This law on water supply for public consumption aims to ensure that Timorese communities have access to water supply services that are 'essential to public health'. It allows water suppliers to cease supply if the Health services find the water supply unsafe for human consumption and allows the entry of authorised personnel into premises in order to remove any contamination risks (Democratic Republic of Timor-Leste,

Law	Description
	2004a).
Indonesian Law 23/1997	• This law allows for jail terms and fines for persons found to release substances with good reason to suppose that the action concerned can give rise to environmental pollution and/or damage or endanger public health or the life of another person. Indonesian regulation 20/1990 further controls water monitoring and requires provincial governments to monitor and improve water quality, giving specific limits to certain chemicals (Republic of Indonesia, 2010).
Timor Leste Decree-Law 21/2003	• This law covers quarantine and sanitary control of imported and exported goods. The law is designed to protect Timor-Leste from exotic plagues and diseases and other harmful organisms, including risks to humans, flora and fauna (Democratic Republic of Timor-Leste, 2003b).
Timor Leste Decree-Law 6/2003	• This law is the Timor-Leste 'Highway Code' and specifically sets out to prevent road accident casualties. The law provides for specific road rules, speed limits, traffic signalling, and prohibits driving under the influence of alcohol. It requires seatbelts to be worn in cars, helmets to be worn on motorcycles, requires compulsory vehicle registration and driver licensing, bans mobile phone use by drivers, and further covers soil, air and sound pollution from motor vehicles (Democratic Republic of Timor-Leste, 2003c).
Timor Leste Decree-Law 17/2003	• This law provides for the collection of statistical data in Timor-Leste by allowing for official statistics to be mandatory, with penalties that apply for non-provision of information. Data collectors are required to make an oath on the appropriate handling of confidential and private information. This law is potentially influential in public health by facilitating disease monitoring and population-wide health surveys (Democratic Republic of Timor-Leste, 2003d).
Joint instruction 13 December 2002	• This joint instruction to the Ministries of Planning and Finance, Internal Administration, Agriculture, Forestry and Fisheries, and Health refers to the need for quarantine to maintain public health. It specifically refers to Indonesian law 16/1992 on quarantine of animals, fish and plants and delegates powers under it to be enforced by the quarantine service (Democratic Republic of East Timor, 2002d).

Table 5 again highlights the areas of public health law chosen for investigation in this study, and based on the information provided in Table 3 and Table 4 describes the status of these legal areas in Timor-Leste (at the time of this study's field trip and survey data collection in November, 2004) (Democratic Republic of East Timor, 2002a, 2002b, 2002c, 20002d; Democratic Republic of Timor-Leste, 2003, 2003a, 2003b, 2003c, 2003d, 2004a; Republic of Indonesia, 2010).

Table 5. ***Status of the areas of public health law chosen for investigation in this study***

Law	Status
Road safety (specifically seatbelt-use, motorcycle helmet-use, and driving under the influence of alcohol)	• The Timorese Highway Code (6/2003) specifically requires that seatbelts are used when driving a vehicle and that motorcycle helmets are worn when riding a motorcycle. • Driving under the influence of alcohol is prohibited, with the law specifically penalising a blood alcohol concentration of above 0.5 grams per litre.
Sale of tobacco to minors	• Indonesian law PP/81/199 appears to be the only tobacco control law applicable in Timor-Leste (see Table 4); however this law ***did not*** restrict the sale of tobacco to minors.
Sale of alcohol to minors	• Indonesian Minister of Health Regulation 86/Menkes/Per/IV/1977 appears to be the only alcohol control law to apply in Timor-Leste. This bans the sale of alcohol to anyone under the age of 21.
Food safety	• The Indonesian Food Act (UU/7/1996) technically regulates food safety. • The Indonesian Consumer Protection Act (UU/8/1999) (and Timor-Leste Constitution) require that consumer goods do not pose a risk to health. • Timor-Leste Decree-Law 21/2003 further governs the safety of imports, thereby covering the safety of imported food products.
Water safety	• Timor-Leste Decree Law 4/2004 governs the domestic water supply infrastructure, allowing for the cessation of supply if water is deemed unsafe for human consumption and the entry of authorised personnel into premises in order to remove any contamination risks. • The Indonesian Consumer Protection Act (UU/8/1999) and Timorese Constitution require that consumer goods do not pose a risk to health. • Timor-Leste Decree-Law 21/2003 also covers the safety of imported products (e.g., bottled water).

It is clear from Table 5 that in key areas of public health law (tobacco and alcohol control, and food safety, for example), at the time of fieldwork conducted in this study Timor-Leste was yet to pass its own country-specific legislation. With tobacco, for example, while Timor-Leste signed the Framework Convention on Tobacco Control shortly *after* the fieldwork conducted for this study (WHO, 2010), as of 2010 it was yet to pass appropriate follow-up legislation to restrict children's access to tobacco. At the time of fieldwork for this study, Indonesian law, which does not restrict the sale of tobacco to children (Republic of Indonesia, 2010), applied in Timor-Leste. Similarly, 'fall-back' Indonesian legislation applies regarding the sale of alcohol to minors, however this *is* restricted (Republic of Indonesia, 2010; WHO, 2006c).

Regarding food safety law, there is no specific Timor-Leste legislation, although the Constitution specifies that 'consumers' have a right to protection of their health (Democratic Republic of East Timor, 2002a). This is also provided for in the Indonesian Consumer Rights Act. However the Indonesian Food Act most obviously applies to food safety and technically applies in Timor-Leste (Republic of Indonesia, 2010). This situation is not widely appreciated and there is no body designated to provide public education on food hygiene or enforce the applicable Indonesian food law (Ministry of Health, Timor-Leste, 2007).

Indigenous Timor-Leste road safety law, however, is comparatively strong. Indeed, the Highway Code appears to be perhaps the largest piece of Timorese legislation and regulates a very broad range of infrastructure and activity. Of particular interest to this study, seatbelt-use, motorcycle helmet-use and driving under the influence of alcohol are all regulated (Democratic Republic of Timor-Leste, 2003c), although not consistently enforced.

In the area of drinking water safety, the available Timorese law covers health but this is certainly more 'in spirit' than in any comprehensive manner. It mandates that water suppliers cease supply if the 'Health Services' find the water supply unsafe for human consumption. However there appear to be no specific regulations for the allowable thresholds of particular types of bacteria or for mandatory water quality testing. The law allows for the entry of authorised personnel into premises in order

to remove any contamination risks but does not provide for penalties for the contamination of the water supply (rather it penalises interference with physical water supply infrastructure) (Democratic Republic of Timor-Leste, 2004a). Certainly, the underlying current of the legislation is that the water supply should be fit for human consumption, and there is also the 'fall-back' position of the Indonesian Consumer Protection Act and Timorese Constitution, whose applicability could be tested in ensuring the safety of water as a consumer good, although presumably only where water is actually purchased (Democratic Republic of East Timor, 2002a; Republic of Indonesia, 2010). A specific Timor-Leste regime of water safety standards, including mandatory testing and maximum contaminant thresholds, would seem a necessary clarification.

The Timor-Leste Constitution allows for reliance on Indonesian law where this has not been superseded or repealed, and where it is not in conflict with the Constitution (Democratic Republic of East Timor, 2002a). While this is obviously a temporary measure to ensure that there are minimal gaps in law while the Timorese government passes its own legislation, there are a number of considerable problems with the situation.

Firstly, the continued applicability of Indonesian law assumes a) that it was ever relevant in the Timor-Leste setting, b) that it has continued relevance, and (correspondingly) c) that Timorese people would be willing to enforce or follow it. Arguably in many instances of law, given the considerable cultural differences and difficult history between Indonesia and Timor-Leste, all three points would be debatable.

In any event, the reliance on Indonesian law to fill gaps creates a situation, particularly given the embryonic legal capacity in Timor-Leste, where widespread knowledge of exactly which laws are supposed to apply is hindered. Certainly this has a direct impact on the ability to effectively enforce law. Currently, knowledge that Indonesian law is a 'fall-back' option may also serve to lessen the sense of urgency in passing Timorese law in some cases.

3.2.4 Challenges to overcome in reforming public health law.

In terms of published strategic directions, the Timorese Ministry of Health does have a legal unit within its organisational structure and health legislation is mentioned throughout many of the strategies within the Health Sector Strategic Plan (Ministry of Health, Timor-Leste, 2007). For example, it is planned to use the International Health Regulations as the framework for drafting law to manage acute public health risks of international significance, primarily those arising from communicable diseases (Ministry of Health, Timor-Leste, 2007; WHO, 2005b). It is also proposed to enact legislation covering non-communicable diseases, although the mechanism is less-specific. Timelines, leading parties and detail, however, are lacking within available government plans. In most cases, it is noted by the Ministry of Health that there has been no progress with the legislative aspects of particular health strategies (Ministry of Health, Timor-Leste, 2007). Furthermore, as previously noted, (see 2.3.3.2) legislation does not appear within the 10 key areas of work and 17 essential strategies chosen for "urgency, cost-effectiveness and feasibility" (Ministry of Health, Timor-Leste, 2007, p. 135).

The WHO certainly appears to accept that a key role it will undertake will be to continue to support the Ministry of Health in the development of essential health legislation (WHO, 2004a). A list of WHO activities during 1999 to 2003 in Timor-Leste shows that "technical support and development of health regulations and legislation" was provided (WHO, 2004a, p. 29). In particular, this appears to have included legislation governing the pharmaceutical sector. However, in reality, the actual capacity of the WHO to assist has been limited. Support in the past appears to have been achieved through the provision of short-term consultants. In its Country Cooperation Strategy 2004-2008, it was noted that the WHO Representative was the only full time professional staff member in the country office, with additional professionals being contracted for periods of up to 11 months and no more than two consultants working in the country at any one time (WHO, 2004a).

Given the range of health issues in Timor-Leste, it is evident that not all consultancies would be focussed on health-related law. Certainly, though, it appears that the WHO will continue to assist with legislation. In its Country Cooperation

strategy, WHO (2004a) lists the Ministry of Health, Ministry of Justice, Council of Ministers, and Parliament as partners in developing appropriate health legislation and further highlights its determination to see that legislative approaches are linked to broader policy development.

Resourcing and capacity are significant issues and must be addressed if the development of further public health law is to be comprehensive and effective in Timor-Leste. It has been noted that health-related law passed in recent years continues to be somewhat of a struggle to manage. In particular, legislation to enhance the commercial autonomy and administrative responsiveness of the Autonomous Medical Store (SAMES) has yet to result in major advances, with problems persisting related to the administrative processing of drug stocks (Ministry of Health, Timor-Leste, 2007). Also, the Ministry is facing difficulty in regulating the pharmaceutical sector and is further "unable to effectively monitor and regulate private providers despite a legislated role to do so" (Ministry of Health, Timor-Leste, 2007, p. 42).

In addition to drafting new law, capacity to educate the population and enforce public health law will be critical in future. Currently, for example, the Highway Code prescribes a range of preventative measures to reduce injuries and deaths; however due to a marked lack of education and enforcement, road trauma continues to be a significant problem in Timor-Leste (Ministry of Health, Timor-Leste, 2007). Similarly, while there is no specific Timor-Leste legislation on food safety, there also appears to be no food safety programme that might educate food handlers and enforce the currently applicable Indonesian legislation or raise community awareness of food safety (WHO, 2004a).

It is certainly possible that with both food safety law and tobacco law, and indeed much other law in Timor-Leste, a number of 'political' concerns are holding the government back. Indeed, as discussed, food safety law, unless heavily subsidised, would inevitably impose complying costs on businesses and individual food sellers. Similarly, law restricting the sale of tobacco products would impact upon tobacco sellers who may rely upon the income for survival. It is worth questioning whether political willingness to introduce law that may have an economic cost to business or

individuals might also be playing a part in the apparent lack of importance placed on public health law. While it is unknown, it cannot be assumed also that the government is not receiving intense lobbying from the tobacco industry to ensure that tobacco control legislation is not considered. Experience in other nations would suggest that this is likely to occur, if it has not already (Achadi et al., 2005; Annas, 1997; Chapman, 2007; Gilmore et al., 2007).

These challenges are considerable, however they are not insurmountable if public health law is afforded a greater priority and adequate implementation resources. Certainly, with growing economic development in Timor-Leste, due in most part to settlement of revenue matters regarding the Timor Sea oil and gas resources, increased financial resources are becoming available to the government. A challenge will be to ensure that, as the government becomes better able to deliver reform, public health is prioritised and public health law is understood as an effective and in most cases essential approach. Somehow sufficient resources need to be dedicated to this approach in light of significant other areas requiring development in Timor-Leste. Evidence for public health law as an intervention, economic impact analysis, advice and technical assistance, workforce development, and clear recommendations should be made available to the government in this regard: this study represents an initial step towards such an approach.

3.3 Chapter Summary

This Chapter has discussed the role of legislation within the public health approach. It has provided important background on both the potential of law to address difficult health issues and its inherent ethical issues. It has been noted that although public health law has a long and mostly successful history in the developed world, the implementation and study of public health law in developing nations has been comparatively minimal.

The legal setting in Timor-Leste has been described and the status of the regulatory areas chosen for investigation in this study (at the time of fieldwork) has been highlighted. It has been argued that the legal setting is not only complex but under-resourced and under-developed. A dominance of issues in other higher-profile legal

areas has meant that the development of a coordinated public health law strategy has not been a priority.

The further reform of public health legislation in Timor-Leste does appear to require some impetus, support and direction. It could be argued that at this point there is a lack of a coordinated, comprehensive or coherent approach to the development of public health law. Enforcement for applicable health law appears to be almost completely absent due to capacity constraints and, no doubt in part, because the law that actually applies is not always clear.

Further development of public health law will clearly require a number of factors to combine, including: a perception of need; affordability; public service and political willingness; leadership; capacity to draft evidence-based and culturally appropriate law that is targeted to the health needs of Timor-Leste; capacity to comprehensively implement and enforce this law; and widespread raising of public awareness.

Chapter Four: Methodology

4.0 Introduction

This Chapter provides detail on the research design and methodologies used in the study. Firstly, the study aims are presented and a rationale is provided for their selection as key areas of research focus. The detailed procedures undertaken to obtain relevant background literature is next described and it is explained how the study was designed and conducted in line with advice obtained through the engagement of four Timorese cultural advisors. The design of data collection instruments is outlined, including how these were translated, piloted and administered. Approaches to data analysis and potential human research ethics concerns are noted.

4.1 Aims

The study was intended as an investigation of the current and potential use of public health law to address public health concerns in Timor-Leste. Based on this, it was proposed to develop a theoretical framework to guide the further implementation and study of public health law in Timor-Leste and other similar settings.

Following an extensive search, very few investigations or discussions of public health law in the developing world were located within the published or 'grey' literature (see 4.6). Against this backdrop, the creation and testing of a specific hypothesis based on past discoveries was not possible and the study became, of necessity, more broadly exploratory in nature. Specifically, aims were:

1. to provide a review of the state of population health within Timor-Leste;
2. to provide an analysis of the health and legal settings within Timor-Leste, with particular regard to system capacity, existing health law and reported strategic directions;

3. to develop and administer a survey to obtain information on community awareness of, and attitudes towards, selected existing public health law applicable in Timor-Leste;
4. to provide further context through the collection of interview data related to the experiences and opinions of professionals who have worked in the fields of health and law in Timor-Leste; and
5. to develop a theoretical framework and recommendations for the use of public health law in Timor-Leste that might be tested in similar settings.

4.1.1 Rationale for aims.

The aims of this study were selected based on consideration of a number of factors. Firstly, a discussion of the use of public health law to protect or improve health in a nation would lack important context and relevance without an understanding of the particular health development needs of that nation (aim 1). By understanding the population health challenges, data collection strategies can be made most relevant and, in turn, study recommendations may be priortisied to focus on the most urgent needs.

Secondly, a discussion of the role and potential of public health law must take into account any existing law as well as the health and legal settings in which it operates (aim 2). Failing to acknowledge any strategic directions for the future would also be remiss. Importantly, study recommendations would risk being of little or no practical use without an understanding of the capacity and directions of the health and legal sectors.

Next, it would seem apparent that law exists in a social context and cannot fulfil its role as a deterrent of behaviour without widespread public awareness and the presence of community attitudes conducive to adherence (aim 3). An understanding of such social context was considered critical in this study, particularly as no such data appears to exist in relation to Timor-Leste or other similar settings. Furthermore, knowledge of positive attitudes towards a law might add weight within government to calls for law reform.

In order to enhance the findings within the literature and community level data, the study also recognised the importance of the knowledge and experiences of professionals living and working in Timor-Leste. This strategy was chosen to add contextual richness through on-the-ground perspectives (aim 4) and further allow consistent themes to arise from within the study data through its 'triangulation'.

Lastly, research of public health law in developing nations is scarce. In order to encourage and facilitate future research, specific guidance may provide direction and impetus to allow a body of evidence to be built (aim 5).

4.2 Summary of Research Approach

In the context of limited background literature or data with which to compare findings (see 4.6 Literature Review), the use of multiple research methods was considered appropriate for this study. Multiple methods were chosen to allow collection of a wide range of data, to provide varying perspectives on topics of interest, to provide depth of context, and to potentially 'triangulate' observations that might be otherwise isolated (Creswell, 1998, 2003; Denzin & Lincoln, 2005; Kincheloe & McLaren, 2005).

The research methods utilised included a review of the published and grey literature, a community survey and semi-structured interviews with a number of key informants. Importantly, the study was designed and conducted in accordance with advice provided by four Timorese 'cultural interpreters' (see 4.4). Table 6 summarises the methods used to address the study's aims. The table also highlights where within the thesis the associated results are presented and discussed.

Table 6: ***Summary of aims and associated methodologies***

Aims	Methodology	Presentation/discussion of results
1. Provide a review of the state of population health within Timor-Leste.	i. Literature review (4.6). ii. Community survey (4.7.1). iii. Key informant intereviews (4.7.2).	i. Chapter 2. ii. Chapter 5. iii. Chapter 6.
2. Provide an analysis of the health and legal settings within Timor-Leste, with particular regard to system capacity, existing health law and reported strategic directions.	i. Literature review (4.6). ii. Key informant interviews (4.7.2).	i. Chapters 2 & 3. ii. Chapter 6.
3. Develop and administer a survey to obtain information on community awareness of, and attitudes towards, selected existing public health law applicable in Timor-Leste.	i. Community survey (4.7.1).	Chapter 5.
4. Provide further context through the collection of interview data related to the experiences and opinions of professionals who have worked in the fields of health and law in Timor-Leste.	i. Key informant interviews (4.7.2).	Chapter 6.
5. Develop a theoretical framework and recommendations for the use of public health law in Timor-Leste that might be tested in similar settings.	i. Critical analysis of study findings and literature.	Chapter 7.

4.3 Academic Review and Approval

Early drafts of the research proposal were developed between January and August, 2004. Advice was sought from supervisors and other academic staff at the Centre for International Health, Curtin University, to ensure that the methods and proposed analyses addressed the study's aims. The proposal was also critically discussed following a formal presentation by the researcher to staff and post-graduate students, enabling a further development of the proposal.

The final proposal was submitted to the Curtin University Health Sciences Divisional Graduate Studies Committee and was approved without indication for change at the meeting held on August 27, 2004. The proposal was further submitted to the Curtin University Human Research Ethics Committee and was approved in a letter dated October 15, 2004.

4.4 Engagement of Cultural Advisors

It has been argued that a researcher brings their own unique history of experiences and knowledge to the design and conduct of research and that this influences not only the choice of research questions posed, but the processes of data collection and interpretation (Creswell, 1998, 2003; Saukko, 2005). In this way, a study risks being designed with limited relevance to its setting. This may be particularly problematic when researching within unfamiliar nations and cultures. To overcome this, it is necessary to understand as fully as possible the culture (way of life, values, beliefs, standards, language, behavioural norms, communication styles etc.) within which the research is conducted (McDade, 2007; Putsch, 1985; Saukko, 2005).

It was therefore considered imperative to seek advice regarding the design and conduct of the study in order to ensure that methodology was relevant and culturally appropriate, and that the study's final recommendations would be relevant to the Timorese community. As described by Putsch (1985), 'Cultural Interpreters', that is, people with considerable experience of the culture of Timor-Leste, were engaged

within the study design period and were consulted throughout the study[5]. Cultural advisors provided advice on survey design, data collection approach, fieldwork planning, and communication style. The researcher approached two individuals from within the Timorese community in Perth, Western Australia, and two residents of Dili, Timor-Leste.

4.5 Rationale for Choice of Fieldwork Location

It was planned to collect study data within Dili, the capital of Timor-Leste. Dili was chosen as the key focus area for a number of important reasons, outlined below.

4.5.1 Language.

Within Timor-Leste, a notably large range of distinct languages and dialects is spoken. While the nation's Constitution promotes Portuguese and Tetun as the official national languages, there are in fact at least sixteen recognised languages and up to 32 dialects that may be known and understood only within isolated local communities (Hull, 2002; Taylor-Leech, 2008).

The choice to concentrate research activities in Dili, then, was due in part to the ability to accurately predict that the majority of residents would speak a common form of one language, Tetun (Hull, 2002). As highlighted in the 2004 Timor-Leste Census Map of Literacy (see *Figure 2*), Dili has the highest rates of literacy in Timor-Leste (UNPF, 2006). This was important for the collection of community survey data (see 4.7.1 and 4.8.2).

[5] The term 'cultural advisors' is used throughout this thesis.

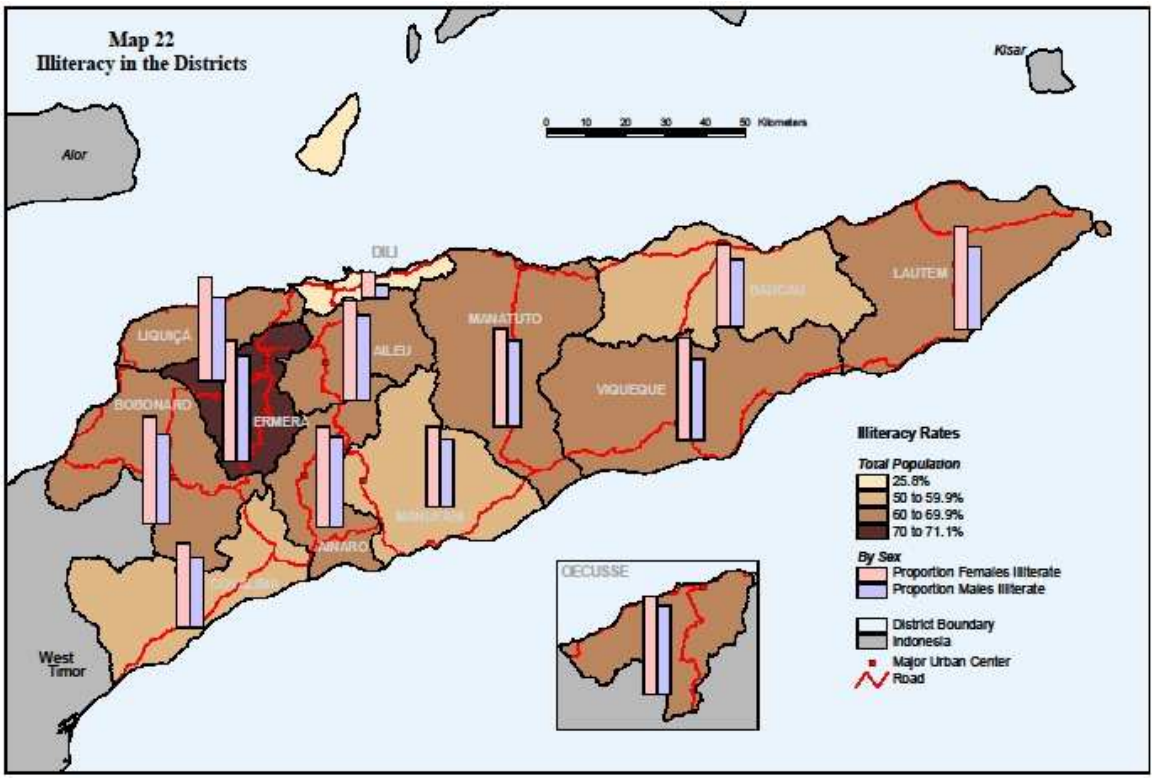

***Figure 2*. 2004 Timor-Leste Census: Map of literacy levels.**

4.5.2 Population concentration and relevance.

According to the 2004 Timor-Leste Census, 167,777 people, or 18.1% of the then estimated total population of 924,642, resided within Dili (UNPF, 2006). Concentrating study activity in Dili therefore allowed access to a large number of people within a defined area, potentially maximising the community survey sample size.

Dili is also the seat of government, and the location of the head offices of the United Nations and almost all other non-government organisations in the country. A concentration of activity in Dili therefore also allowed the greatest possible number of interviews with health and legal staff to be conducted in person.

4.5.3 Accessibility.

Dili is arguably the most accessible location in a country of extremely remote and mountainous towns and villages. The International 'Nicolao Lobato' airport is located on the outskirts of Dili and accommodation and transport, in the form of

buses (‘mikrolets’) and taxis, is available throughout the city. Distances between places of interest relevant to the study (e.g., non-government organisations and government departments) were also within walking distance of central accommodation.

4.6 Literature Review Methodology

The background literature search in this study utilised a number of strategies, outlined in Table 7.

Table 7. ***Literature search strategy***

Literature category	Method
Published literature such as books, peer-reviewed articles in journals, or other scholarly papers and reports.	Curtin University library catalogue. Curtin University ‘Gecko’ collection of databases, including those under ‘Health Sciences’, ‘Humanities’ (includes law) and ‘Multidisciplinary’ categories. Manual searches of the reference lists of relevant book chapters, articles and reports. Internet search, including ‘Google scholar’ and ‘Google’. Scanning of the websites of major relevant organisations, such as the United Nations, World Health Organization, the Governments of Timor-Leste, Indonesia and Portugal, and any known Centres for Public Health Law (e.g., The Centers for Law and the Public’s Health, Johns Hopkins and Georgetown Universities).
‘Grey’ or not publicly available literature, e.g., technical reports from government agencies, reports or working papers from research groups, consultancies or committees.	Direct contact and enquiry with relevant authors and organisations. Scanning of on-going work announced in relevant organisations’ newsletters, websites or email lists.

In the search for relevant literature, there were a number of broad areas of enquiry. Accordingly, a number of different search strings were utilised. These are

highlighted in Table 8. In on-line searches of library-based catalogues and databases, search stings were utilised in both title and abstract fields.

Table 8. ***Literature search strings***

Area of enquiry	Search strings utilised
The history and practice of the field of public health	('public health' OR 'population health' OR ('prevent*' AND 'health')) AND ('history' OR 'practice' OR 'theor*' OR 'strateg*' OR 'method*') [6].
Public health law	('public health' OR 'population health' OR ('prevent*' AND 'health')) AND ('law' OR 'legal*' OR 'legislat*' OR 'regulat*' OR 'govern*').
The health system and health indicators in Timor-Leste	'Timor*' AND 'health'.
History and culture of Timor-Leste	'Timor' AND ('history' OR 'culture' OR 'society' OR 'social' OR 'tradition*' OR 'custom').
The legal system in Timor-Leste	'Timor' AND ('law' OR 'legal*' OR 'judicial' OR 'justice' OR 'legislat* OR 'regulat*').
The governmental structure of Timor-Leste.	'Timor' AND ('govern*' OR 'parliament*' OR 'minist* OR 'independ*').

While much literature of relevance to Timor-Leste, public health and public health law was identified, no literature was identified that explicitly focussed on public health law in Timor-Leste. Very few papers were identified that explicitly discussed theory, practice or data related to public health law approaches in other developing nations. Regarding inclusion of papers, judgement was made according to a 'heirarchy of evidence', under which rigorous, peer-reviewed 'scientific' studies providing new data, or systematic reviews, were accorded a higher preference and value than papers representing discussions or opinion. As shown in Table 6 the sourced relevant literature is discussed in Chapters 2 and 3 of this thesis.

[6] The search annotation '*' returns the searched term with all possible endings. 'Prevent*' would not only locate 'prevent', but 'prevention' and ''preventative', for example.

4.7 Data Collection Tools

4.7.1 Community survey background and design.

Based on the premise that the creation and success of law is influenced at least in part by community attitudes and knowledge (see 3.1.3), it was considered important to complement a discussion of public health law in Timor-Leste with such a social context. In the light of the population's recent history of subjugation by Portugal and then Indonesia, negative community attitudes towards authority or law in general were considered possible, with unknown impact of these factors on attitudes towards health law. An understanding both of attitudes towards health law, and of the factors influencing these attitudes, was considered pertinent.

Guiding investigation in this area of inquiry was a large body of accumulated theory and evidence, particularly from the behavioural sciences, suggesting that attitudes are influenced by underpinning experiences and knowledge (e.g., Ajzen, 1988; Friedkin, 2010; Morgan, Reid, & Ogden, 2009; Saucier, 2000). Under the Health Belief Theory, a negative attitude towards health law may conceivably be related to, for example, a lack of knowledge of health risks and a belief that a legal approach was therefore unecessary. Furthermore, attitudes towards tobacco control regulation, for example, might be associated with whether or not the person concerned smoked tobacco themselves. Social psychologists would also propose through Social Norms Theory (e.g., Friedkin, 1998, 2010; Hogg & Vaughan, 2010; Sechrist & Stangor, 2007) that a belief that *one's peers* held a certain attitude might influence a person to also hold that view, because it was seen as 'normal' or otherwise sanctioned by a person's 'in-group'.

Accordingly, this study sought to examine whether a range of experiences, knowledge and beliefs might be associated with Timorese survey respondents' negative or positive attitudes to health law. A survey was designed in order to answer the following main questions (See Table 9):

Table 9. ***Main research questions for the general population survey***

1. What was the level of awareness within the community of existing health-related law and were any demographic or other factors associated with this awareness? 2. What attitudes to health-related law were present, and what factors were associated with these attitudes? In particular, it was considered valuable to explore whether attitudes were related to: • Demographic variables; • Health-related knowledge and attitudes; • Attitudes towards law itself or the legal system; and • Perceptions of others' agreement with health law.

While it might also have been informative in gaining an understanding of attitudes towards health law to examine broader attitudes towards government itself, cultural advisors argued that this be avoided. Indeed, at the time of the field trip, the 'fledgling' government was coming under criticism from various groups and it was considered unwise, as a guest in the country, to potentially create the impression of supporting or encouraging such criticism.

While much of the survey elicited responses related to health and law in general, it was considered important to focus this by seeking information on community knowledge and attitudes relevant to particular health issues. A number of areas were chosen because of their global relevance and in particular their relevance to health in developing nations. These were:

- Road safety (seatbelt-use, motorcycle helmet-use, and driving under the influence of alcohol);
- The sale of alcohol to children;
- The sale of tobacco to children;
- Food safety; and
- Drinking water safety.

Following extensive investigation, no existing survey tool relevant to the research questions could be located. Therefore, a survey was devised to capture the required data. A synopsis of the content of the survey is outlined in Table 10. The final survey utilised, in both its original English and Tetun translation versions, is provided at Appendix 1. The survey contained 64 questions and took on average 45 minutes to complete.

Table 10. ***General population survey structure***

Area of enquiry	Demographic data	Self-reported Health Indicators	General Health-related attitudes	Knowledge of health risk factors	General law-related attitudes	Knowledge of, agreement with, and perceptions of others' agreement with selected health-related law
Variables	• Age • Sex • Country of birth • Marital status • Number of children • Place of residence • Number of people per household • Main language spoken • Education • Employment/income • Use of transport	• Self-rated health • Effect of health on daily activities over the past week • Tobacco-use • Alcohol-use • Illness in immediate family members	• Relative importance of population health among other priorities • Perception of overall population health in Timor-Leste • Satisfaction with local health services • Attitude to prevention • Level of concern for health issues: road safety; alcohol- and tobacco-use among young people; food safety; drinking water safety	• Factors leading to injury in road accidents • Negative health effects of alcohol • Negative health effects of tobacco • Basic food safety • Basic drinking water safety	• Rating of legal system functioning and confidence in 'just' outcomes • Attitude towards law (i.e., 'legal cynicism') • Perception of others' adherence to law • Agreement with the regulatory approach to health	• Seatbelt-use • Driving under the influence of alcohol • Motorcycle helmet- use • Sale of tobacco to children • Sale of alcohol to children • Food safety • Drinking water safety

The survey was written in English and utilised a mixture of question formats that enabled the collection of qualitative data (short responses to open-ended questions), categorical data, and ordinal (ranked) data. This approach was taken to allow a rich variety of data to be collected, maximising opportunities for future analysis.

The use of a written survey to collect general population data, as opposed to interviews, reflects the advice of cultural advisors. Interviews were suggested to be likely to result in a greater number of refusals due to mistrust in confidentiality of responses and the potential for artificial results in interpersonal communication, such as the interviewee trying to 'please' the interviewer rather than providing an honest opinion. It was also aimed to avoid any interpersonal 'power differential' between interviewer and interviewee that might impact upon results or perceptions of freedom to refuse participation (WHO, 2009g). A written survey also allowed multiple surveys to be distributed among a group, maximising the number potentially completed at any one time. Survey sampling procedure and administration are described at 4.8.2.

4.7.1.1 Translation.

The survey was translated from English into Tetun by cultural advisors in the presence of the researcher, who was able to explain and clarify the intended meaning behind the questions. A draft translation was then piloted with a group of 12 recent and longer-term Timorese migrants in Perth, Western Australia.

The pilot group was asked to comment on the relevance of the questions to the Timorese people, and on the accuracy of the translation itself, through a process whereby the English meaning and Tetun translation of each question was the subject of group discussion. A focus was maintained on the need to capture subtle nuances in meaning, rather than attempt a literal word-for-word translation (Birbili, 2000; Hennink, 2008; Kapborg & Berterö, 2002).

Following some minor modifications to wording, all survey questions were agreed to be relevant and appropriate. The translation was broadly agreed upon to be an accurate reflection of Tetun, however the pilot group acknowledged that a number of

their members had not lived in or visited Timor-Leste for some time. As Tetun is a dynamic and changing language with several dialects, it was therefore decided to examine the translation once again on arrival to Dili (see 4.8.1).

4.7.2 Key informant interview schedule.

An interview schedule was devised to guide semi-structured interviews of key persons with specific knowledge of health and/or law in Timor-Leste. The schedule was based closely on the community survey (see Table 10) to enable comparison between general public and 'experts' on a range of issues. However, the interview schedule expanded on the survey to include enquiry into professional opinion and observations. The schedule was designed to be used as a basis from which discussion on the key study topics could be generated.

The interview schedule included 72 items and interviews took, on average, 90 minutes to complete. The schedule was written in English for the researcher to administer in person, with a translator where necessary. A copy is provided in Appendix 2.

4.8 Fieldwork

Fieldwork for this study was conducted in Dili, Timor-Leste, throughout the month of November, 2004. This section describes the research activities undertaken.

4.8.1 Community survey translation refinements.

Upon arrival in Dili it was arranged with Timorese cultural advisors to re-examine the translation of the community survey to ensure accuracy and local relevance. Minor modifications were made to the survey to ensure that it reflected current 'Dili-Tetun', the dialect of Tetun most commonly used throughout Dili (Hull, 2002). Local cultural advisors considered the design and content of the survey to be relevant to the Timorese people and the sampling (4.8.2.1) and survey administration (4.8.2.2) strategies were again confirmed as appropriate.

The community survey was subsequently re-piloted with 25 Universidade Nacional Timor Lorosa'e (National University of Timor-Leste) students, with no comprehension issues identified. A bilingual cultural advisor was present throughout the piloting process to assist with any language difficulties. The pilot group agreed that no further modification to the survey was necessary.

4.8.2 Community survey data collection.

4.8.2.1 Sampling method.

Participants in the community survey were recruited using a mixture of convenience and snowball sampling. Convenience sampling refers to the method of initially sourcing participants from amongst the networks of known contacts, including cultural advisors (Fink, 2003). Snowball sampling denotes the process of recruiting participants from amongst the networks of those who had just completed the survey (Noy, 2008).

While the non-random sampling procedure used imposes limits upon interpretation of data (i.e., as being truly representative of the population), the sampling methods chosen have been shown to be useful in situations where it may be difficult to obtain a random sample (Fink, 2003; Noy, 2008). In Dili, at the time of the survey, it would have been difficult to draw a truly random sample from residential or electoral enrolment records, for example as such records were incomplete. While a quasi-random 'door-to-door' procedure may have been followed instead (e.g., approaching every third household), cultural advisors argued that the convenience and snowball sampling methods would be more appropriate to the community, would result in a greater number of surveys collected, and would be a safer and more practical option for a lone researcher.

Eligibility criteria for participants included that they:

- were aged 18 or over;
- were Timor-Leste nationals and had lived in Timor-Leste for the past 10 years or more;
- could read and write Tetun;
- were not employed in either health or legal sectors; and

- provided informed consent.

4.8.2.2 Survey administration.

All participants were required to read the study's survey information sheet and provide signed consent to participate (see 4.9.1). A Timorese cultural advisor was present in all cases and provided an introduction to the researcher and a brief explanation of the survey, including a reinforcement of the study's eligibility criteria. Information sheets (containing contact details for the researcher and Curtin University Ethics Committee) were retained by the participant and signed consent forms were collected by the researcher.

Each survey took, on average, approximately 45 minutes to complete. Any questions posed by participants were translated for the researcher and clarification was provided. A total of 245 surveys were collected across a number of individual and group settings. Surveys were collected over a two-week period between November 5 and November 19, 2004. This intense period of data collection minimised the possibility of data-confounding variables that might occur over time (e.g., political events) and allowed the dedication of the remainder of the month-long field trip to data checking and entry into an electronic database, observation and the continued conduct of key informant interviews.

Confidentiality of participants was ensured through all completed surveys and consent forms being stored securely in accordance with a procedure outlined at 4.9.2. Survey results, including demographic data captured by the survey, are detailed in Chapter Five of this thesis.

4.8.3 Key informant interviews.

4.8.3.1 Sampling method.

Eligibility criteria for key informant interviews included that participants:

- were aged 18 or over;
- had been resident and working within the health or legal sectors in Timor-Leste for 12 months or longer; and
- provided informed consent.

A list of key government and non-government agencies from which to approach potential interview participants was complied prior to arrival in Timor-Leste, based on investigation of the Timor-Leste public service structure and known presence of non-government agencies. Where possible, interview times were arranged by telephone prior to arrival. Agencies were further contacted within the first two days of arrival in order to request or confirm interviews. A snowball sampling method was utilised whereby, following completion of interviews, participants were asked to provide the contact details of further relevant agencies and individuals that may not have been known to the researcher.

It was aimed to create a balance in the sample between representatives of government and non-government agencies, and between Timor-Leste nationals and others. At the time of the study, much work within the health sector in particular was conducted or supported by international agencies, meaning that many key informants were of necessity foreign workers. In order to ensure that expatriate participants were able to provide informed comment, eligibility criteria required that particpants had been resident and working in Timor-Leste for longer than 12 months.

4.8.3.2 Interview procedure.

Interviews were conducted at individuals' usual place of business at a time convenient to them. In order to ensure confidentiality and minimal distraction, interviews were held in a quiet location, away from others. Participants were provided with the study's interview information sheet and consent form (see 4.9.1). Information sheets (containing contact details for the researcher and Curtin University Ethics Committee) were retained by the participant and signed consent forms were collected by the researcher.

Interviews followed a semi-structured format. All questions on the interview schedule were asked of all participants, however, where appropriate, further detail was requested by the researcher in order to clarify responses or obtain greater detail. Provided informed consent was granted, interviews were recorded on a digital recording device in addition to the interview schedule being manually completed by the researcher.

Each interview took, on average, approximately 90 minutes to complete. A total of 19 interviews were conducted between November 4 and November 25, 2004. The approach to data analysis of interviews is discussed at 4.10.2. In particular, an approach to identifying and testing themes within data as interviews were collected is described. Results of the interviews, including demographic data for participants, are provided in Chapter Six of this thesis.

4.9 Ethical Issues and Quality Criteria in the Study

4.9.1 Informed consent.

A one-page study information sheet was created, with minor wording differences being necessary for survey and interview groups (see Appendix 3). Information sheets highlighted:

- the objectives of the study;
- the requirements of participation;
- that participation was voluntary;
- that no remuneration was offered for participation;
- contact details for the researcher and Curtin University Human Research Ethics Committee;
- that responses were confidential and de-identified; and
- that consent to participate could be withdrawn at any time.

To further ensure participation was completely voluntary, community survey information sheets reinforced that neither participation nor refusal to participate in the study would influence receipt of health care.

Signatures indicating willingness to proceed were required on a separate consent form. As with information sheets, consent forms differed slightly between survey and interview groups, with interview groups being specifically asked to confirm whether their responses could be recorded and whether their name or their organisation's name could be reported (see Appendix 4).

Participants' retained information sheets and consent forms were returned to the researcher. Survey information and consent forms were translated and piloted at the same time as the community survey and in accordance with the procedure outlined previously (4.7.1.1 and 4.8.1).

4.9.2 Confidentiality: Community survey.

To ensure confidentiality of community survey responses, each completed survey was assigned a code number, in order of completion. Names or dates of birth were not recorded on surveys. While consent forms recorded participants' names and signatures there was no identifying link between an individual's completed survey and their consent form. Surveys and consent forms were collected and stored separately.

Completed surveys and consent forms were held by the researcher immediately following collection and were subsequently transferred to locked accommodation as soon as possible thereafter. Following return to Australia, data was then stored, except during periods of data entry or checking, within a locked safe at the researcher's home. All data entered onto computer for data analysis purposes was password protected, and was never transmitted electronically.

4.9.3 Confidentiality: Key informant interviews.

Key informants were specifically approached because of the relevance of their work experience and employing organisation. Reporting of participating individuals' names or their organisations was therefore considered potentially useful in providing context, and perhaps weight, to the data. To ensure consent for this, participants were offered the choice between complete confidentiality and having their name and/or organisation reported. In addition, participants could either consent to, or decline, digital audio recording of the interview. Eight of the nineteen interview participants allowed digital recording of interviews and all allowed their organisation's name (but not their own name) to be reported.

In all cases, data was stored securely, as per procedure for the community surveys (4.9.2). Consent forms and interview schedules were stored separately and there was no identifying link between them.

Digital audio recordings taken, where permitted, were transferred from the recording device to personal computer as soon as possible and password protected. The original version on the recording device was then erased. Audio recordings were subsequently not copied or transmitted electronically.

4.9.4 Potentially identifying data.

While participants' names or dates of birth were not recorded with their responses, it is acknowledged that other data collected might be considered potentially identifying. Demographic data such as age (in years), sex, general location of primary residence, marital status, employing organisation and number of children, for example, might theoretically identify a participant.

Data security procedures outlined previously (4.9.2 and 4.9.3), as far as possible, minimised the risk of raw data identifying an individual. Data was securely stored at all times and at no time were completed surveys shown to anyone other than the researcher's supervisors. Raw data was never transmitted electronically.

The main risk to participant identidication in this study was considered to be in the reporting of data. For community surveys, potentially identifying data such as that mentioned above was reported in an aggregated form only. For interviews, participant's organisations were reported; however identifying data such as age and sex were presented separately and not linked in any way. Where individual interviewee comments were reported, these were not identifiable in any way.

4.10 Data Analysis

4.10.1 Community survey.

As many variables in the community survey were nominal (categorical) in nature, the **Chi-Square test (x^2)** was used frequently in analysis. This 'non-parametric' test

compares the observed numbers of cases within a variable category with the expected or hypothesised number of cases (Minium, King and Bear, 1993). For example, a researcher might use the Chi-Square test to compare the observed number of males and females within a sample to the known distribution of males and females in the wider population. If the test found no significant difference the researcher could be satistfied that the sample reflected the wider population on the variable of sex.

The Chi-square test was mainly employed in this study to examine whether sample sub-groups (e.g., men versus women, or younger versus older participants) differed significantly on responses to categorical survey questions. The Chi-Square test is arguably the most appropriate test for these purposes. It is an accurate test that is resilient to even substantial violation of the assumptions required of other tests including random sampling, a normal population distribution and homogeneity of variance, (Devore, & Peck, 1993; Hinkle, Wiersma, & Jurs, 1994; Minium, King and Bear, 1993).

In cases where it was useful to measure the level of association between ordinal (ranked) variables, **Kendall's tau-b ($\mathcal{T}$)** was employed. This is a non-parametric test, analogous to the Pearson product moment correlation (Howell, 2005; Sprent & Smeeton, 2007). Ordinal variables (e.g., 'strongly agree', 'somewhat agree', 'somewhat disagree', 'strongly disagree') were common in the community survey and it was deemed useful to establish the extent to which scores on one such variable related to scores on others. Kendall's tau-b makes no assumptions about the distribution of the values (e.g., normality) and was therefore thought to be a better option for this study's data than other non-parametric correlation-like analyses, such as the Spearman's rho test (Howell, 2005; Sprent & Smeeton, 2007).

The use of these nonparametric tests reflects a reasonably conservative approach to statistical analysis throughout this study. Where it was considered useful to confirm differences statistically, this was done so with the tests discussed above, thought to be most suited to the available data. In other cases descriptive data is simply presented in tables and figures. In statistical analysis, a probability of error of $p=<0.05$ was chosen for the reporting of significance.

4.10.2 Interview data.

The interview schedule was completed by the researcher during interviews, resulting in a similar range of quantitative data as was collected through the community survey. In comparison to the community survey sample size however, the interview sample (n=19) was not large enough for quantitative data from categorical or ordinal variables to be analysed statistically. Instead, quantitative interview data was presented as frequencies and percentages only.

Qualitative data, obtained through open-ended questions and discussion, was manually analysed for themes. In cases where interviews were recorded, transcripts provided a rich source of data. In other cases, the researcher's notes captured the key themes of discussion. Thematic analysis, as described by Braun and Clarke (2006), is a flexible means of identifying themes or recurring patterms in data.

As themes were observed to repeat within and between interviews, these themes took on a greater level of importance in terms of further enquiry and reporting (Charmaz, 2006; Dick, 2002). Themes identified as interview data was collected were tested in subsequent interviews to see if they generalised across individuals. Interview data is presented in Chapter 6 of this thesis.

4.11 Chapter Summary

This Chapter has presented the aims of the study and has provided a rationale for the operationalising of the research questions and methodological approaches chosen to address these aims. Research approaches have also been justified in terms of their suitability according to advice from cultural advisors. The Chapter has described a broad approach to data collection across the spectra of literature, community knowledge and opinion, and that of relevant local professionals in Timor-Leste. The design of data collection instruments and the approach to participant sampling, data analysis and potential ethical concerns have been presented in some detail. Arguably the broad research approach taken has added significantly to the pool of knowledge available to inform a public health law approach in Timor-Leste.

Chapter Five: Survey Data

5.0 Introduction

This Chapter presents the analysis of data collected from the Dili-based survey of 245 Timorese community members. Predominantly, a basic descriptive approach to data presentation has been taken in this Chapter. In terms of demographic data, where possible comparison is made to the most relevant and reliable population level data source available: the 2004 Timor-Leste Population Census (UNPF, 2006). In this way it is possible in some cases to make comment on how representative the sample was of the wider Timor-Leste population.

Data presented covers the scope of demographic data, health-related knowledge and attitudes and law-related knowledge and attitudes. In Chapter 6, survey data is then compared to interview data on consistent variables. More detailed analyses focussed on the research questions, and consolidation of survey and interview data with findings from the literature, is presented in Chapter 7.

5.1 Data Presentation

Throughout this chapter, descriptive data are presented for each variable in two main formats:

- Tables show the total frequencies of respondents within each survey variable category. In order to provide a complete picture, tables have been constructed including frequencies of non-respondents (i.e., 'missing data').
- Figures show the percentage of respondents within each variable category. To ensure that these graphical displays are visually as meaningful as possible, data presented relates to the total responding sample (i.e., with missing data removed).

It was not considered necessary or valuable to present in tables or figures survey variables for which there was limited or no variability in responses. Such variables are discussed in the text only.

5.2 Demographic Data

5.2.1 Age.

Of the 245 survey respondents, a total of 243 provided their age. Table 11 below presents the main age-related descriptive statistics for this group.

Table 11. *Respondents' age*

n	Range	Median	Mean	Standard deviation	Standard error
243	18.0 – 54.0	22.0	23.4	5.9	0.4

In addition, *Figure 3* graphically highlights the distribution of respondents according to age.

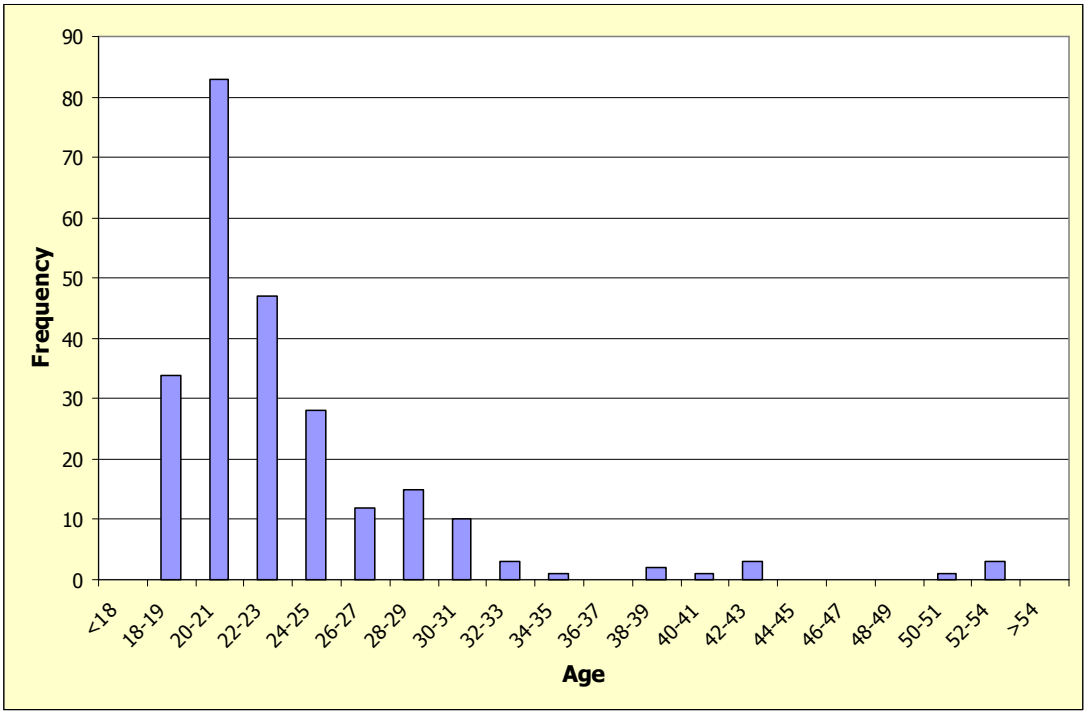

Figure 3. Age distribution.

Comparison of the sample's mean or median to the corresponding population statistics from the 2004 Timor-Leste census was not possible as census data begins at age 0 and survey participants were aged 18 and over. It is, however, possible to utilise age groupings to compare the sample to the wider Dili population aged 18 and

over. Data presented in Table 12 compares the proportion of survey respondents within each age group to the proportion of Dili residents aged 18 and over within those age groups. That is, to ensure comparability, population percentages are calculated by dividing the number of people in the age group by the number of people *aged 18 and over*.

Table 12. *Distribution of sample and Dili population aged 18 and over by age group*

Age Group	Sample Data		Population Data [7]	
	Frequency	%	Frequency	%
18-24	183	75.3	32,657	34.6
25-34	50	20.6	28,952	30.7
35-44	6	2.5	16,384	17.3
45-54	4	1.6	8,996	9.5
55-64	0	0.0	4,228	4.5
65-74	0	0.0	2,161	2.3
75+	0	0.0	1,049	1.1
Total	243	100.0	94,427	100.0

It is apparent from *Figure 3* and Table 12 that the sample is positively skewed in age. That is, it is biased towards the younger ages. It can be observed, however (see Table 12), that while the surveyed sample is notably young, so too is the population from which this sample is drawn, albeit to a lesser extent. This is arguably due to the low life expectancy in Timor-Leste (61 for males and 66 for females) (WHO, 2006a).

The most notable difference between sample and population (see Table 12) is the larger proportion of sample members aged 18 to 24. A Chi-Square test found this difference to be significant (χ^2=174.048, df=1, p=0.000). Indeed, further statistical

[7] Data was sourced from 2004 Timor Leste Census Table 3.2.1.2 ('Dili: Population in private households by sex according to single ages'). This table presents data for private households and not institutions; however it is the only available table that allows calculation of the number of residents within the age group 18 to 24. The number of people excluded through use of this table because they resided in institutions was deemed to be acceptable (2,189 spread across all ages, 0 to 75+). This was also considered appropriate as the present study did not source participants from institutions.

differences between sample and population were found for each age group[8]. The simple analyses conducted confirm a limited ability of this study to generalise overall sample findings to the wider (18+) population. The sample characteristics do not, of course, limit the discussion of later findings within age groups, which can be examined separately.

5.2.2 Sex.

Of the 245 survey participants, 151 (61.6%) were male and 94 (38.4%) were female. Table 13 compares the sample's sex distribution to that of the wider population of Dili.

Table 13. *Distribution of sample and Dili population aged 18 and over by sex*

Sex	Sample Data		Population Data [9]	
	Frequency	%	Frequency	%
Male	151	61.6	51,588	54.6
Female	94	38.4	42,839	45.4
Total	245	100.0	94,427	100.0

A Chi-square analysis was performed in order to compare the observed sex distribution of the sample to that recorded for Dili residents aged 18 and over in the 2004 Timor-Leste census. The percentage of males within the survey group was found to be significantly greater than that expected based on census data ($_X^2$=4.888, df =1, p=0.027).

5.2.3 Country of birth.

All respondents indicated their country of birth, with only three (1.2%) having been born outside of Timor-Leste. These three participants had been born in Indonesia.

[8] Age 25 to 34: $_X^2$=12.198, df=1, p=0.000; Age 35 to 44: $_X^2$=37.768, df=1, p=0.000; Age 45 to 54: $_X^2$= 17.638, df=1, p=0.000. Nb. it was not possible to conduct analyses for age groups in which there were 0 survey respondents.

[9] Data was sourced from 2004 Timor-Leste census table 3.2.1.2 ('Dili: Population in private households by sex according to single ages').

All respondents, however, were Timorese nationals who had lived in Timor-Leste for ten years or longer, as this was a requirement of participation in this study.

Although these data do confirm the sample's homogeneity in this area, the lack of variability within country of birth data does limit its use in any further analysis, for example, as a proxy measure of cultural background. In this regard, dominant language spoken in the home (see 5.2.8) was also included as a potential indicator of cultural differences within the sample.

5.2.4 Marital status.

Marital status is widely used as a standard demographic variable in social research as married persons are often found to have different attitudes, better social support and better health outcomes than single or divorced persons (e.g., Evans and Kelly, 2004; Penman, 2005).

Table 14 highlights marital status data from the 241 respondents to this question. It can be observed that over three-quarters of the sample (192 or 78.4%) were single and less than one-fifth (44 or 18%) were married.

Table 14. *Marital status*

Marital Status	Frequency	%
Single	192	78.4
Married	44	18.0
Widowed	3	1.2
De-facto	1	0.4
Divorced / Separated	1	0.4
Missing	4	1.6
Total	245	100.0

The presence of a large number of single respondents is likely to be due to the younger age of the sample (see 5.2.1) and a lower likelihood of marriage amongst younger participants. *Figure 4* highlights the percentage of married respondents by age group and shows an increase in marriage with age.

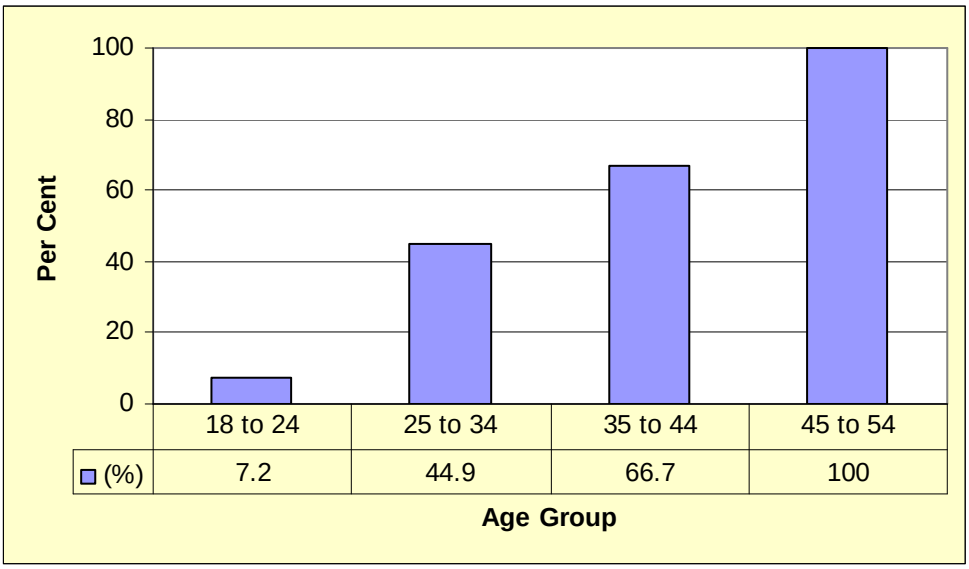

Figure 4. Percentage of married respondents by age group.

5.2.5 Number of children.

As with marital status (5.2.4), persons with children arguably have a very different life experience to those without children. A major impact of the presence of children can often be additional financial strain, while more positive outcomes may include a strengthened sense of social and personal responsibility (Evans & Kelly, 2004).

Of the 176 participants who responded to this question, most (139 or 79%) did not have children. *Figure 5* presents these data.

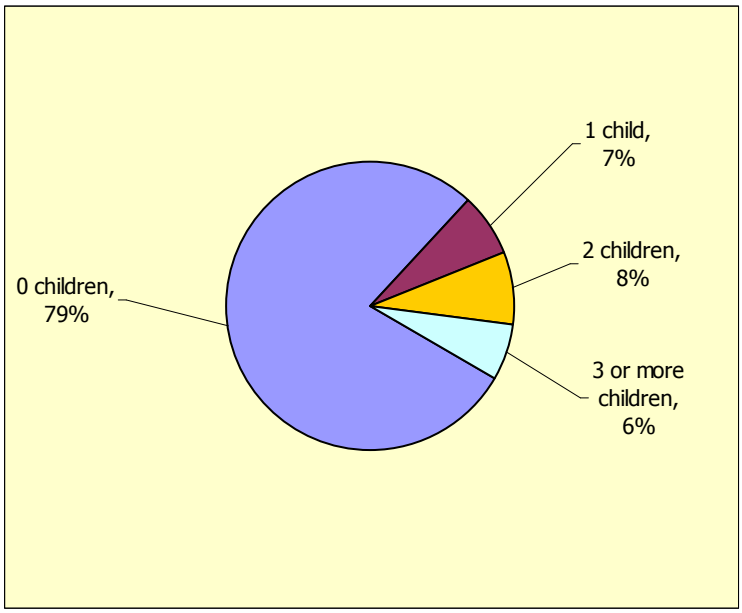

Figure 5. Number of children per respondent (%).

The presence of a large proportion of respondents without children may be explained by the skewness towards younger ages within the sample. Indeed, it has been shown (see 5.2.4) that few respondents within the younger age groups were married and, as Timor-Leste is a predominantly Roman Catholic nation, observation of a large number of children within this group would not be expected (Pedersen & Arneberg, 1999).

5.2.6 Place of residence.

Place of residence was recorded on the community survey in order to determine the extent to which members of the sample, being surveyed in Dili, were residents of Dili or in fact visitors. Inclusion of this variable was based on the assumption that those who lived in the capital may have a different life experience to those in more remote or rural areas. For example, residents in Dili may have greater access and exposure to government and popular media, and a different social perspective due to the presence of a greater number and wider variety of co-residents.

In all cases, respondents lived in or around Dili. While this lack of variability limits the use of this variable in any further analysis, it confirms that the sample was homogenous in terms of being resident in the capital.

5.2.7 Number of residents per household.

The number of people living in a respondent's household is a commonly employed demographic variable in social research. It has been suggested that a larger number of people per household may be associated with an increased perception of social or family support, but may also be linked to increased poverty, stress and disease-risk through over-crowding (e.g., Booth & Carroll, 2005; Gove, Hughes & Galle, 1983).

It can be observed in *Figure 6* that most of the 165 respondents to this question resided in households shared by four or more people, with close to one-quarter (24.8%) living in households with 10 or more people. To provide some context for these data, poverty is widespread throughout the nation and would arguably necessitate that families share premises in many circumstances. The national birth rate is also very high in Timor-Leste meaning that families can be large (see 2.2.1).

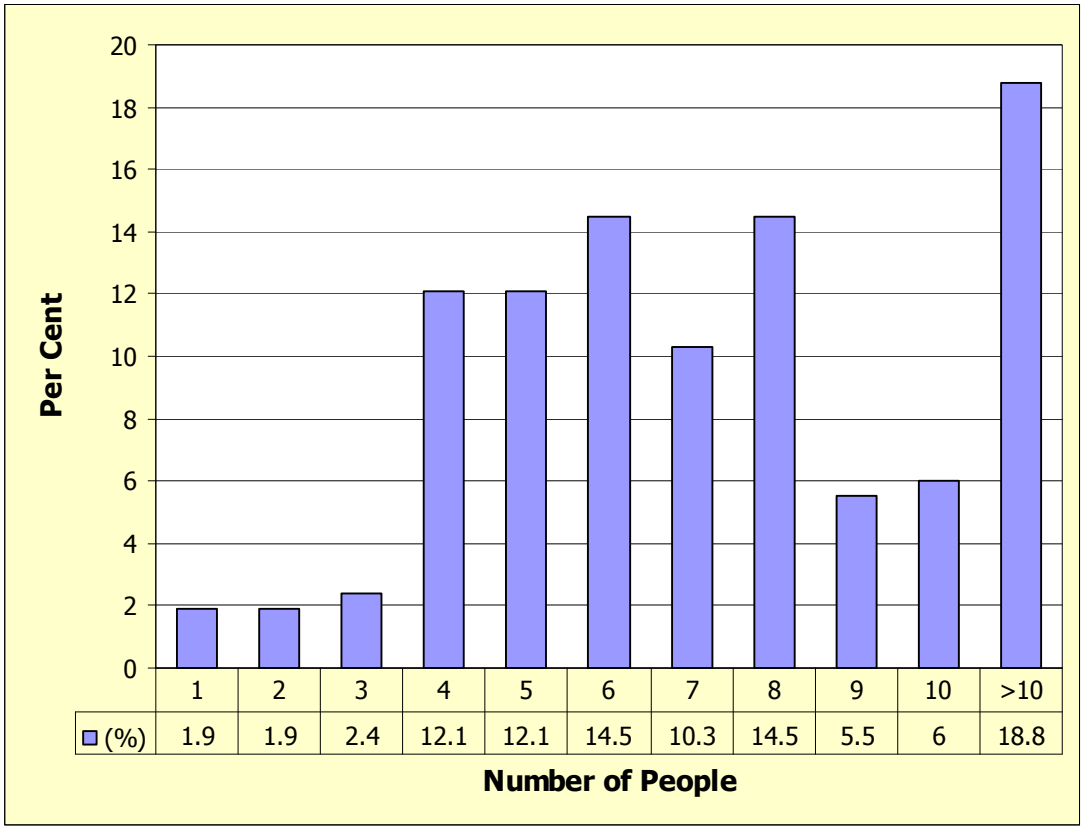

Figure 6. Residents per household (%).

5.2.8 Dominant language spoken in respondents' households.

As discussed at 2.1.2, a wide range of languages is spoken within Timor-Leste. While survey participants were screened for their ability to read a common form of Tetun, it was considered of interest to obtain a wider picture of respondents' use of or exposure to other languages as a proxy indicator of socio-cultural differences within the sample.

Table 15 highlights the main languages spoken in respondents' households. It can be seen that the sample was dominated (96%) by respondents whose main daily language within the home environment was Tetun.

Table 15. *Dominant language spoken in respondents' households*

Langauge	Frequency
Tetun	235
Makasae	4
Bunak	2
Bahasa	1
Missing	3
Total	245

The lack of data variation within this variable does limit its further use in analysis. It remains nonetheless useful, however, to confirm a linguistically homogenous sample.

5.2.9 Education.

Respondents were asked to indicate whether or not they had attended school. All 245 respondents indicated that they had attended school and were further asked to indicate the level of education they had attained. Table 16 highlights that most respondents (203 or 82.9%) had completed some tertiary education. This reflects the 'convenience' and 'snowball' sampling methods used (see 4.8.2.1), whereby the researcher utilised pre-arranged contacts to engage participants. It eventuated that many surveys were administered in or around centres of education.

Table 16. *Respondents' highest level of education*

Level of Education	Frequency	%
Completed primary school	2	0.8
Completed some secondary school	6	2.4
Completed secondary school	12	4.9
Completed some tertiary education	203	82.9
Completed tertiary level course	21	8.6
Missing Data	1	0.4
TOTAL	245	100.0

While the sample is skewed towards members of the public with 'some' (i.e., incomplete) higher education, this should be interpreted with some caution. It would not be accurate to view higher education in Timor-Leste as comparable in quality to that in other nations. Timor-Leste has a 'developing' and significantly under-resourced education system (Democratic Republic of Timor-Leste and The United Nations, 2009).

5.2.10 Employment and income.

Respondents were asked to indicate their employment status according to the categories of 'employed for wages', self-employed', 'home duties', 'student', 'retired', or 'not currently working'. It can be seen in Table 17 that a large proportion of respondents selected 'student' as the category that best described them. While it has been highlighted previously (see 5.2.9) that 203 respondents had completed some tertiary education, the data in Table 17 clarifies that 194 of these were *current* students.

Table 17. *Respondents' employment status*

Category	Frequency	%
Student	194	79.2
Employed for wages	44	18.0
Self-employed	3	1.2
Home duties	2	0.8
Retired	2	0.8
Not currently working	0	0.0
TOTAL	245	100.0

A total of 228 respondents did not indicate their weekly income. Potentially, most non-responding participants were students for whom the question did not necessarily apply. Of the 17 participants who did provide their weekly income, a wide range was reported, from 10 cents to 200 dollars per week (United States currency). The small number of respondents, combined with such wide variability, limited any further analysis involving income data.

5.2.11 Use of transport.

As road safety regulation was one key area of investigation in the present study, it was deemed important to be able to qualify the extent to which respondents had daily experience with certain types of transport. That is, it was considered possible that participants who regularly travelled by motorcycle, for example, might have different attitudes towards the use of helmets than those who did not use motorcycles.

Respondents were asked to indicate which forms of transport they used for more than 30 minutes per week. The survey allowed more than one mode of transport to be selected and 279 responses were recorded. *Figure 7* shows that the most common mode of transport was motorcar, followed by walking.

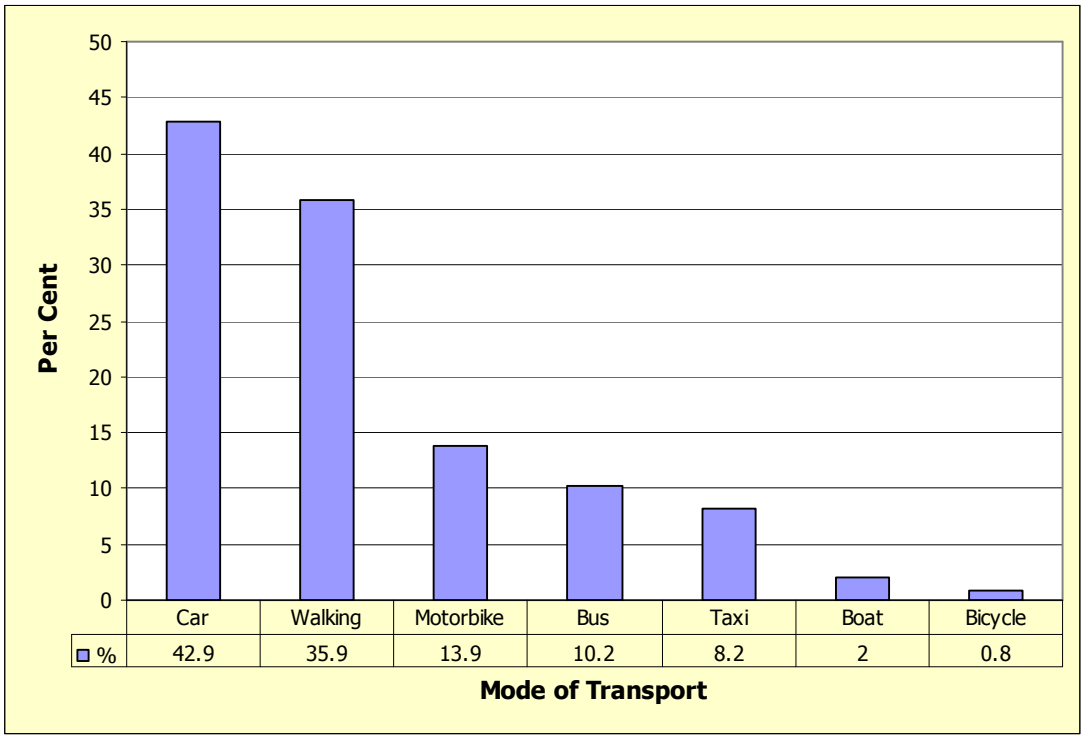

Figure 7. Regularly-used modes of transport (%).

5.3 Self-Reported Health Indicators

5.3.1 Self-rated health.

Self-rated health has been shown to be a powerful indicator of actual health. Studies have shown that people self-reporting poorer health have a significantly increased risk of mortality at follow-up (Frankenberg & Jones, 2004). Self-reported has been shown to be low in Timor-Leste (Earnest & Finger, 2009). It was considered useful to include this variable to investigate whether health influenced opinions on the health law topics examined in this study.

Figure 8 highlights that one third of the 244 respondents to this question (n=82 or 33.6%) rated their health as 'good' to 'very good' on the day of the survey. While few respondents reported 'bad' or 'very bad' health (n=23 or 9.4%), the largest number (139 or 57%) reported 'average' health. It is important to consider in interpretation, however, that 'average' health in Timor-Leste may actually represent a poorer level of health than 'average' health in a more developed nation.

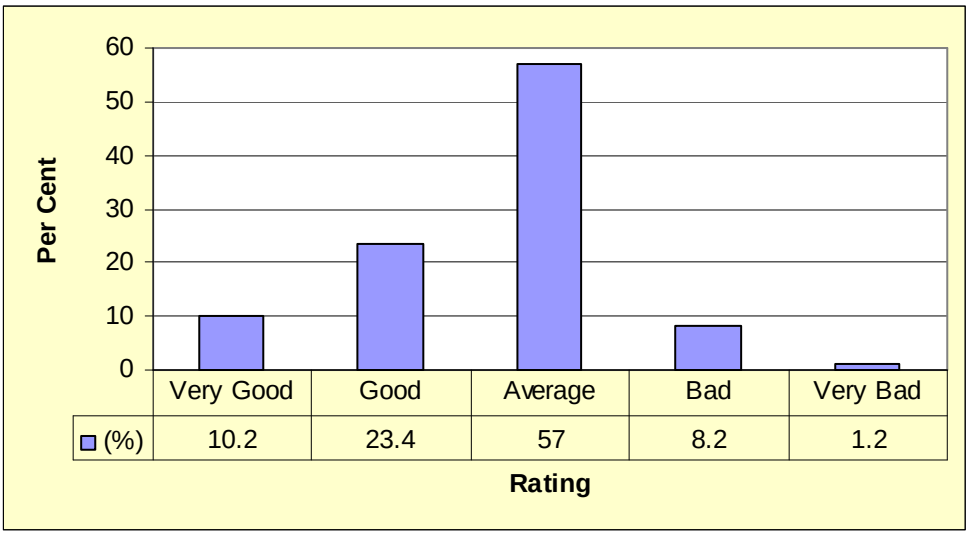

Figure 8. Self-rated health 'today' (%).

5.3.2 Effect of health on daily activities over the past week.

The effect of health on a person's ability to conduct their usual daily activities is generally seen as a good measure of health-related quality of life (Ware & Serbourne, 1992). It was considered useful to include such a measure in this study in order to investigate whether those whose daily life was affected by poor health held different opinions on the health law topics examined.

A total of 230 respondents indicated the extent to which their level of health had affected their ability to conduct daily activities during the past week. *Figure 9* shows that 41.3 per cent of respondents (n=95) indicated that their health had either 'somewhat' or 'severely' affected their daily activities over this time. By contrast 37.8% of respondents' activities were not affected or were only minimally affected by their health.

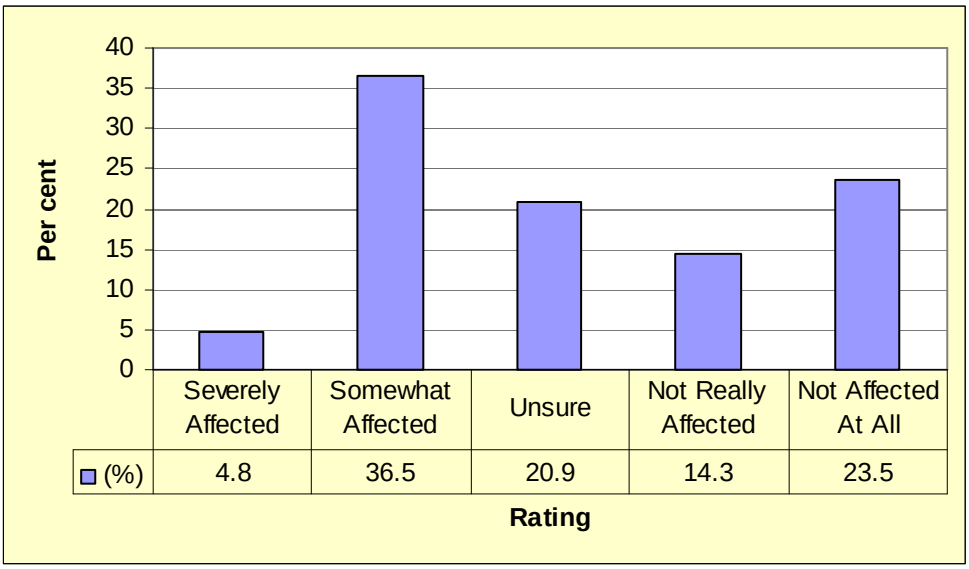

Figure 9. Effect of health on daily activities over the past week (%).

5.3.3 Tobacco-use.

Data on rates of smoking among those surveyed was thought to be potentially important in explaining attitudes towards tobacco regulation. A total of 208 respondents chose to indicate whether or not they had ever used tobacco. Approximately half of this group (106 or 51%) indicated previous tobacco-use. Of the 234 respondents to a follow-up question, approximately one third (81 or 34.6%) reported *current* tobacco use. Of current smokers, 79 (97.5%) were male and 2 (2.5%) were female.

Figure 10 presents the percentage of current smokers within each age group, highlighting that tobacco-use was relatively evenly spread, with between 25.0 and 34.4% of each age group currently smoking. It should be remembered, however, that fewer people within the older two age groups were sampled.

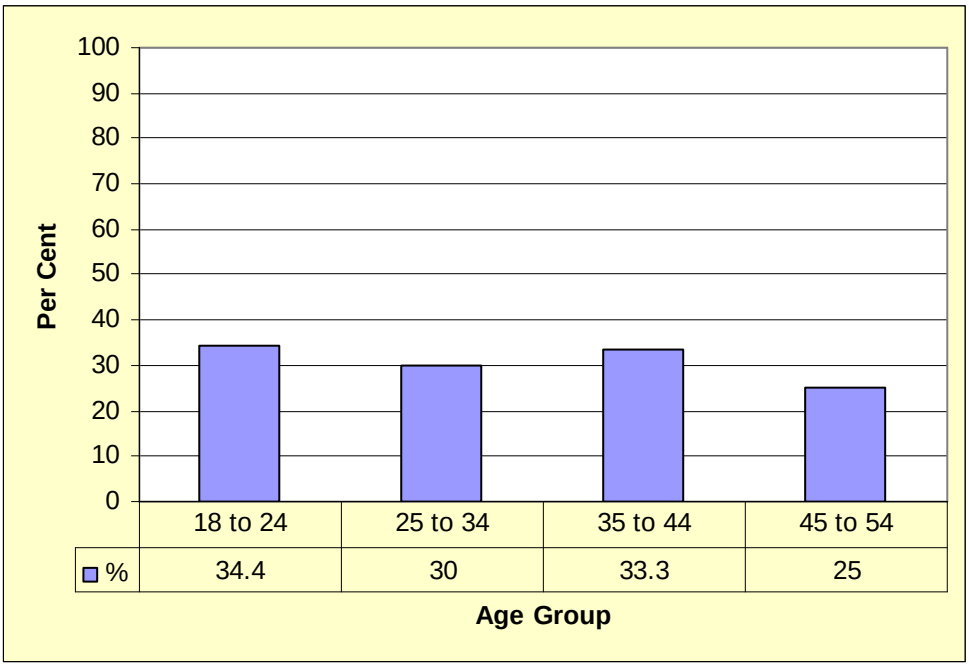

Figure 10. Current tobacco-use by age group (%).

Of the 81 respondents who currently smoked, 79 indicated how many cigarettes per day they usually smoked. The majority of this group (74.7%) smoked between one and five cigarettes per day (see *Figure 11*).

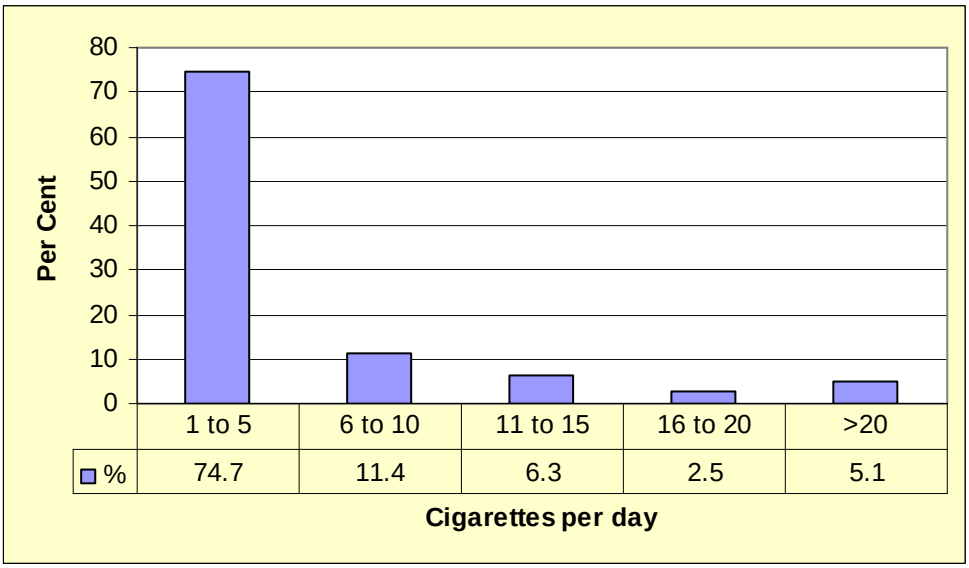

Figure 11. Percentage of respondents by number of cigarettes per day.

5.3.4 Alcohol-use.

As with tobacco-use and attitudes towards tobacco regulation, use of alcohol was considered to be potentially influential in attitudes towards alcohol regulation. A total of 112 respondents chose to indicate whether or not they had ever used alcohol. Most of this group (102 or 91.1%) indicated historic alcohol-use. The same number of respondents reported *current* alcohol-use on a follow-up question.

Of the 102 respondents who reported being current regular drinkers, 94 (92.2%) were male and 8 (7.8%) were female. *Figure 12* presents the percentage of current drinkers within each age group, highlighting that alcohol-use was more common amongst the older age groups, athough it should be remembered that fewer people of the older age groups were sampled.

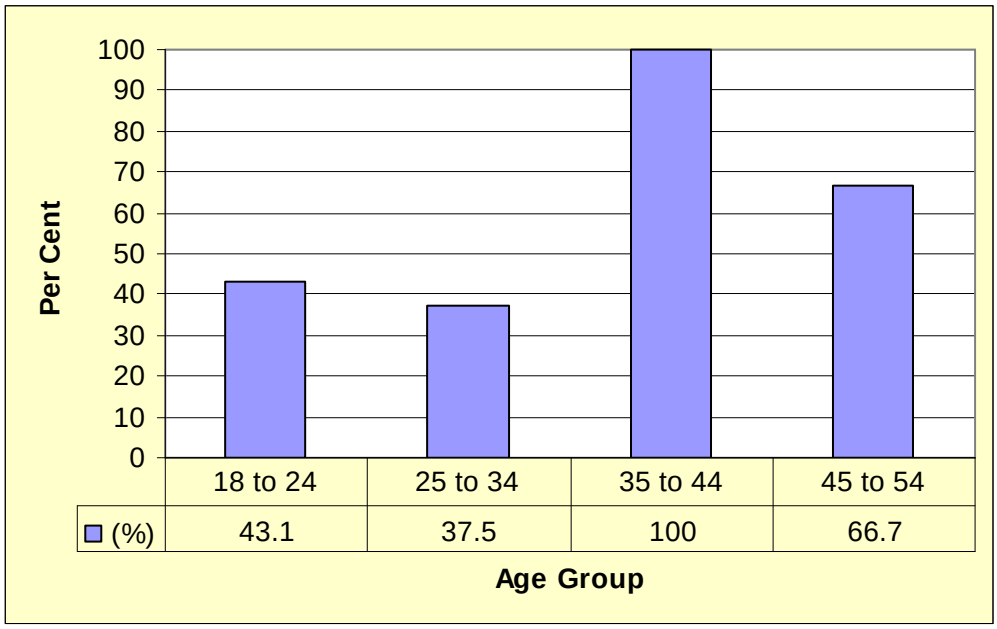

Figure 12. Percentage of current drinkers within each age group.

Respondents who identified as current drinkers (n=102) were also asked how regularly they consumed alcohol. Around two thirds of this group (65.7%) reported drinking alcohol only 'occasionally', that is, less than weekly (see *Figure 13*).

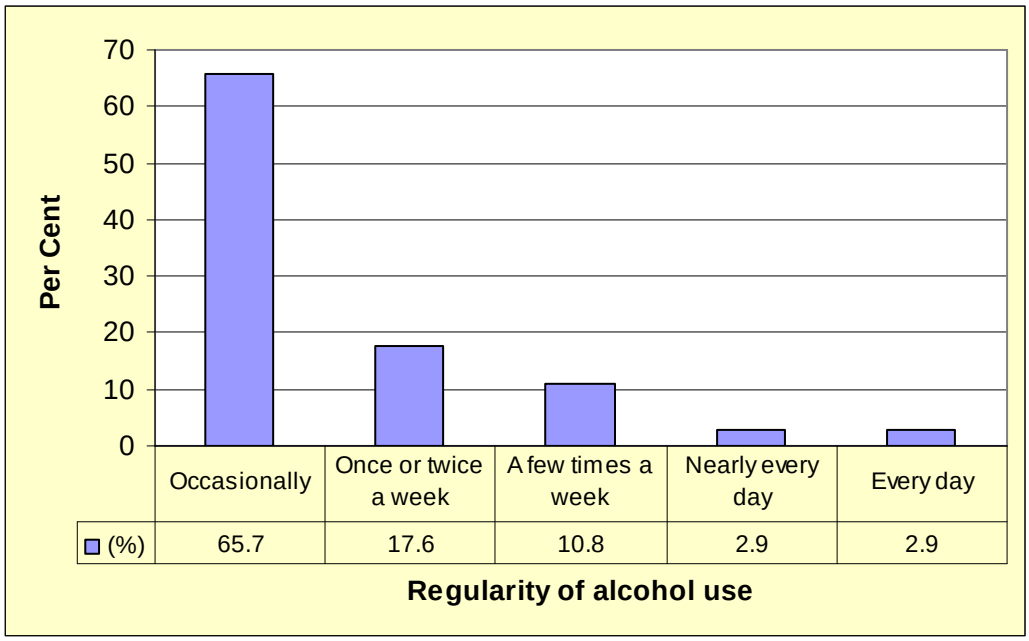

Figure 13. Regularity of alcohol-use (%).

A total of 95 current drinkers reported their usual number of alcoholic drinks per occasion of drinking. *Figure 14* highlights that a large proportion of this group (60%) drank at a reasonably low rate of one drink per occasion. While the concept of a 'standard drink' was not widely known or promoted in Timor-Leste, the survey attempted to standardise responses by providing some examples of what one drink would represent (see Appendix 1).

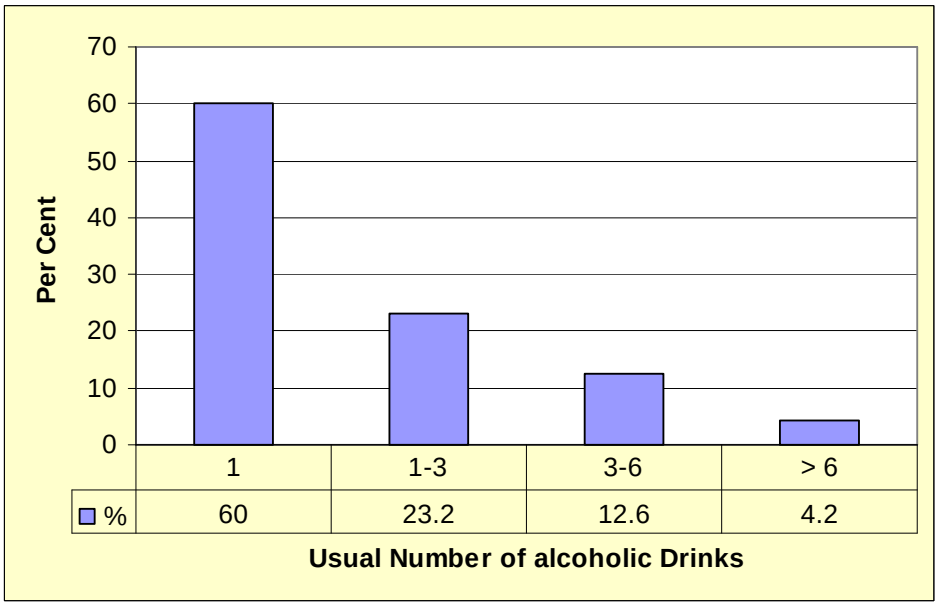

Figure 14. Usual number of alcoholic drinks per occasion of drinking (%).

5.4 Health-Related Knowledge and Attitudes

5.4.1 Perceptions of population health in Timor-Leste.

Respondents were asked to provide their perceptions of the overall level of population health in Timor-Leste, in the event that these ratings were important in explaining attitudes to health law examined later. That is, it was imagined that those who perceived population health as satisfactory might have different attitudes to those who thought it was poor. A total of 243 participants responded. *Figure 15* shows that while a large proportion of respondents were unsure, more felt that population level health was 'good' (34.1%) than thought it was 'poor' (22.3%).

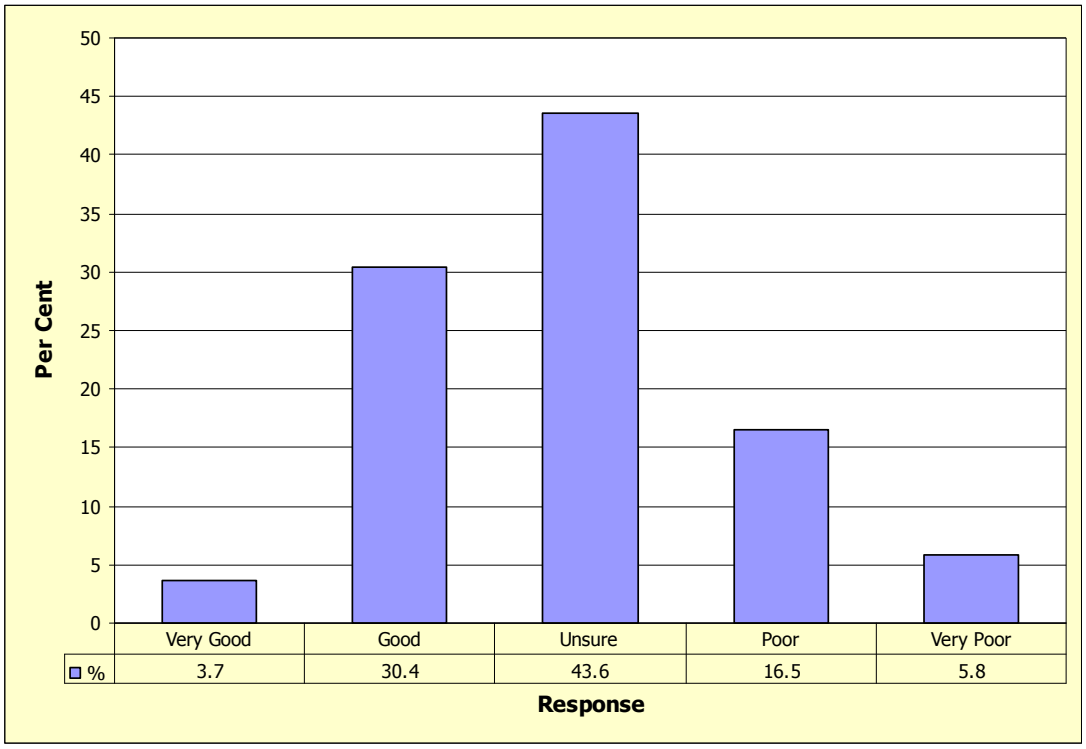

Figure 15. Rating of overall population health in Timor-Leste (%).

5.4.2 Relative importance of population health.

Health is just one of the national priorities in Timor-Leste, existing alongside many other important 'nation building' tasks, such as development of the education system and economy, lowering unemployment and reducing crime (see 2.1.6 & 2.1.7). For this reason, respondents were asked to rate the relative importance of population

health among these competing priorities. Importance placed on population health was considered a potentially important factor influencing support for health law.

Figure 16 highlights that there was majority agreement within the survey sample that a healthy population was more important than a good education system and a strong economy. Less than half of respondents, however, agreed that population health was more important than reducing unemployment and crime.

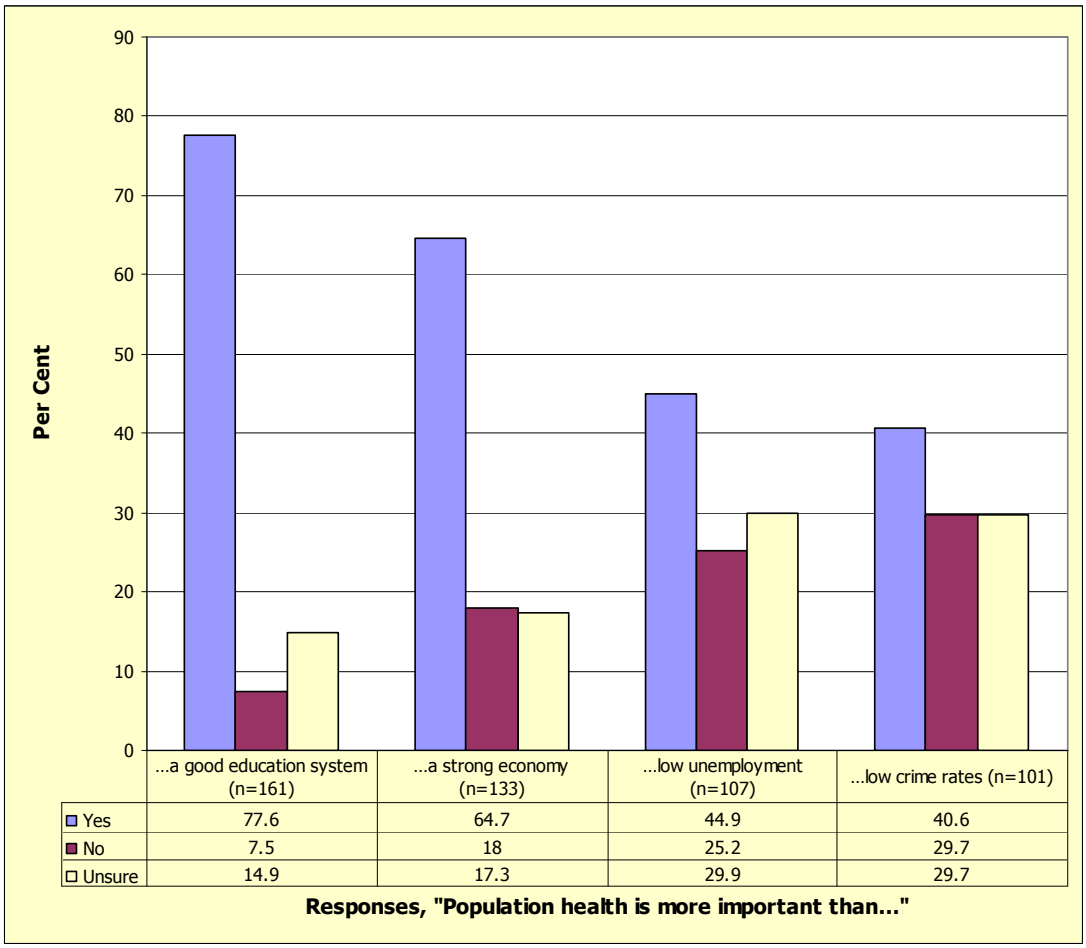

Figure 16. Perceived relative importance of population health (%).

5.4.3 Satisfaction with local health services.

A total of 241 respondents reported their level of satisfaction with local health services. This variable was included to examine whether satisfaction with health services might be related to attitudes towards health law and prevention in general.

That is, it was considered possible that those who were dissatisfied with local services might have a more positive view towards these other approaches, and vice versa.

Figure 17 shows that 58.1% (n=140) were either 'somewhat' or 'very' satisfied, while almost one third (75 or 31.1%) were either 'somewhat' or 'very' dissatisfied with local health services.

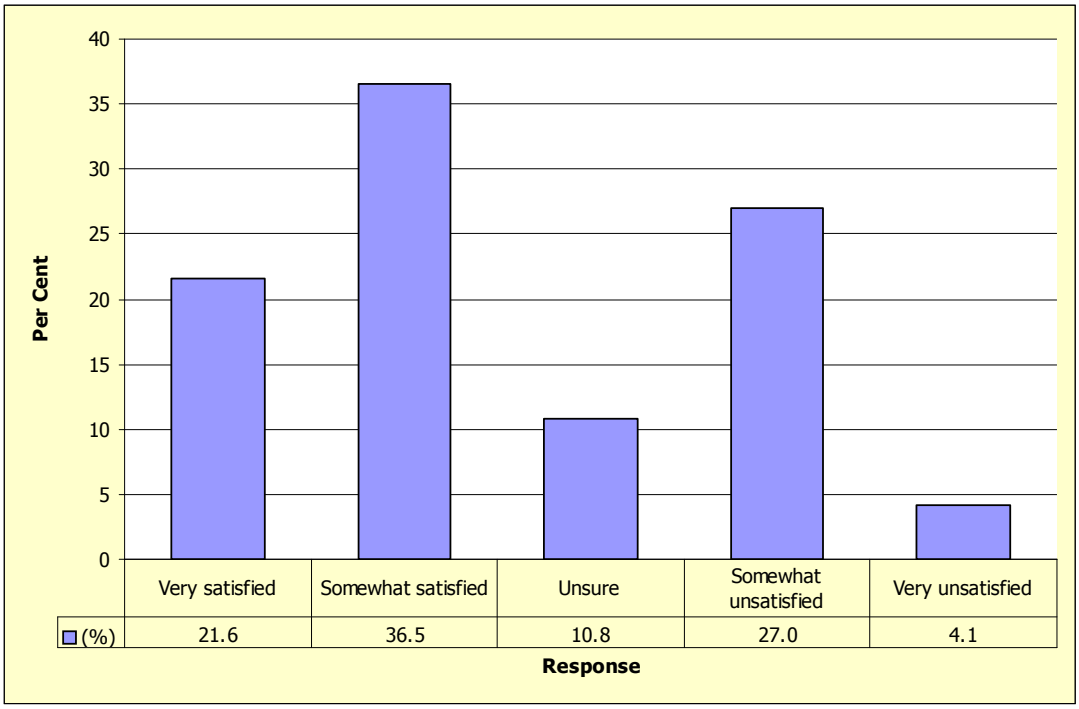

Figure 17. Satisfaction with local health services (%).

5.4.4 'Prevention versus cure'.

As a method of investigating attitudes towards prevention (in order to determine if these were associated with attitudes towards health law) respondents were asked whether they agreed that prevention of illness was 'better than cure'. While this might be considered a 'Western' expression, cultural advisors nonetheless considered that it was logical and clear enough to be a useful indication of attitudes to prevention in the Timorese context. A total of 243 respondents indicated their level of agreement with this proposition, with a clear majority (n=171 or 70.4%) being in strong agreement (see *Figure 18*).

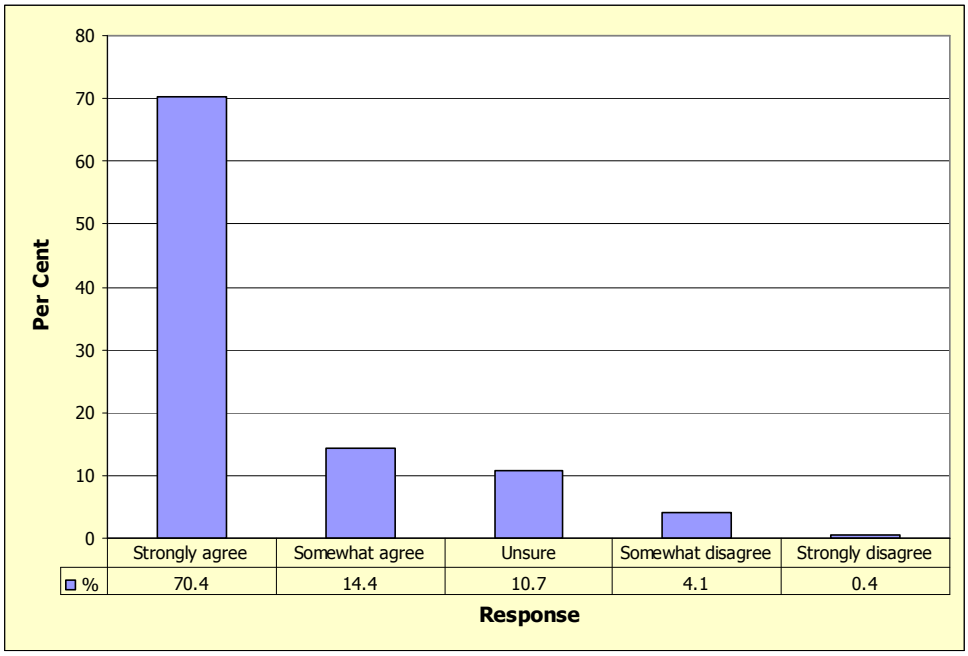

Figure 18. Agreement that 'prevention is better than cure' (%).

5.4.5 Level of concern for health issues.

It was thought that a participant's level of concern regarding a health issue (i.e., its perceived importance) might be a significant factor influencing attitudes towards legal means to address that health issue. Table 18 presents the respondents' levels of concern over a number of health issues.

Table 18. *Level of concern for selected health issues*

Health Issue	Level of Concern				
	Very Concerned	Moderately Concerned	A little concerned	Not concerned	Did Not Respond
Road Safety *	42	23	141	29	10
HIV	48	24	139	28	6
Malaria	112	21	98	8	6
Young people and alcohol *	103	32	89	15	6
Alcohol abuse in the wider community	55	42	86	54	8
Abuse of other drugs	31	57	66	85	6
Young people and tobacco *	133	23	70	12	7
Tobacco-use in the wider community	117	31	76	15	6
Food safety *	36	68	92	43	6
Safety of the drinking water *	81	41	97	20	6
Environmental pollution *	46	46	107	42	4

(*) Health law focussed on these topics is the focus of this study – the remaining topics are included as comparisons.

Figure 19 combines responses indicating a greater level of concern ('very' and 'moderately' concerned) in order to allow a ranking of the issues in perceived importance. It can be seen that issues eliciting the greatest amount of concern were tobacco-use (among young people and the wider community), alcohol-use among young people, malaria, and safety of the drinking water.

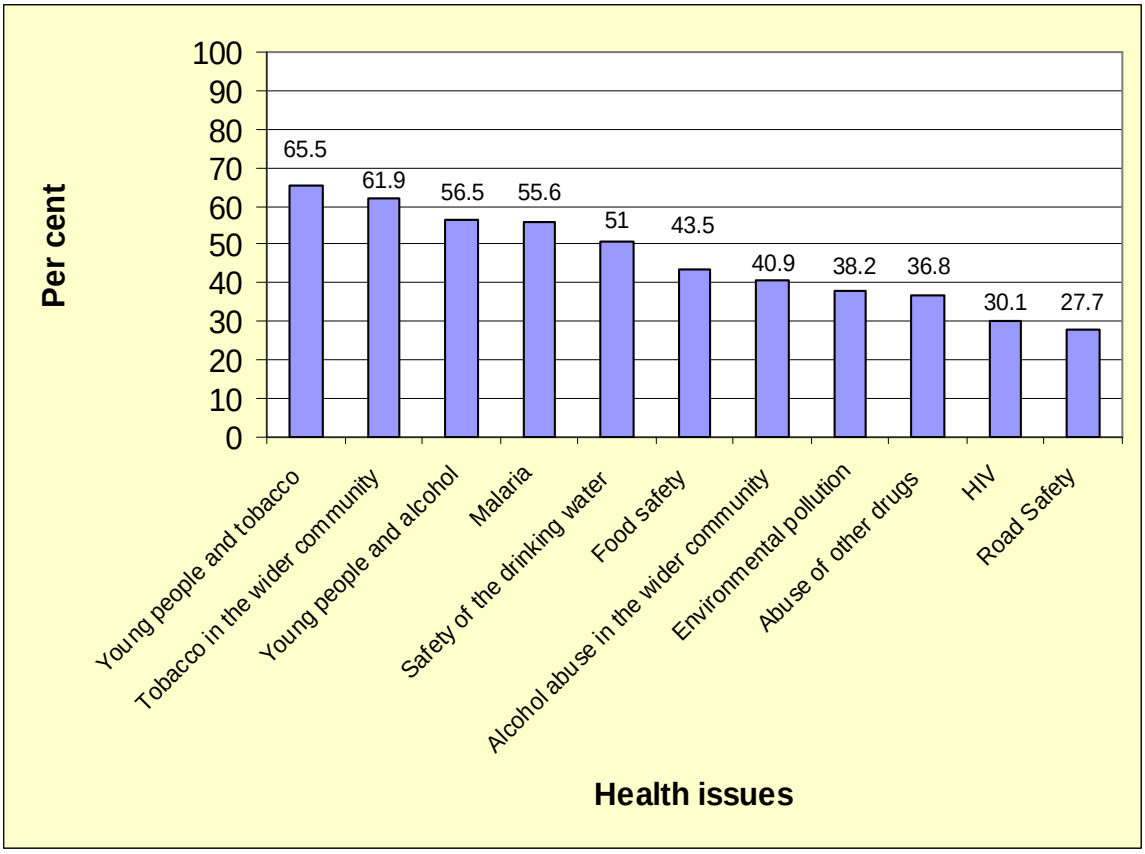

Figure 19. Level of concern for selected health issues (%).

5.4.6 Knowledge of health risks.

Knowledge of health risks is clearly an important precursor to health-related behaviour (Fischhoff, 2009). Knowledge of health risks was considered likely to be associated with levels of concern for particular health issues and perhaps attitudes towards health law to address those issues. For example, a person who viewed tobacco-use as harmless might be less likely to concerned with young people smoking, and less likely to agree with the need for tobacco control legislation.

Respondents were asked in a series of questions whether they could identify any:

- negative health effects associated with tobacco-use
- negative health effects associated with alcohol-use
- factors leading to injury in road accidents
- factors leading to illness from food consumption
- factors leading to illness from water consumption

Questions were open-ended and responses were unprompted in order to best capture actual knowledge and not 'lucky guesses' from a range of potential responses. Responses were coded according to whether they were correct, incorrect, or irrelevant. Examples of 'irrelevant responses' included those that may have been related to the question but not a health risk per se, such as 'bad breath' being an effect of alcohol-use. Participants were coded as providing a correct response if they made at least one response[10] reflected in the coding criteria provided in **Table 19**. Coding criteria were drawn from a range of literature (e.g., WHO, 2004b, 2007a, 2007b, 2008f, 2009f, 2009e).

[10] It was not necessary to devise a coding procedure for cases in which respondents gave both a correct and an incorrect or irrelevant response. No respondents provided more than 1 response.

Table 19. *Criteria for coding of correct knowledge of health risks*

Effects of Tobacco-use	Effects of Alcohol-use	Road Safety risks	Food consumption risks	Water consumption risks
• Relevant cancers (mouth, lung, throat). • Lung disease or its effects (e.g., coughing, shortness of breath). • Cardiovascular disease (heart disease / attack, stroke, poor cicultation / gangrene). • Greater risk of infection. • Poorer tuberculosis outcomes. • Impotence.	• Liver disease. • Depression or brain injury, including long term-memory loss or change in personality. • Injury from violence or accident, including suicide. • Relevant cancers (mouth, throat, colorectal). • Cardiovascular disease (including hypertension, stroke). • Temporary memory loss or 'black-outs'. • Obesity or diabetes.	• Speeding or other unsafe (e.g., aggressive) driving. • Not wearing a seatbelt or helmet. • Driving when affected by drugs including alcohol. • Inattentive or distracted driving or pedestrian behaviour. • Lack of traffic control measures (e.g., signage, traffic lights, pedestrian crossings). • Use of unsafe / unroadworthy vehicles. • Unsafe or poorly maintained roads, or roads shared with pedestrians and animals.	• Eating uncooked or unfresh meat or meat products. • Not washing hands or food before cooking or consumption, or using polluted water. • Not washing hands (or plates, utesils) before preparing or eating food. • Not storing prepared food appropriately (i.e., open to bacterial/other infection). • Consuming packaged food past its expiry date. • Exposure to poisons or other non-bacterial contamination (e.g., heavy metals). • Over-eating (i.e., leading to obesity).	• Not boiling untreated or unfresh water before use. • Not storing boiled water appropriately (i.e., open to bacterial/other infection). • Drinking from unclean vessels. • Water exposed to non-bacterial contamination such as poisons, heavy metals. • Poor sanitation around water sources.

It can be seen in Table 20 that knowledge of health risks associated with tobacco-use, food consumption and water consumption was notably higher than for road safety and alcohol-use. *Figure 20* further highlights the data in terms of the percentage of respondents who were correct in reporting health risks.

Table 20. *Knowledge of health risks*

Health area	Correct response	Incorrect,' unsure' or irrelevant response	Missing
Water consumption	202	39	4
Food consumption	184	56	5
Tobacco-use	165	64	16
Alcohol-use	94	135	16
Road safety	88	120	37

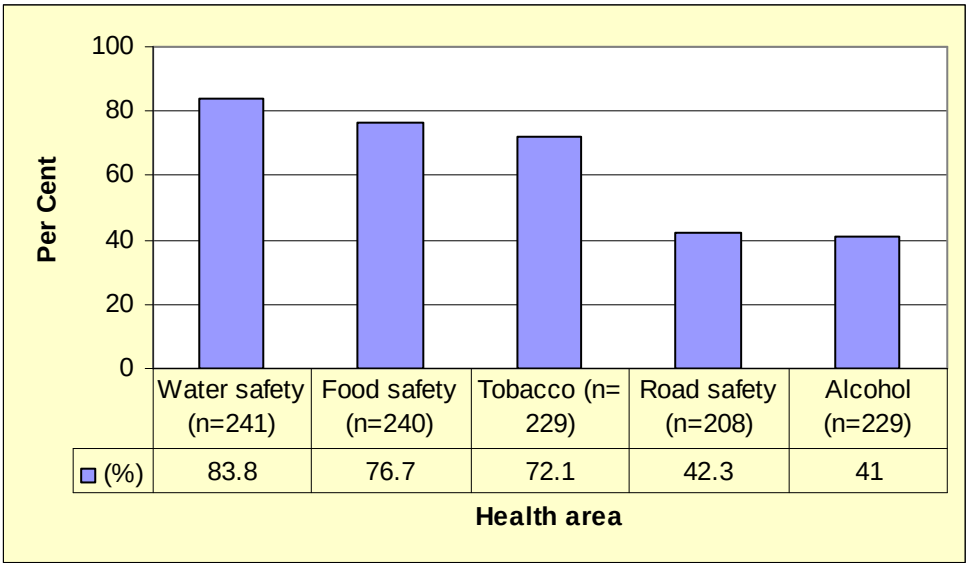

Figure 20. Percentage of respondents who could correctly identify health risks.

5.5 Law-Related Knowledge and Attitudes

5.5.1 Confidence in the legal system.

Respondents were asked how confident they were in the legal system, that is, in its ability to function well and ensure justice. Perceptions of how well the legal system operated were considered to be potentially associated with attitudes towards the use

of health law. *Figure 21* highlights that of 240 respondents to the question, 144 or 60% reported some level of confidence in the legal system.

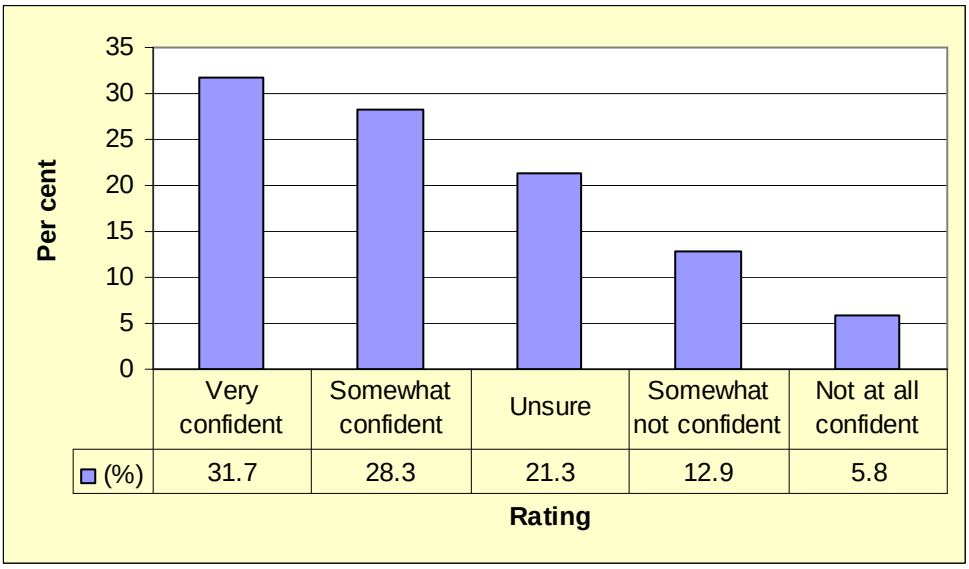

Figure 21. Confidence in the legal system (%).

5.5.2 Legal cynicism.

It was thought that attitudes towards law in general might be related to support for health law in particular. To ascertain the extent to which adherence to law was valued (or whether law was seen as more 'elastic' and non-binding), the survey asked respondents to indicate the extent to which they agreed with the proposition that 'laws were meant to be broken'. Such an approach has been used in previous research looking at 'legal cynicism', including within multicultural groups (Sampson & Bartusch, 1998). Cultural advisors were keen to avoid the risk of suggesting 'lawlessness' among the population and agreed that this would be a suitable, non-confrontational method of eliciting attitudes towards law.

A total of 236 respondents answered this question. *Figure 22* shows that agreement and disagreement with the statement was reasonably balanced, with slightly more respondents reporting their disagreement. Those that disagreed, however, were more likely to rate their view as strongly held than those who agreed.

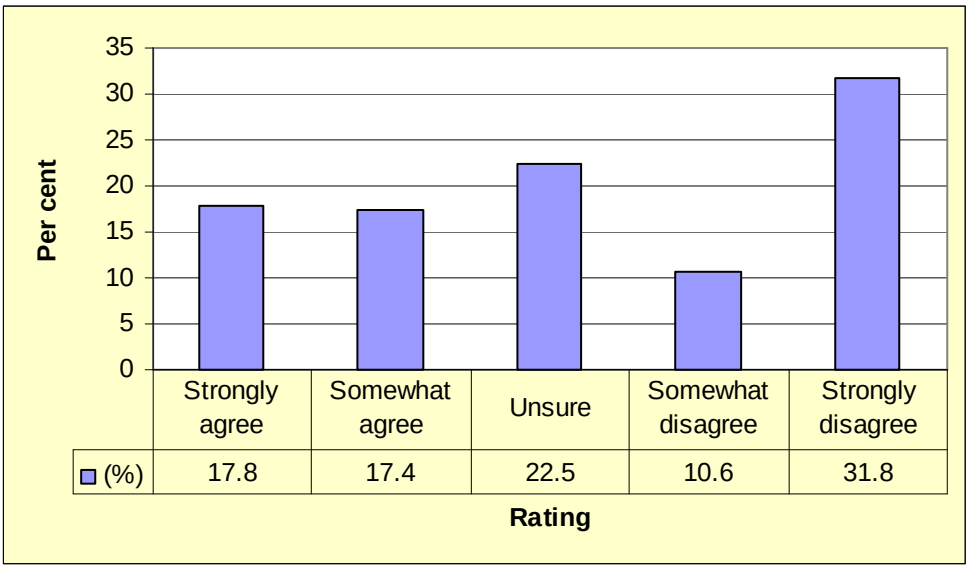

Figure 22. Agreement with 'laws were meant to be broken' (%).

5.5.3 Awareness of selected health regulations.

Table 21 highlights the views of respondents as to the current legality or illegality of selected health-related activites. Of the seven specific health-related activities examined, only the sale of tobacco to children was technically unregulated at the time of ths study (see 3.2.3).

Table 21. *Knowledge of selected health regulations*

Health law area	Legal	Illegal	Unsure	Missing
Travelling in a car without using a seatbelt	43	72 *	124	6
Driving a vehicle under the influence of alcohol (DUI)	22	121 *	97	5
Riding a motorcycle without a helmet	34	163 *	43	5
Sale of tobacco to children	54 *	101	84	6
Sale of alcohol to children	40	125 *	75	5
Sale of unsafe food	44	102 *	94	5
Pollution of the environment/water supply	23	145 *	66	11

(*) Indicates that this was the correct response based on legislation in place as at November 2004 (see 3.2.3).

Figure 23 presents and ranks data in terms of the number of respondents who were either incorrect or unsure of the legality of the selected health-related activities. This would essentially represent the dominant target group for any education on these

health regulations. It can be observed that between one-third and over three-quarters of respondents did not correctly report the legal status of the health-related activities examined.

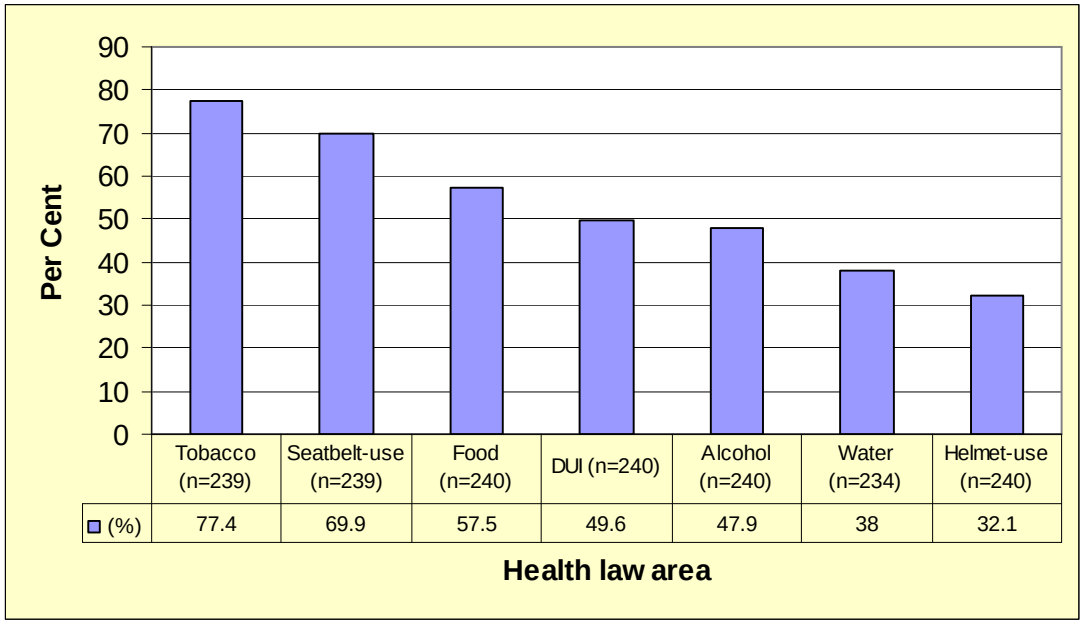

Figure 23. Percentage of respondents who were incorrect or unsure regarding the legality of selected health-related activities.

5.5.4 Support for regulation of selected health-related activities.

Support of health-related law in focus in this study was gauged by asking respondents to rank each proposed regulation on a five-point scale in terms of their agreement that it should be in place. Table 22 shows that respondents largely agreed with each of the proposed regulations.

Table 22. *Support for regulation of selected health-related activities*

Health law area	Level of agreement that the activity should be regulated					
	Strongly agree	Somewhat agree	Unsure	Somewhat disagree	Strongly disagree	Missing
Seatbelt- use	147	39	31	12	6	10
Driving under the influence of alcohol (DUI)	167	19	27	6	20	6
Helmet- use	202	14	20	2	2	5
Sale of tobacco to children	152	25	36	7	19	6
Sale of alcohol to children	157	19	37	6	21	5
Sale of unsafe food	160	22	43	10	4	6
Pollution of the environment/water supply	169	21	32	6	10	7

Figure 24 combines data from the variable categories 'somewhat agree' and 'strongly agree' to highlight an overall rate of agreement. It can be observed that between 73.3% and 90% of respondents were in support of regulation within each of the health areas examined.

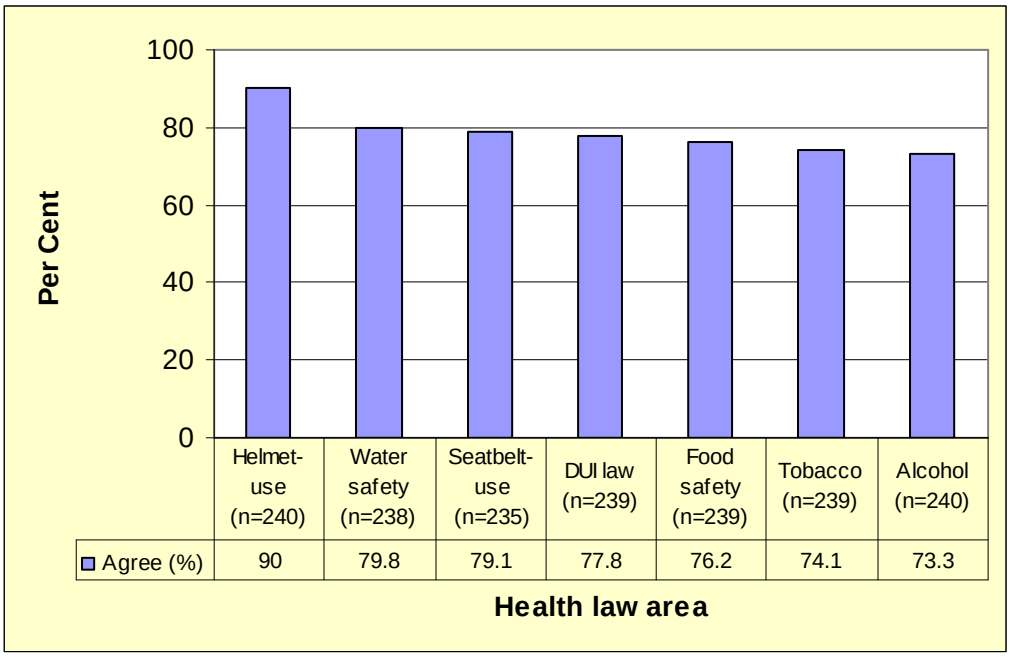

Figure 24. Level of support for selected health regulations (%).

5.5.5 Perceptions of others' agreement with regulation of selected health-related activities.

Respondents were asked whether they thought that 'most' others in the community would agree or disagree with the examples of health-related law examined. This variable was considered useful to gauge respondents' perceptions of the broader acceptability of health laws and furthermore as a variable that might potentially explain respondents' own agreement with health laws. This latter consideration was based on social psychology research and theory (see 4.7.1) that suggests that a person's perceptions of others' attitudes might influence their own attitudes to be similar. Table 23 presents the frequencies of respondents who thought that others would agree or disagree with regulation of the specific health activities in focus.

Table 23. *Perceptions of community agreement with regulaton of selected health-related activities*

Health law area	Perceptions of others' agreement with regulation			
	Most others would agree	Most others would disagree	Unsure	Missing
Travelling in a car without using a seatbelt	107	38	91	9
Driving a vehicle under the influence of alcohol	144	26	70	5
Riding a motorcycle without a helmet	180	14	47	4
Sale of tobacco to children	128	31	82	4
Sale of alcohol to children	132	26	81	6
Sale of unsafe food	153	13	73	6
Pollution of the environment/water supply	153	20	63	9

It can be seen in Table 23 that the regulatory area with the most perceived support amongst others was motorcycle helmet law, with 180 (74.7%) of 241 respondents reporting that they believed others would be in agreement. The lowest perceived community acceptance was associated with regulation of seatbelt-use in motor vehicles, with less than half (45.3%) of 236 respondents reporting that others would be supportive of such law.

5.5.6 Support for the regulatory approach to health.

In addition to eliciting levels of agreement with individual regulatory areas, the survey also required respondents to indicate whether, taking an overall view, they agreed that health regulation was a good way to prevent illness and injury. *Figure 25* highlights strong agreement with the regulatory approach.

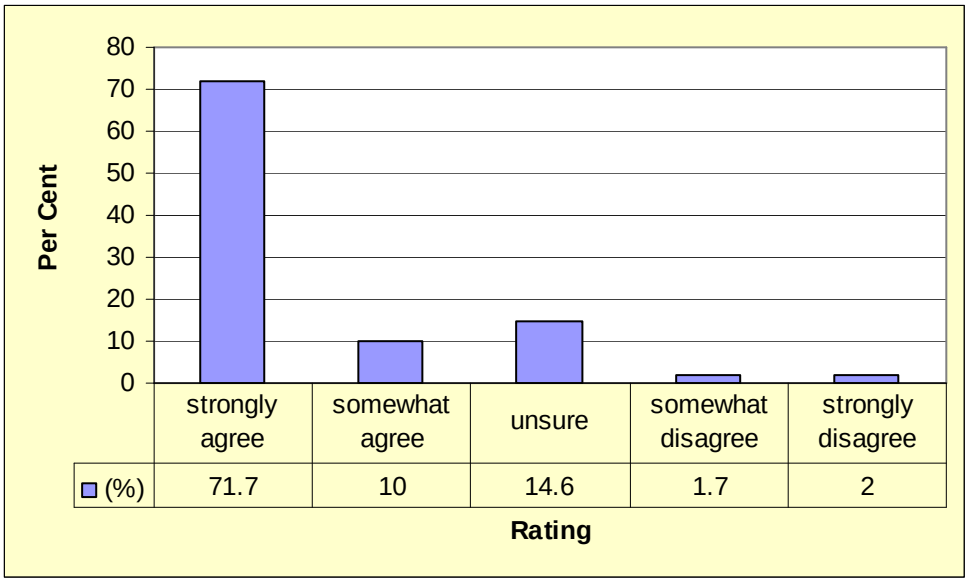

Figure 25. Agreement with the regulatory approach to health (%).

5.6 Chapter Summary

This Chapter has presented analysis of data collected from the survey of 245 Timorese community members. Following a summary of the demographic characterstics of the sample, data have been presented in the areas of self-reported health, health knowledge and attitudes, and law-related knowledge and attitudes, including awareness and support of selected health law areas. Analysis of the relationships between variables has not been presented in this Chapter and can be found in Chapter 7.

The survey has identified a number of important findings, including that knowledge of existing public health law in Timor-Leste was poor, particularly in the areas of the sale of tobacco to children, seatbelt use and food safety, in which between 57.5% and 77.4% of respondents did not correctly state whether regulation currently existed.

Support for prevention in general and for the regulation of a range of health-related activites was, however, high. For each health-related activity examined, between 73.3% and 90% of respondents agreed that regulation should be in place. Respondents' perceptions of others' agreement with the regulations was slightly lower, however, most notably regarding seatbelt-use for which less than half of respondents thought others would be supportive.

Support for the regulatory approach to health overall was high, with 81.7% agreeing that this was a sound approach to preventing injury and ill health. Many (60%) respondents were also confident in the legal system; however these findings may need to be tempered somewhat with the observation that approximately one-third of respondents were to a degree 'cynical' regarding the extent to which adherence to law was valued.

Understanding of health risks was variable with between 72.1% and 83.8% of respondents correctly identifying health risks associated with food and water consumption and tobacco-use. Fewer than half of respondents (41 to 42.3%), however, identified road safety risks or negative health effects of alcohol-use. Concern for health issues was greatest in the areas of tobacco-use, water safety, and the use of alcohol among young people, where half to two-thirds of respondents reported concern. Less than half of respondents reported concern in the area of food safety and less than one third reported concern with road safety.

In Chapter 6, survey data is compared where possible to data collected from interviews with health and legal professionals. Further analysis and discussion of data, and consolidation with existing literature, is presented in Chapter 7.

Chapter Six: Interview Data

6.0 Introduction

This Chapter presents data gathered from interviews conducted with 19 health or legal professionals living and working in Timor-Leste. As with Chapter 5 which presents community survey data, this Chapter describes the raw data from interviews in a descriptive rather than analytical manner. A more detailed discussion of interview data in light of research questions, survey data and wider literature, is found in Chapter 7.

6.1 Data Presentation

Interviews resulted in a mixture of quantitative and qualitative data. The former is presented throughout this Chapter largely as survey data was presented (see 5.1). The smaller sample size (n=19), however, meant that statistical analyses such as the Chi-square and Kendall's tau-b tests, used with survey data, would have been innappropriate. As with survey data, tables or figures are not necessarily presented where data was lacking variability, as their inclusion would not have added to the description provided in the text.

Within qualitative data, points of key interest and relevance are highlighted. Where themes became clear, through repetition across multiple interviews, these are noted. In accordance with interviewees' wishes, no responses are attributable to a particular individual or their organisation.

Where interview questions matched those found in the community survey, the data were compared to enable highlighting of any major discrepancies between interviewees' opinions and those of the surveyed community.

6.2 Demographic Data

A total of 19 professionals working in the fields of health or law in Dili, Timor-Leste were interviewed. Table 24 highlights the organisations represented and the number of interviews conducted with each organisation. For reasons of confidentiality (see 4.9.3), demographic data that might identify a participant within an organisation is not included in Table 24. The key demographic data of the interviewed group are instead presented separately in Table 25.

Table 24. *Number of interviews by organisation*

Organisation	Number of Interviews
Ministry of Health	4
World Health Organization, Dili-Office	3
Ministry of Justice	2
Care International	2
World Vision	1
Health Net International	1
Care International	1
Bairo Pite Clinic	1
Assert	1
Family Health	1
Oxfam	1
United Nations Childrens Fund (UNICEF)	1
Total	19

Table 25. *Main demographic data for key informants*

Interview	Age	Sex	Timor Leste National	Months living in Timor-Leste	Level of Education
1	32	M	N	12	Undergraduate
2	34	M	Y	**	Some tertiary
3	28	M	Y	**	Secondary
4	28	F	N	15	Postgraduate
5	55	M	N	18	Postgraduate
6	42	F	N	30	Postgraduate
7	44	M	Y	**	Some tertiary
8	36	F	N	12	Postgraduate
9	44	M	N	24	Postgraduate
10	36	M	N	20	Postgraduate
11	41	F	N	30	Postgraduate
12	42	M	Y	**	Postgraduate
13	46	F	Y	**	Secondary
14	35	F	N	12	Undergraduate
15	37	M	N	12	Undergraduate
16	26	M	N	13	Undergraduate
17	42	F	N	16	Postgraduate
18	34	M	Y	**	Undergraduate
19	31	M	Y	**	Some tertiary

(*) Data not available.

(**) All Timor Leste nationals were born in Timor Leste and had never left.

It can be observed in Table 24 and Table 25 that:

- Approximately two-thirds of key informants (63.2%) were male
- Approximately one-third (36.8%) were Timor-Leste nationals
- Approximately one-third (31.6%) were employed by a Timor-Leste Government Department (Health or Justice)
- Of those who were not Timor-Leste nationals, all had lived in Timor-Leste for between 12 and 30 months (with an average of 17.8 months)
- All had completed at least secondary school, with a large proportion having tertiary qualifications
- The average age was 37.5 years (range 28-55).

6.3 Population Health and Health Services

6.3.1 Health priorities.

When asked to rate the overall state of health of the population, 13 of the 19 interviewees (68.4%) responded that it was 'poor'. This notably contrasts with the 22.3% of the surveyed community who reported that overall health in Timor-Leste was 'poor' or 'very poor' (see 5.4.1).

Table 26 highlights interviewees' perceptions of the most urgent health-related problems currently facing Timor-Leste. It can be seen that almost half of those interviewed believed the dominant issue to be malaria.

Table 26. *Most urgent health-related problems in Timor-Leste*

Health Problem	Number of responses
Malaria	9
The high fertility rate	3
Health system capacity	2
Malnutrition	2
Maternal/Child health	2
Tuberculosis	1
TOTAL	19

Other important health problems noted by interviewees included accidents, diarrhoeal illness, upper respiratory tract infections and other communicable infections such as HIV. Almost exclusively, the reasons that interviewees gave for the presence of Timor-Leste's major health problems were:

- a poor understanding of health risks among the population; and/or
- a lack of health system funding and resources, including a lack of adequately trained staff.

Two interviewees indicated that significant, further factors underlying these health problems were a lack of community trust of health services, and poor relationships

between the Health Department and non-government organisations, leading to less than ideal program implementation and coordination.

Interviewees were also prompted to rate selected health issues in terms of their level of importance, in order to provide comparison to responses on the general community survey (see 5.4.5). Table 27 highlights the raw interview data.

Table 27. *Perceived importance of selected health issues*

Health Issue	Level of Importance			
	Not an issue	Of mild concern	Of moderate concern	Of major concern
Road Safety *	0	3	10	6
HIV	0	6	7	6
Malaria	0	0	2	17
Young people and alcohol *	0	8	7	4
Alcohol abuse in the wider community	0	11	6	2
Abuse of other drugs	10	7	2	0
Young people and tobacco *	0	3	9	7
Tobacco-use in the wider community	1	2	10	6
Food safety *	1	3	5	10
Safety of the drinking water *	1	0	7	11
Environmental pollution	2	6	9	2

(*) Health law focussed on these topics is the focus of this study – the remaining topics are included for comparison.

Figure 26 ranks the selected health issues according to the proportion of interviewees that considered them to be of 'major' or 'moderate' concern. Added to this figure, for comparison, are the corresponding levels of concern reported by the sampled community for the same health issues.

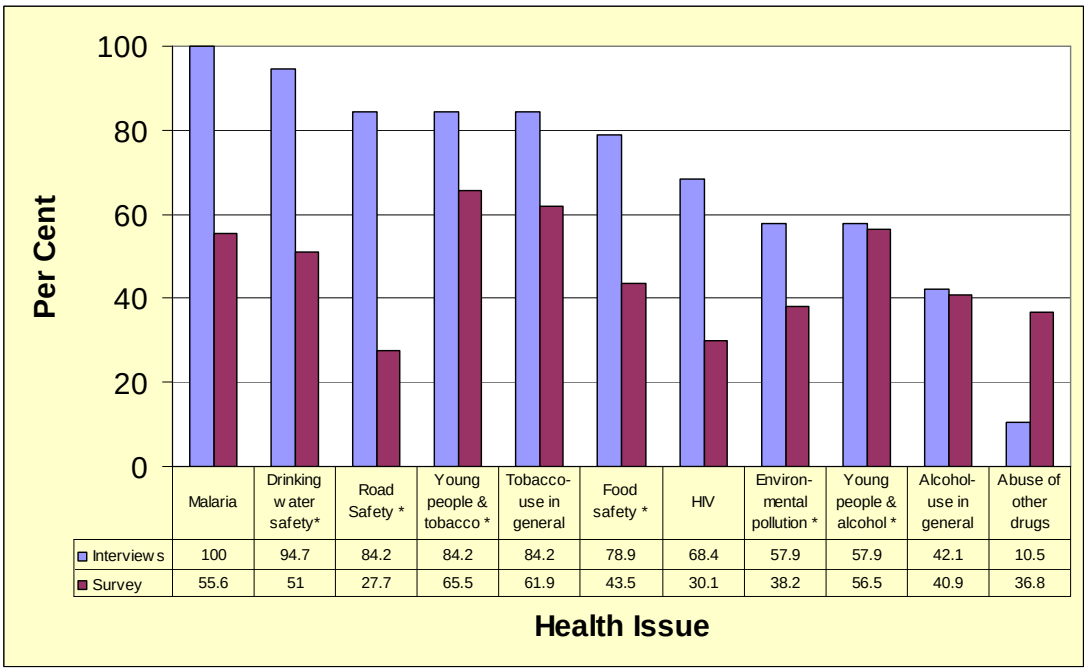

Figure 26. Perceived importance of selected health issues, interviewees vs survey respondents (%).

It can be seen in the data presented (Table 27 and *Figure 26*) that there was a high level of agreement among interviewees that a number of the selected health issues were of concern. Those issues for which more than three-quarters of interviewees were in agreement, were:

- Malaria (100%);
- drinking water safety (94.7%);
- road safety (84.2%);
- the use of tobacco by young people (84.2%);
- tobacco-use in general (84.2%); and
- food safety (78.9%).

Interviewees also clearly agreed (89.5%) that the abuse of 'other' drugs in the community was *not* currently a significant issue.

There was, however, minimal similarity between the proportion of interviewees concerned over the selected health issues, and the proportion of the surveyed community reporting concern (see *Figure 26*). The largest difference was observed

in the area of road safety, for which 84.2% of interviewees reported concern, compared to only 27.7% of the surveyed population.

It is important to note, however, that while fewer of the surveyed population appeared concerned with most health issues than interviewees, there was some overlap in the health issues that were *ranked the highest* in each group. That is, of the interview group's top five health issues, four were also among the survey group's top five (malaria, drinking water safety, tobacco-use amongst young people and tobacco-use in general).

The only health topic for which a greater proportion of survey respondents than interviewees reported concern was in the area of drug-use. As mentioned above, the abuse of other drugs did not rate as important among interviewees.

6.3.2 Perceptions of health service availability and quality.

In order to gain further understanding of the health sector setting in Timor-Leste, interviewees were asked to rate the availability and quality of health services. *Figure 27* clearly highlights a discrepancy between service availability (largely perceived to be 'good') and service quality (largely perceived to be 'bad').

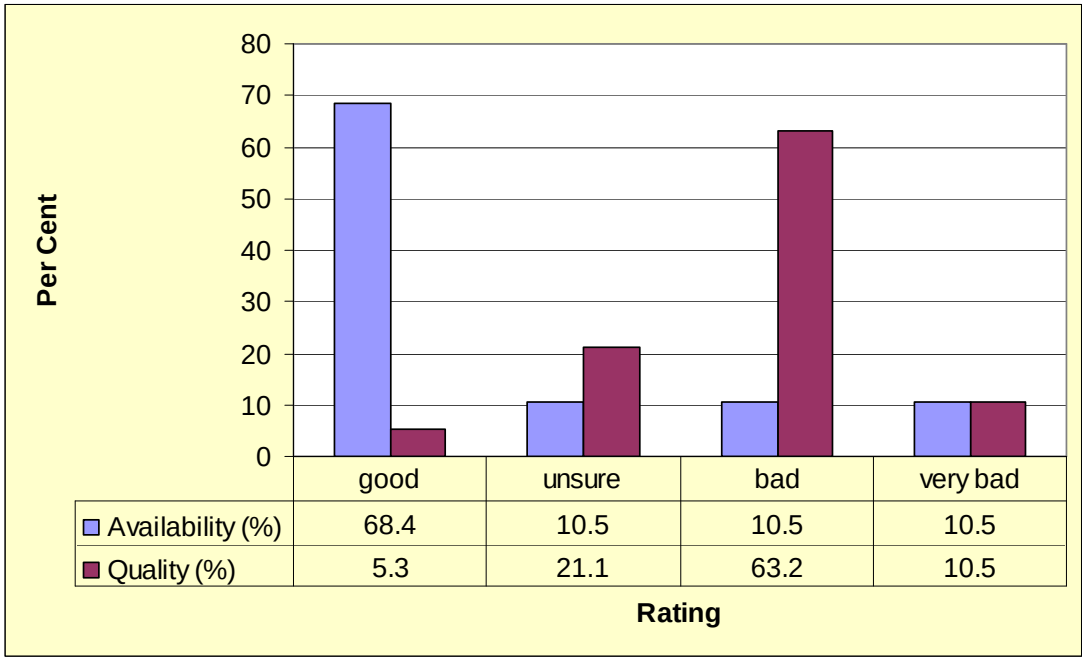

Figure 27. Perceived health service availability and quality (%).

Comments made during interviews reinforced the quantitative data above. In particular, comments highlighted perceptions of:

- poor prioritisation and management of resources, including a lack of trained and motivated staff;
- poor understanding of bench-marks for quality and of the correct use of medicines;
- a marked difference in both accessibility and quality between Dili and regional or village areas, including poor hours of attendance outside of major centres; and
- a notable mistrust of health services within the population.

These data and comments may be seen in the context of findings from the community survey, in which 58.1% of respondents reported some level of satisfaction with their local health services (see 5.4.3).

6.4 Perceived Community Understanding of Risks to Health

Interviewees were asked to provide their impressions of the general level of understanding of selected health risks within the community. Table 28 presents the related data.

Table 28. ***Perceived community understanding of risks to health***

Health issue	Response				
	Very good	Adequate	Poor	Very Poor	Unsure
Alcohol*	0	2	12	3	2
Tobacco*	0	2	7	9	1
HIV transmission	0	2	4	10	3
Malaria	0	7	11	0	1
Alcohol and driving*	0	4	3	4	8
Seatbelt-use*	0	2	7	6	4
Helmet-use*	0	4	11	0	4
Speeding*	2	7	3	1	6
Food safety*	0	2	10	5	2
Water safety*	0	2	11	2	4

(*) Health law focussed on these topics is the focus of this study – the remaining topics are included for comparison.

In can be seen in Table 28 that, for most health issues, few interviewees believed community understanding of risk to be 'adequate'. Small exceptions were:

- knowledge of the risks of speeding in a vehicle, for which 9 (47.4%) interviewees reported community knowledge to be 'adequate' or 'very good'; and
- knowledge of how malaria spread, where 7 (36.8%) interviewees reported community knowledge to be 'adequate'.

Interviewees' perceptions of community understanding of health risks contrasts slightly with data collected in the community survey on *actual* knowledge of health risks (see 5.4.6). Table 29 compares the proportion of interviewees who perceived community knowledge to be poor with the proportion of the community whose knowledge of the selected health areas was actually poor as measured by the community survey.

Table 29. *Comparison of interviewees' perceptions of community knowledge of health risks with actual community knowledge*

Health area	Percentage of interviewees who rated community knowledge as poor[11]	Percentage of survey respondents who were incorrect or unsure regarding health risks
Alcohol	78.9	59.0
Tobacco	84.2	27.9
Road Safety	46.1[12]	57.7
Food safety	78.9	23.3
Water safety	68.4	16.2

It can be seen in Table 29 that most interviewees believed that community knowledge was poor in each of the health areas examined, with the exception of road safety where less than half of the interview group rated community knowledge as

[11] Note: 'poor' and 'very poor' are combined.
[12] The average of perceptions of community knowledge of understanding of driving under the influence of alcohol, speeding, seatbelt-use and helmet-use.

poor. In contrast, however, actual community knowledge was more variable. Interviewees appear to have over-estimated community knowledge of road safety risks and under-estimated knowledge of health risks associated with, food, water and tobacco consumption.

The following two notable comments related to community knowledge of health risks were made:

- One interviewee commented that most cigarette packs were imported from Indonesia and while health warnings were generally printed on them, not all Timorese could be assumed to be able to read these warnings.
- One interviewee observed that the poor quality of motorcycle helmets worn, and the common practice of leaving the strap undone, suggested that those who adhered to the helmet-use law did so to avoid a fine rather than from concern related to health risk associated with not wearing a helmet.

6.5 The Legal System

6.5.1 Confidence in the legal system.

Interviewees' perceptions of how well the legal system operated were examined in order to gain an impression of the setting in which any health law might be drafted or implemented, that is, the capacity or preparedness of the system. Table 30 highlights a fairly even spread of positive and negative responses regarding confidence in the legal system, with the largest proportion reporting uncertainty.

Table 30. *Confidence in the legal system*

Level of Confidence	Frequency
Very confident	3
Somewhat confident	4
Unsure	6
Somewhat not confident	5
Not at all confident	1
TOTAL	19

Figure 28 compares interviewees' confidence in the legal system with that of survey respondents (see 5.5.1). It can be seen that interviewees appeared somewhat less likely to report confidence than survey respondents and more likely to be 'unsure' or 'somewhat not confident'.

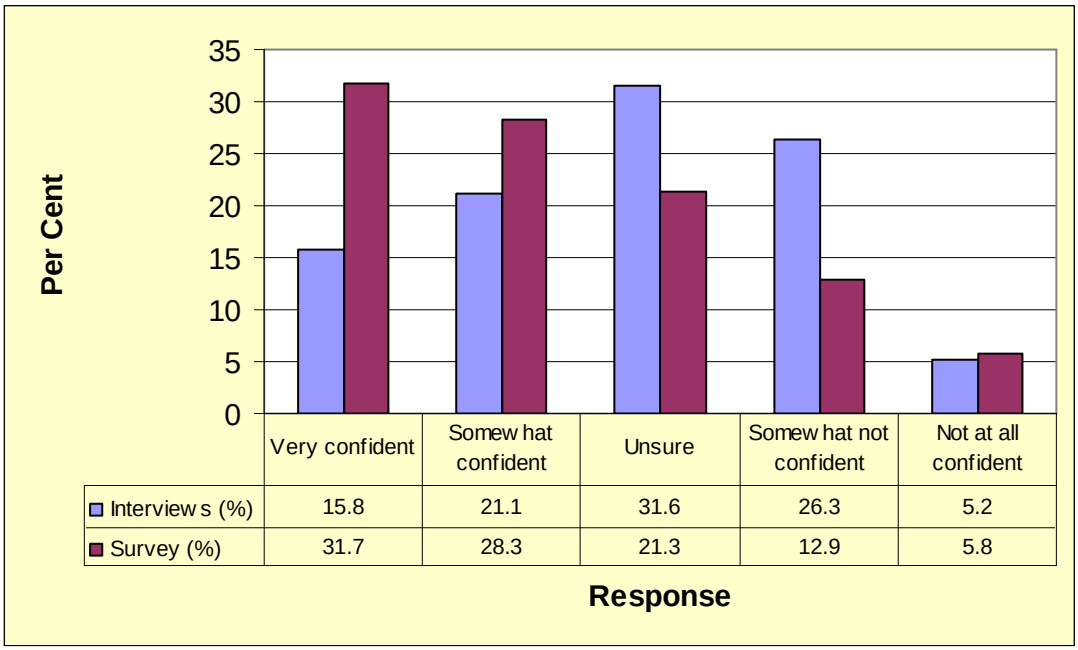

Figure 28. Confidence in the legal system, interviewees vs survey respondents (%).

Interviewees made several notable comments, including:

- that it would be difficult to implement laws where there was no community understanding of the reasons behind them (currently adherence appeared to be driven by penalties rather than by understanding or acceptance of the rationales for laws);
- that there appeared to be minimal ability to enforce the law and there was a need to separate the legal system from political influence;
- that training of Timorese was lacking and there was a suspicion of foreign legal workers; and
- that the law in Timor-Leste appeared "random".

6.5.2 Perceptions of health law enforcement in Timor-Leste.

Interviewees were asked to indicate whether they believed that there was sufficient capacity to enforce health law within Timor-Leste. Table 31 shows that the

interviewed group was relatively evenly divided between agreeing and disagreeing that there was sufficient ability to enforce health law.

Table 31. *Perceptions of sufficient health law enforcement capacity*

Response	Frequency
Yes	7
No	8
Unsure	4
TOTAL	19

A number of comments were made, indicating perceptions amongst the interviewed group that:

- generally, the law did not appear to be evenly enforced and there appeared to be a need to separate the law from politics and political influence;
- law enforcement agencies needed to be more powerful, independent and professional;
- obvious, high profile matters were visibly enforced, while lesser matters were not;
- the approach to enforcement appeared random and arbitrary; and
- the health law field, and the legal system in general, required increased resources and training.

All interviewees considered that the Ministry of Health was the appropriate body to enforce health law and it was noted that a Department of Inspections was currently under development.

6.6 Health Law

6.6.1 Support for the regulatory approach to health.

While agreement with individual examples of health law was examined, interviewees were also asked, overall, whether they considered the regulatory approach to be a good way to prevent illness and injury in Timor-Leste. Table 32 highlights strong agreement with this approach.

Table 32. *Support for the regulatory approach to health*

Level of Agreement	Frequency
Strongly agree	14
Somewhat agree	2
Unsure	1
Somewhat disagree	2
Strongly disagree	0
TOTAL	19

Figure 29 highlights that similar proportions of survey respondents and interviewees agreed with the regulatory approach to health.

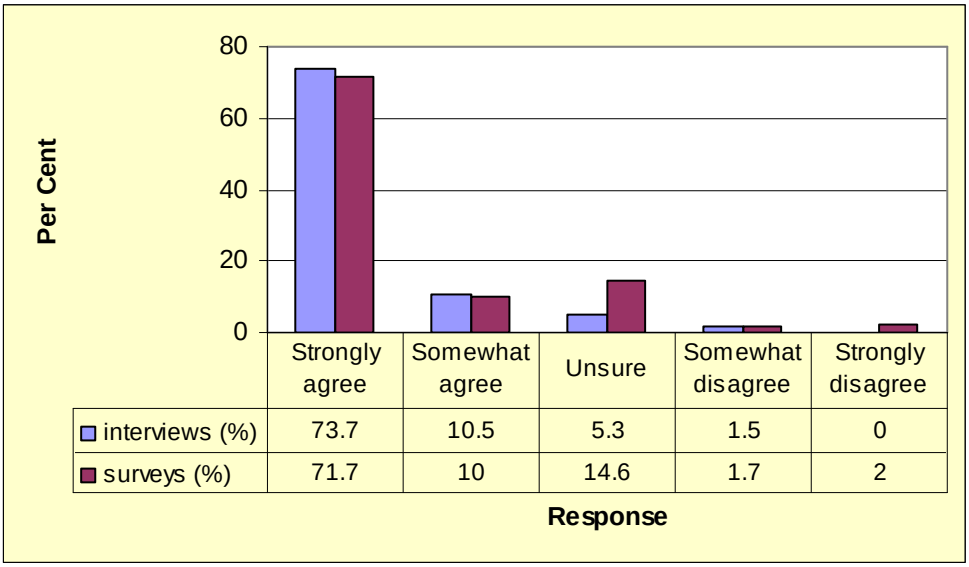

Figure 29. Support for the regulatory approach to health, interviewees vs survey respondents (%).

Upon further questioning, 89.5% (17 of 19 interviewees) believed that health regulations would be 'well-received' by the Timorese.

6.6.2 Awareness of selected health regulations.

It was considered important to establish the base awareness of selected health regulations in Timor-Leste within both community members (see 5.5.3) and professionals. Table 33 highlights mixed results among those interviewed in terms

of the number who could correctly identify the areas in which regulation currently existed.

Table 33. *Interviewees' knowledge of selected health regulations*

Health law area	Legal	Illegal	Unsure
Travelling in a car without using a seatbelt	9	4 *	6
Driving a vehicle under the influence of alcohol	0	11 *	8
Riding a motorcycle without a helmet	0	17 *	2
Sale of tobacco to children	4 *	10	5
Sale of alcohol to children	4	8 *	7
Sale of unsafe food	14	0 *	5
Pollution of the environment/water supply	3	11 *	5

(*) Indicates that this was the correct response based on legislation applying as at November 2004 (see 3.2.1.1).

Figure 30 highlights that similar proportions of survey respondents and interviewees were incorrect or unsure regarding the presence of regulation in the selected health areas. Notable exceptions to this pattern were:

- while over half (57.5%) of survey respondents did not correctly report that food safety regulations technically applied, *all* of the interviewed group were incorrect;
- while almost one-third (32.1%) of survey respondents did not correctly report that a regulation regarding motorcycle helmet-use was in place, only just over 10% of interviewees were unaware of this regulation.

A number of interviewees also noted that, at the time, police were 'making a show' of enforcing helmet law, which may explain why awareness of this particular law was comparatively good, compared to awareness of other laws, amongst both survey and interview groups.

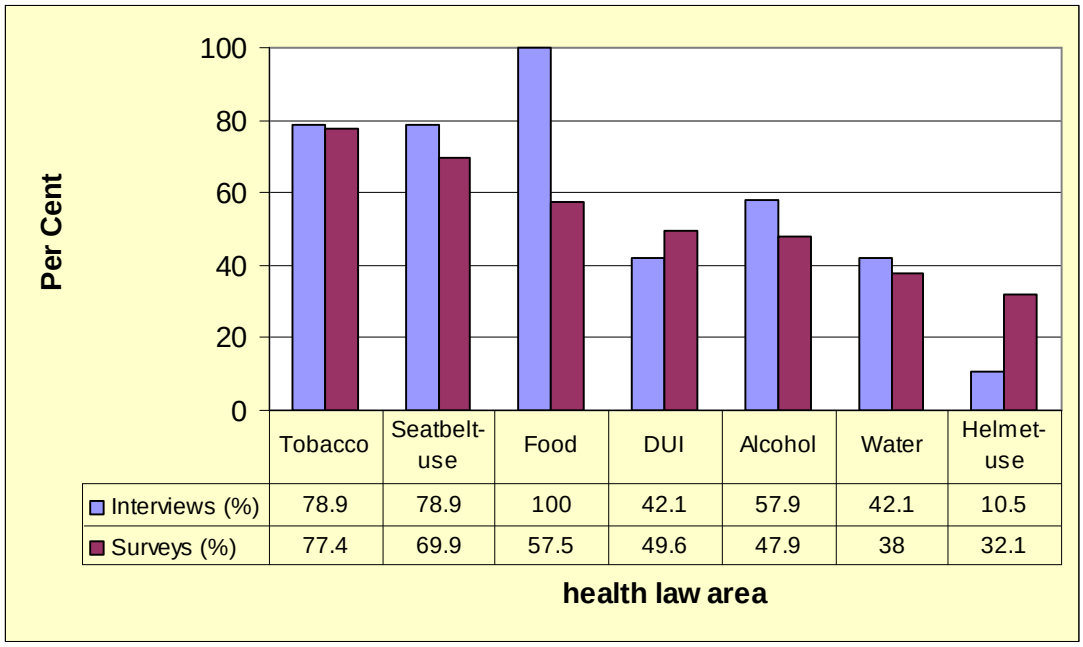

Figure 30. Percentage of interviewees and survey respondents who were incorrect or unsure of the legality of selected health-related activities.

6.6.3 Support for selected health regulations.

As with survey respondents, interviewees were asked to indicate their level of agreement that regulation should be present in a number of selected health-related areas. Table 34 highlights that none of the interviewed group disagreed that any of the areas should be regulated. This contrasts slightly with survey respondents, among whom 73.3% to 90% agreed with the laws (see 5.5.4).

Table 34. *Support for selected health regulations*

Health law area	Level of agreement that the area should be regulated				
	Strongly agree	Somewhat agree	Unsure	Somewhat disagree	Strongly disagree
Seatbelt-use	15	4	0	0	0
DUI law	15	4	0	0	0
Helmet-use	15	4	0	0	0
Sale of tobacco to children	15	4	0	0	0
Sale of alcohol to children	15	4	0	0	0
Sale of unsafe food	11	8	0	0	0
Pollution of the environment/water supply	15	4	0	0	0

6.6.4 Perceived community agreement with selected health regulations.

In general, interviewees believed that most members of the public would be in agreement with the particular health regulations examined in this study. Table 35 highlights that minor exceptions included regulations covering seatbelt-use, driving under the influence of alcohol and the sale of tobacco to children, for which small numbers of interviewees perceived that there would be community disagreement.

Table 35. *Perceptions of community agreement with selected health regulations*

Health law area	Most would agree	Most would disagree	Unsure
Travelling in a car without using a seatbelt	9	4	6
Driving a vehicle under the influence of alcohol	13	3	3
Riding a motorcycle without a helmet	15	0	4
Sale of tobacco to children	15	2	2
Sale of alcohol to children	14	0	5
Sale of unsafe food	15	0	4
Pollution of the environment/water supply	13	0	6

Figure 31 contrasts interviewees' perceptions of community agreement with the laws examined with the community's actual agreement, as recorded by the community survey. It can be seen that there was reasonably close alignment between interviewees' perceptions of community agreement and their actual agreement. The notable exception, however, was seatbelt-use, for which interviewees underestimated the level of agreement within the community. It should be noted, though, that survey respondents were also less inclined to believe that 'others' in the community would support seatbelt-use regulation, despite largely agreeing with it themselves (see 5.5.5). Expanding on this point in interviews, it was found that many professionals believed that people would be less supportive of seatbelt-use regulation due to the absence of working seatbelts in most cars and the high cost associated with having them installed.

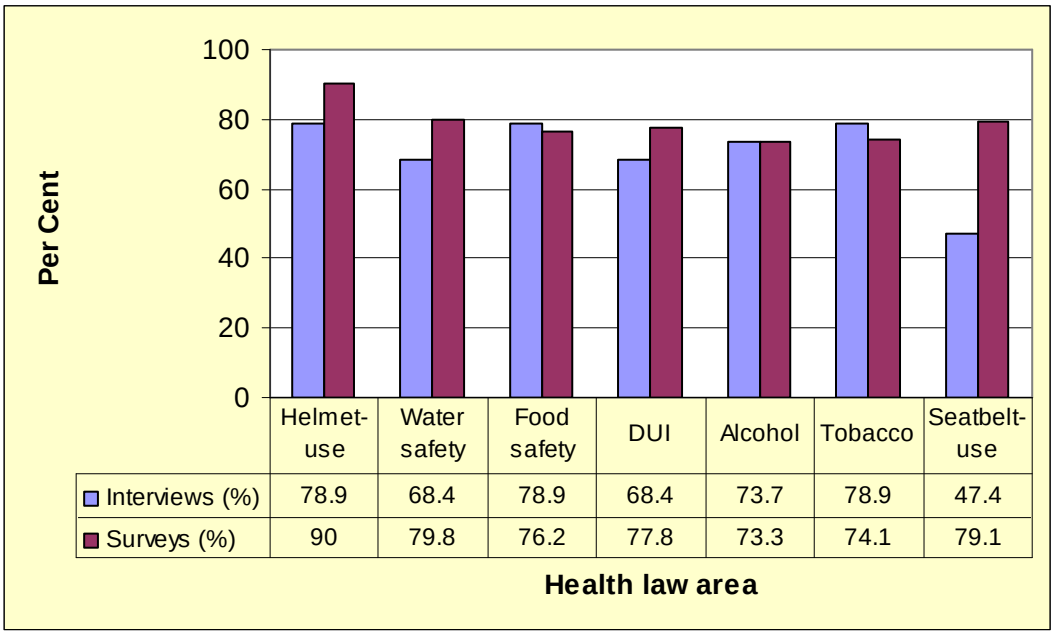

Figure 31. Interviewees' perception of community agreement with selected health regulations vs actual community agreement (%).

6.6.5 Suggestions for health regulations in Timor-Leste.

Interviewees were asked to suggest specific health regulations that they believed should be implemented in Timor-Leste. Responses can be divided into those suggesting areas for regulation and those advising on approaches for their implementation.

All interviewees confirmed strong support for the examples of health-related law examined in this study. The following suggestions were additionally made:

- Banning smoking in enclosed public places (eg buses, restaurants);
- Regulation to ensure safety of the blood supply;
- Regulation of locally brewed alcoholic products;
- Banning the marketing of breast milk substitutes;
- Regulation of the sale of pharmaceuticals in the private sector;
- Regulation of the quality of motorcycle helmets;
- Compulsory condom-use for sex workers; and
- A legal approach to specifically cover domestic violence.

Suggestions regarding approaches to the way in which health law should be introduced included:

- that it must be consultative, so that the community developed a sense of ownership;
- that it must be practical and accompanied by the appropriate infrastructure, particularly in terms of being *enforceable*;
- that it must be accompanied by significant information and education to foster community understanding of the health risks and reasons for the laws;
- that any laws should be integrated into the health promotion approach; and
- that 'blackmarkets' and issues with border-control should be anticipated and addressed in any laws that might involve the banning of goods/substances.

6.7 Chapter Summary

This Chapter has presented raw data collected from interviews with 19 professionals in the fields of health or law in Timor-Leste. Data have been compared where possible to responses collected by the community survey, in order to highlight the extent to which community knowledge and attitudes aligned with the views of these professionals.

Interview data has highlighted that, as with surveyed community members, knowledge of existing public health law in Timor-Leste amongst professionals was poor, but support for the regulatory approach to health was high. Indeed, support for the presence of regulation within each of the health-related activites examined was unanimous.

Interviewees and surveyed community members were shown to differ in notable ways, however. Overall, interviewees were somewhat less confident in the functioning of the legal system than survey respondents. Interviewees were also more likely than community members to be aware of motorcycle helmet regulation but less likely to be aware of the (albeit 'technical') presence of food safety regulation. Interviewees furthermore underestimated the extent to which survey

respondents would agree with seatbelt regulation (although survey repondents also believed many others in the community would not support this regulation, despite agreeing with it themselves).

While largely agreeing on the main areas of health priority, notably less survey respondents than interviewees were concerned with road safety. Interviewees also appeared to overestimate the level of community knowledge of road safety-related risks, and underestimate that of risks related to food and water consumption and tobacco-use.

Comments made by interviewees supported observations of both the health and legal sectors in Timor-Leste found in the literature and reported in Chapters 2 and 3. In particular, poor systemic capacity, including in the areas of financing and human resourcing were confirmed as significant issues. Enforcement of health law was confirmed as minimal and uncoordinated, even 'arbitrary'. There was a perception, also, that the legal system in general needed to be more removed from the political process. Interviewees gave valuable advice in terms of strategies to implement health law in an appropriate manner, including the importance of being consultative and supporting efforts with education and health promotion.

By asking interviewees and community members similar questions this study has identified areas of agreement, strengthening the level of credence able to be placed in these findings. Through identifying areas of discord, however, the study has highlighted areas worthy of closer inspection and the risk of drawing conclusions based on data collected from only one group. Further discussion of data and consolidation with existing literature is presented in Chapter 7.

Chapter Seven: Synthesis, Discussion, Recommendations and Conclusion

7.0 Introduction

This chapter brings together research findings, observations and literature from previous chapters in order to consolidate a view of the potential for public health law to assist with the many health challenges faced in Timor-Leste. Firstly, relationships between survey variables are explored in order to provide a richer understanding of the raw community-level data presented in Chapter 5. Factors identified as being associated with community awareness and support for public health law are presented and these provide direction for future educative and awareness-raising measures.

The proposition of a coordinated public health law strategy in Timor-Leste is discussed in the light of the nation's health challenges, existing public health law, and legal and health system capacity. Recommendations to guide such a strategy are provided for a range of government and non-government parties. The significance and limitations of this study are discussed and guidance for the direction of future research is provided.

Finally, given an apparent lack of research or government attention in the area of public health law in the developing world, a framework is proposed to guide future investigation and implementation of public health law in these settings.

7.1 Data Synthesis

In the collection and analysis of survey and interview data in this study, two issues were considered key areas of investigation. These were:

- awareness of the selected health regulations; and
- support for the regulatory approach to health (overall, and for each of the selected health regulations).

This was matched by an examination of Timor-Leste's priority health issues, and legal and health system capacity, achieved through discussion of the available literature and analysis of data from select questions within both the community survey and interview schedule.

As described in Table 9 (see 4.7.1) finer-level investigation of community data centered on whether demographic or other factors (e.g., health-related knowledge and attitudes, attitudes to law or the legal system, or perceptions of others' support of law) could explain levels of awareness of, or support for, public health law. Findings related to these questions are presented in this section.

7.1.1 Awareness of existing public health law.

Widespread awareness of law is clearly essential if it is to influence population-wide behaviour and be an effective preventive health tool. This study has highlighted that large numbers of the surveyed community (and interviewed professionals) in Timor-Leste were either incorrect or unsure regarding the health regulations that applied in Timor-Leste at the time of the study's fieldwork (see 5.5.3).

Over three-quarters of respondents, for example, did not appear to know that the sale of tobacco to children was actually legal at the time of the survey. Almost three-quarters of respondents, regardless of whether they routinely travelled by car, did not appear to know that travelling in a vehicle without using a seatbelt was illegal, and around half could not correctly state whether driving under the influence of alcohol was illegal. Approximately half of all respondents were not aware that laws technically existed to ensure food safety or, similarly, that it was technically illegal to sell alcohol to a child.

These finding are perhaps not unexpected, given the low levels of basic health and legal knowledge amongst the community, and the apparent lack of any promotion, education or enforcement of public health law. Nonetheless, this appears to be the first study to investigate these issues formally and confirm, rather than assume, levels of community knowedge of public health law. The data provides a valuable starting point for future work to enhance consultation and communication on public health law in Timor-Leste.

Whilst low community awareness of public health law is not surprising, it was perhaps more unexpected to also find that that interviewed health and legal professionals were equally unclear on applicable health law. Poor awareness was consistent across representatives of government departments and relevant non-government organisations. This surely highlights that public health law in Timor-Leste, among those interviewed at least, was not a matter of any significant profile, priority or professional interest.

In the case of both community and professional study participants, however, a lack of knowledge of existing health law did not preclude strong support for health law as an approach and did not preclude strong support for each of the regulatory examples investigated (see 7.1.2).

This study is the first to specifically collect data and confirm levels of awareness of public health law in Timor-Leste across a range of health areas. However, in order to target community education and awareness-raising efforts, should such a strategy become a priority, it would be useful to know what factors, if any, were associated with awareness of health law. That is, by identifying whether any community groups in particular were notably unaware of existing law, education and awareness-raising efforts might be more effectively targeted towards groups with the lowest awareness. Towards this end, community survey data were examined exhaustively in order to identify whether any factors were related to awareness of the health regulations examined in this study.

Analysis revealed that a small number of deomographic factors were associated with awareness of particular health regulations. Table 36 highlights these findings.

Table 36. ***Factors associated with awareness of selected health regulations amongst the surveyed community***

Health regulation	Relationships	Significance
Seatbelt-use	Non-students more likely to be correct (42.9% vs 26.8%)	$\chi^2 = 4.746$, df=1, p=0.029 (n=239)
	Those with children more likely to be correct (41.7% vs 24.3%)	$\chi^2 = 4.285$, df=1, p=0.038 (n=172)
Driving under the influence of alcohol	Those with children more likely to be correct (75% vs 47.1%)	$\chi^2 = 8.919$, df=1, p=0.003 (n=172)
Helmet-use	Males more likely to be correct (73.8% vs 58.2%)	$\chi^2 = 6.297$, df=1, p=0.012 (n=240)
	Non-students more likely to be correct (83.7 vs 63.9%)	$\chi^2 = 7.015$, df=2, p=0.008 (n=240)
	Those with children more likely to be correct (83.3% vs 66.2%)	$\chi^2 = 3.972$, df=1, p=0.046 (n=172)
Sale of alcohol to minors	No statistical relationships identified	N/A
Sale of tobacco to minors	Males more likely to be correct (27.5% vs 14.4%)	$\chi^2 = 5.482$, df=1, p=0.019 (n=239)
Sale of unsafe food	Current students more likely to be correct (46.8% vs 26%)	$\chi^2 = 7.036$, df=1, p=0.008 (n=240)
Water supply safety	Males more likely to be correct (67.4% vs 53.3%)	$\chi^2 = 4.624$, df=1, p=0.032 (n=234)

While awareness was clearly low overall amongst survey participants, the differences in awareness observed within certain deomgraphic sub-groups, highlighted in Table 36, raise a number of questions for future research. For example, sex differences were observed in awareness of tobacco law, with males being significantly more likely to be correct in identifying that law existed to restrict the sale of tobacco to children. Certainly, it might be proposed that this was because significantly more men smoke in Timor-Leste and therefore men may have been more exposed to regulation or health promotion messages related to tobacco-use. These questions were not specifically examined in the community survey. Certainly, most men were *not* aware of the law. Similarly, being a current or past smoker was not associated with awareness of tobacco regulation: both smokers and non-smokers had very low awareness in this area.

Sex differences were also observed in awareness of regulation regarding motorcycle helmet-use and water supply safety. On further investigation, these sex differences were not explained by sex differences on other variables that might be conceivably related, such as education history, regularity of motorcycle-use, or level of concern for road or water safety. Similarly, it is unclear why there was a sex difference in some but not all health law areas examined. It is possible that this is reflective of sex-based differences in variables that were not measured in this study, such as historic exposure to public health or legal messages in these areas, or cultural perceptions of gender roles and responsibilities regarding health and safety.

Being a parent in Timor-Leste was also associated with increased awareness of some health regulations, including all of that examined in the area of road safety. This might conceivably reflect a salience among parents regarding the road safety risk children, in particular, face. Levels of concern regarding road safety in relation to children *specifically* were not probed by the survey so data is unable to support this possibility. It may be that parents have been more targeted by road safety messages regarding children, for example, in receiving advice when attending health services on the importance of using a seatbelt and driving safely with or around children. Further research would be valuable in firstly replicating these findings, and secondly determining why parental status was associated with awareness of road safety regulation and not other related areas such as restrictions on the sale of tobacco and alcohol to children.

Status as a student was also related to awareness of some laws. In particular, current students were more likely to be aware of food safety law. It is possible, although not arguable with the available data, that this might reflect a greater emphasis on food safety messages in education settings. That students were less aware of both helmet-use and seatbelt-use is also difficult to explain with current data. It might be expected that this relationship was explained by students having less experience travelling by motorcycle or car, but this was not the case. It is possible that awareness of these regulations might have more to do with whether the participant *owned* a motorcycle or car, or had a driver's license, which was not examined in this study. It is conceivable that messages on road safety law have been passed on through the processes of purchasing a vehicle and obtaining a license and that

students, being likely to have lower income, have had less exposure to these processes.

Overall, the factors *not* associated with awareness of the laws examined in this study provide the greatest impetus for further research. It might have been anticipated, for example, that respondents who regularly travelled by a motorcycle or car might be more likely to be aware of road safety-related regulation; however the data did not support this premise. Perhaps, as discussed above, awareness of road safety law is more specifically related to vehicle ownership or holding a driver's license. Should further research confirm this, it would at least suggest that people were in receipt of information on these regulations through the licensing process. However, clearly passengers need to be equally aware of road safety law, particularly regarding seatbelt- and helmet-use.

Regular users of alcohol or tobacco might also have been expected to have more awareness of law regarding the sale of tobacco or alcohol to minors but this, too, was not the case. Indeed, while a number of demographic factors have been highlighted as being associated with awareness of some laws examined in this study, it must be noted that these are few in number, inconsistent across health areas and difficult to fully explain with the available data. However, should the observed demographic relationships be confirmed in future study, they represent important guidance for future efforts to raise awareness of public health law in the community.

7.1.2 Support for the regulatory approach to health.

As with awareness of law, community *support* for law is critical in ensuring maximum adherence, and is arguably also a factor in achieving government support for legislative reform. Despite poor awareness of what was currently legal or illegal, there was wide support for regulation as an effective approach to population health among the surveyed community. As seen at 5.5.6, a total of 81.7 percent of respondents either strongly (71.7%) or somewhat (10%) agreed with the approach. While 35 respondents (14.6%) were unsure, only 9 (3.7%) respondents reported any disagreement with the approach.

Survey data were examined closely to determine whether any factors were related to levels of support for the regulatory approach to health. Identification of any such associations was considered important so as to highlight where additional information or education might be directed in order to build widespread community understanding and support of public health legislation.

Demographic variables did not appear to explain variation in levels of support for the regulatory approach to health. Rather, factors found to be related were *attitudinal*, including support for prevention *per se* (that is, agreement that 'prevention is better than cure'), confidence in the legal system, agreement with the selected individual regulations and a belief that others in the community also agreed with the regulations. Table 37 highlights these statistical relationships.

Table 37. ***Factors related to support for the regulatory approach to health amongst the surveyed community***

Relationship	Significance
Support for prevention	Tau = 0.271, p=0.000 (n=239)
Confidence in the legal system	Tau = 0.143, p=0.011 (n=237)
Support for each of the specific health regulations examined	Tau range = 0.295 to 0.417, p=0.000 (n=232 to 240).
Belief that most others also agreed with the selected regulations	χ^2 range = 26.674 to 76.717, p<0.005 (n=233 to 238).

In addition to highlighting support for health regulation as an overall approach, the community survey identified a high level of support for the particular health regulations selected for investigation in this study. Between 73.3% and 90.0% of respondents agreed (either 'somewhat' or 'strongly') with each regulation (see 5.5.4). Table 38 highlights the findings of exploratory analyses aimed at identifying any factors related to support for the specific health regulations examined. As with support for the health law approach overall, no demographic factors were found to be related to support for the individual regulations. It can be seen that attitudinal factors consistently identified as related to support for each regulation, were:

- agreement with the regulatory approach to health; and
- perception of others' agreement with the regulation.

Other factors related to agreement with a number of, but not all, regulations included:

- agreement with prevention per se; and
- level of concern over the health issue addressed by, or related to, the regulation.

Table 38. ***Factors statistically related to agreement with selected health regulations among the surveyed community***

Health regulation	Relationships	Significance
Seatbelt-use	Agreement with the regulatory approach	Tau = 0.393, p=0.000, n=232
	Perception that most others would agree (93.4% vs 47.3%)	χ^2 = 76.461, p=0.000, n=233
	Level of agreement with prevention	Tau = 0.205, p=0.001, n=235
	Level of concern over road safety	Tau = 0.221, p=0.000, n=235
	Level of concern over alcohol abuse in general	Tau = 0.125 , p=0.039, n=228
	Level of concern over young people and alcohol	Tau = 0.143 , p=0.016, n=230
Driving under the influence of alcohol	Agreement with the regulatory approach	Tau = 0.295, p=0.000, n=236
	Perception that most others would agree (90.2 % vs 50%)	χ^2 = 69.983, p=0.000, n=239
	Level of concern over road safety	Tau = 0.225, p=0.000, n=230
	Level of concern over alcohol abuse in general	Tau = 0.173 , p=0.007, n=232
	Level of concern over young people and alcohol	Tau = 0.150 , p=0.013, n=234
Helmet-use	Agreement with the regulatory approach	Tau = 0.309, p=0.000, n=237
	Perception that most others would agree (97.8 % vs 85.7%)	χ^2 = 69.808, p=0.000, n=240
	Level of agreement with prevention	Tau = 0.180, p=0.010, n=239
	Level of concern over young people and alcohol	Tau = 0.124, p=0.044, n=235
Sale of alcohol to minors	Agreement with the regulatory approach	Tau = 0.338, p=0.000, n=237
	Perception that most others would agree (96.1 % vs 50%)	χ^2 = 115.878, p=0.000, n=238
	Level of agreement with prevention	Tau = 0.135, p=0.028, n=239
Sale of tobacco to minors	Agreement with the regulatory approach	Tau = 0.392, p=0.000, n=236
	Perception that most others would agree (95.3 % vs 50%)	χ^2 = 110.117, p=0.000, n=239
Food safety	Agreement with the regulatory approach	Tau = 0.436, p=0.000, n=238
	Perception that most others would agree (96.7 % vs 30.8%)	χ^2 = 142.943, p=0.000, n=237
	Level of agreement with prevention	Tau = 0.138, p=0.031, n=238
Water supply safety	Agreement with the regulatory approach	Tau = 0.417, p=0.000, n=237
	Perception that most others would agree (97.3 % vs 50%)	χ^2 = 127.038, p=0.000, n=234
	Level of agreement with prevention	Tau = 0.193, p=0.003, n=237
	Level of concern of environment pollution	Tau = 0.160, p=0.009, n=235

In review, key factors associated with support for the public health law approach overall and with a range, if not all, of the selected examples of public health law included:

- support for the principle of prevention in health;
- confidence in the legal system;
- a belief that others in the community also agreed with the public health law in question; and
- level of concern over the health issues related to or addressed by the law.

The associations observed suggest that efforts to maintain or increase levels of support for public health law in Timor-Leste might include:

- increased education on the benefits of preventive health and its links with public health legislation (based on support for prevention being found to be related to support for health law);
- increased education on the causes of ill health and of the likelihood and impact of illness (this may in turn raise levels of concern for health issues, which was found to be related to support for health law related to these issues);
- highlighting the high levels of support of health law amongst the community (based on the observation that an individual's belief that others agreed with a health law was related to whether that individual also reported agreement); and
- Raising awareness of law, the functioning of the legal system and highlighting legal 'success stories' (based on the observation that support for public health law was related to confidence in the legal system).

These evidence-informed suggestions provide direction to strategies to maintain or increase levels of support for public health law in Timor-Leste, should a more coordinated, comprehensive public health law strategy become a priority. Should future study highlight community groups or locations (outside of the capital, for example) where low support exists, these strategies might prove successful in promoting the local knowledge and attitudes conducive to a greater level of

acceptance of public health law. They might be considered as precursor or tandem strategies to specific education and awareness-raising of public health law itself.

7.2 Towards a public health law strategy in Timor-Leste.

Data collection and analysis in this study has focussed on two aspects of public health law that have been argued to be critical success factors: awareness and support of law. There is, however, clearly much more to consider in the design and implementation of public health law. In order to provide context, this study has also considered some of the major health concerns in Timor-Leste, and the challenges within the public service infrastructure. A range of other social and political factors have also been shown to be important, including stability of the nation, political willingness for legislative reform, donor priorities and the availability of technical assistance, for example.

This section summarises the challenges to the prospect of a public health law strategy in Timor-Leste and provides suggestions for how such a strategy might be targeted and delivered. Specific recommendations follow this discussion (see 7.3).

7.2.1 Challenges to public health law reform.

Chapters 2 and 3 of this thesis presented a discussion of some of the significant challenges faced in the Timorese health and legal systems. In review, these include:

- low levels of health and legal awareness and understanding amongst the community;
- a strong reliance on donor funding, donor priorities and technical assistance, and difficulties in coordinating the many donor, national and international non-government organisations;
- a poor base level of autonomous health or legal system capacity due to:
    - a history of significant and ongoing violence and political instability, resulting in damaged or destroyed infrastructure, social upheaval and the drawing of resources and focus away from system rebuilding;
    - a lack of pre-independence Timorese involvement in health or legal system planning or delivery;

    - poor health and legal system workforce capacity in terms of skills and training, and a lack of infrastructure to address these issues; and
    - poor information systems for the monitoring of health or legal indicators.
- a lack of comprehensive, cohesive or enforced public health legislation and a lack of community and professional awareness of applicable law;
- a questionable level of public service or political willingness to reform public health legislation;
- a lack of evidence including cost-benefit data related to public health law in the developing world, upon which to build arguments for political support; and
- the remoteness and cultural diversity of most of the population, making any population-wide communication or preventive health interventions extremely challenging.

These factors are clearly significant and are further referenced in the following discussions of the potential for a coordinated public health law strategy in Timor-Leste.

7.2.2 Directions for a public health law strategy.

It is evident that population level health in Timor-Leste is extremely poor. The nation faces significant health issues including serious endemic diseases such as malaria and tuberculosis, poor maternal and child health, nutritional deficiencies and food shortages, diarrhoeal disease, parasitic infections and a high smoking rate, for example. There is poor population-wide access to health services, safe drinking water and basic sanitary infrastructure. There is furthermore a low level of health knowedge in the community and this continues to be reinforced by the remoteness of much of the population and culturally-embedded social inequities, particularly regarding the low status of women in society.

This study has provided a starting point for investigating whether public health law might be a strategy worthy of greater focus in Timor-Leste in an expansion of coordinated efforts to address the nation's health challenges. While the literature

appears to be short of rigorous, scientific evidence of the success, or cost, of public health law in the developing world, it is nonetheless clear that law has been successful in other settings in addressing some of the same challenges faced by Timor-Leste (e.g., tobacco-use, road safety, communicable disease control). This study has also highlighted that strong support exists for a public health approach to be taken in Timor-Leste. Based on these factors, it is arguably well worth further exploring how Timor-Leste might go about increasing its focus on public health law as a preventive health strategy.

Based on the literature reviewed and data collected in this study, a number of factors would appear to be important to take into account in embarking upon a coordinated public health law strategy in Timor-Leste. These are considered below.

7.2.2.1 Rationale and supporting argument

This thesis has discussed a range of reasons why governments may not be focussed on, or supportive of, public health law reform (see 3.1.3 & 3.1.4). These may include:

- perceptions of areas of greater priority given limited resources;
- a recognition that drafting and/or enforcement capacity does not exist;
- a lack of willingness to place economic burden related to legal compliance on businesses or individuals;
- a lack of resources or infrastructure to deliver the workforce training and population-wide communication strategies required to ensure that all parties affected by the law are aware of their legal obligations;
- lobbying against law reform by powerful industry representatives;
- a general political aversion to pass legislation that might be unpopular in the population (i.e., perceptions of reduced re-election chances);
- a philosophical belief that legal approaches were overly restrictive (i.e., concerns regarding freedom and human rights); and
- a lack of awareness of the government's role and responsibilities in the promotion and protection of health.

Efforts to advocate for a public health law strategy in Timor-Leste would be weakened without an acknowledgement of the potential role of these factors and the design of strategies to address and overcome them. In advocating for a more prominent place for public health law in Timor-Leste, a clear rationale must be articulated. While this study has highlighted community and professional support, it cannot be assumed that such support exists amongst high level political and public service decision makers. Indeed, it has been noted that the Ministry of Health reports an aversion to change within the Ministry, particularly regarding legislative review (see 2.3.4). Public health law does not currently factor as a strategy in major published Timorese government plans.

Nevertheless many arguments can be made for the importance of public health law (see 3.1). These include that law is a relatively inexpensive strategy, when compared, for example, to health services delivery. It is also a relatively lasting and autonomous strategy, less influenced by changes in donor priorities and funding. Elements of public health law, particularly quarantine in the area of communicable disease control, are also arguably *essential* in stopping the spread of potentially devastating epidemics of disease.

Importantly, public health law can also be argued to be an important 'statement' by government to the population, and indeed to other nations, that health is taken seriously. By legislating for health, the government would provide clear acknowledgement that it recognises its responsibility for population health, highlighted in the Constitution and several international agreements it recognises, such as the *United Nations Declaration on Human Rights* and the *WHO Framework Convention on Tobacco Control*, for example. Public health law should be seen as an important government-led strategy in meeting the government's responsibilities to promote and protect health under these agreements.

Indeed, having signed the Framework Convention on Tobacco Control, the Timor-Leste government is *expected* to pass public health law in order to ban the sale of tobacco to children, for example. A coordinated public health law strategy would be advised to begin with a focus on tobacco, where there is both an existing expectation

for leglislative reform and a wealth of direction, support and advice provided by the WHO.

The public statement that legislating for health might make should not be underestimated. Indeed, a recognition that health was taken seriously through legislation in Timor-Leste might not only influence the Timorese population but also act to increase tourism, economic investment in local businesses and industry, and attractiveness of the nation to immigrant skilled workers and their families.

Arguments could also be made to allay potential concern within the Timorese government that public health law was an essentially *restrictive* strategy. That is, it can be implemented in a tempered, risk-based manner with transparent consideration of human rights and ethics. It also promotes a *shared responsibility* for health amongst individuals, industry, and the government. Indeed, of great importance, public health law can highlight to businesses their responsibility not to harm health in the pursuit of economic success, and can provide for remedies should industry cause harm to the population. For the community, public health law aids in the promotion of the *prevention* of ill health rather than reliance on the health service sector once illness is present: it can therefore also be seen as a vehicle for *educating* the population on risks to health.

Furthermore, public health law could be argued to be an important strategy in enabling the government to meet the Millenium Development Goals. Through legislation, for example, the government could formalise accountabilities, reportable targets and provide funding for a program of national coverage of adequate sanitation. This would allow significant progress to be made on one of the nation's biggest health issues, diarrhoeal disease, and would greatly assist in meeting Millenium Development Goals 4 and 5 around maternal and child health.

Moreover, public health law is an historically successful public health strategy that has been largely overlooked in Timor-Leste to date, while being intimately enmeshed within the public health approach elsewhere. Perhaps it is time to consider public health law as an addendum to existing strategies, which have arguably been slow to bring out notable improvement in health in Timor-Leste.

7.2.2.2 Reforming existing public health law

A focus on coordinating an improved public health law approach in Timor-Leste must acknowledge the inadequacy of existing applicable law. This thesis has shown that the analysis of the law that applies in Timor-Leste is not a simple task: it is spread across multiple laws from multiple political eras and in multiple languages. This may lead to confusion amongst government, the public service and the community, and has arguably influenced the low levels of awareness of applicable law found in this study.

An important first step in public health law reform in Timor-Leste would be to review existing law with the aim of modernising and consolidating it in a consistent language and in a cohesive form. A *Public Health Act*, as one option, would replace or at the very least 'reframe' existing law within a cohesive, single legal document. This would arguably facilitate a greater understanding of law through making it more accessible. Furthermore, through consolidating health law into one place, the risk of isolated or 'vertical' legal interventions with little cross-reference to other related legal areas might be reduced. In a simplistic example to illustrate this point, passing law to control tuberculosis *specifically* would be an inefficient approach: there may be many similarities in the legal approach to controlling tuberculosis and other serious communicable diseases. By taking an overarching view and creating a 'suite' of best practice legislation in public health, instead of passing ad hoc individual laws, important links could be made between health issues and legislative responses, and current gaps in legal coverage would become more obvious.

A comprehensive review and consolidation of public health law would also allow a wholistic picture to be gained of its administrative requirements. That is, a broad view of legislation within a consolidated Public Health Act might highlight where efficiencies could be made in the creation of roles and responsibilities to administer or enforce legislation. For example, passing of an isolated Food Safety Act might allow for the creation of the role of Food Safety inspectors, whereas under a broader Public Health Act, opportunity might be taken to maximise efficiencies and create a broader role that enforced several linked regulations in the areas of food safety, water safety and environmental pollution.

Maintaining a broad approach to reforming public health legislation would also lessen the risk that a public health law strategy would be heavily influenced through donor priorities or industry lobbying leading the government away from particular areas of legislation. Maintenance of an approach to developing a comprehensive, international best-practice 'suite' of legislation would ensure that gaps in legal coverage did not persist.

It is worth also noting that international agreements may not only require national law to be passed but, conversely, require that certain legislation is *not* passed. A comprehensive public health law strategy would also consider the effect that international trade agreements, for example, had in limiting the ability of the national government to regulate effectively in health. A trade agreement that allowed the unrestricted importation of cigarette packets without health warnings printed on them, for example, would potentially be counter-productive to national public health efforts in tobacco control legislation.

Finally, a modernisation of public health law in Timor-Leste would be advised to take a strong risk-based approach that allowed graduated responses in enforcement. This would ensure a strong focus on human rights through impinging on rights only where necessary and only to the extent necessary. A risk-based approach would also recognise the poor levels of health knowledge in Timor-Leste. It would arguably, for example, be unfair to treat a patient who knowingly put others at risk of contracting tuberculosis in the same way as a patient who was not aware that tuberculosis was contagious. As discussed above, public health law could indeed be viewed, particularly through a risk-based approach, as a useful means of *educating* the population on health risks.

7.2.2.3 Technical assistance and workforce capacity building

Public health law is not an area of high profile in the developing world, aside from isolated instances where it is promoted, for example, through the Framework Convention on Tobacco Control and the WHO's Noncommunicable Diseases Strategy. Accordingly, and in the face of perceived higher priorities, international agencies appear not to have delivered notable assistance in the development and

implementation of public health law in Timor-Leste. Instances of developmental assistance to the Timor-Leste Ministry of Health appear to have been restricted to a single, short-term WHO consultancy on the development of pharmacy regulation, which the Ministry of Health has acknowledged it has struggled to enforce.

A public health law strategy in Timor-Leste would require an acknowledgement, based on poor existing health and legal system capacity, that technical assistance would be essential for the drafting and implementation of any new law and regulation. This would initially be advised to focus on, as discussed above (see 7.2.2.2), bringing together existing public health law, modernising and consolidating it in a consistent language, and placing it within a more accessible and cohesive format, perhaps as an overarching Public Health Act.

The WHO has identified a role for itself in assisting with health legislation in Timor-Leste and certainly has much to offer, particularly in relation to advice on implementing its Framework Convention on Tobacco Control. The United Nations also provides developmental support to the judicial system more broadly. Efforts should be made to take advantage of the provision of such support: the government could potentially benefit greatly from directly requesting assistance from these bodies in reforming public health legislation broadly.

Technical assistance, in turn, should be delivered in such a way as to mentor and develop the skills and knowledge of Timorese health and legal public servants. Public health law training should also be built into the ongoing, basic training offered to these staff both ‘on the job’ and within the formal health and legal courses leading into these positions to ensure sustainability. Improved capacity for public health law enforcement is also critical and is discussed below (see 7.2.2.4).

Should support and technical assistance be hampered by donor priorisation of other approaches, a potentially effective strategy for advocates of public health law reform would be to set about to directly educate members of Parliament, donor agencies and the public service on the benefits of public health law. Identification of effective ‘champions’ of public health law may add significant weight to calls for a greater

focus on law reform, as would the commissioning or gathering of data on implementation success factors or cost-benefit analyses in similar settings.

7.2.2.4 Enforcement

Passing of public health law would arguably have little effect if it were not to be effectively enforced. While knowledge of health law, if communicated well, might impact upon peoples' behaviour, this would most likely be limited and eventually dissipate if the law was not observed to be enforced. Certainly, poor enforcement capacity is likely to be particularly problematic in the case of legislation targeted at industry. Without realistic expectation of prosecution, an industry such as the tobacco industry, for example, might be more concerned with maximising profits than in meeting legal requirements.

The development of a public health law strategy would be required to acknowledge that the existing enforcement capacity in Timor-Leste is extremely low. While the existing police force might conceivably be tasked with greater enforcement of road safety law, there is currently no health system enforcement infrastructure for a range of other public health law areas. There are no inspectors of food safety risks, for example, or mechanisms through which the sale of alcohol or tobacco to children is monitored. Public health law reform in Timor-Leste would necessitate the dedication of resources to establishing such mechanisms and, furthermore, to working with businesses (e.g., providing training) and communicating with the population to ensure widespread understanding of their obligations under any new law. Indeed, it should be remembered also that enforcement, particularly utilising a fair and risk-based approach, might also be an effective means of *educating* the population on risks to health.

7.2.2.5 Communication: Awareness and support of public health law

This study has argued that awareness of law is essential for it to achieve its purpose as a preventive health strategy. Similarly, support of law has been argued to be important to maximise community adherence, professional assistance with implementation, and political willingness to legislate.

The levels of awareness of existing law in Timor-Leste observed in this study suggest that a comprehensive communication and awareness-raising strategy would be an essential element of a public health law strategy. While this study has identified preliminary indications of demographic factors associated with poorer awareness, the low levels of awareness observed *overall* suggest that awareness and education on health law needs to occur across the entire population. Particular areas could legitimately be focussed upon, however. In terms of ensuring fairness, food handlers, for example, should arguably be able to access training on food safety risks and obligations under law. Tobacco sellers would also require specific, targeted communication on any new law that restricted the sale of tobacco to children, for example.

Strong levels of support for public health law should provide some comfort to advocates for improved public health law in Timor-Leste. The levels of support observed, however, should not be assumed to be present outside of the study's sample, or outside of Dili. Factors associated with support identified in this study provide direction for efforts to increase levels of support where low levels might be identified. Data suggest that communication and education on public health law should be linked to raising awareness of: the benefits of prevention; the causes and impacts of poor health; the high levels of support amongst peoples' peers; and raising confidence in the effective functioning of the legal system (see 7.1.2).

Moreover, support for public health law should not be 'taken for granted'. The design and implementation of public health law would most appropriately take a consultative approach, to further engender community understanding, acceptance and 'ownership' of public health law. In this regard, it would be particularly important for a public health law strategy to have a core human rights focus, ensuring a risk-based approach that impacted on rights only when absolutely necessary and only to the extent necessary to manage a significant, objective health risk. It would be important to highlight that such an approach to public health law offers a reasoned and *fair* approach to the management of health risks.

7.2.2.6 Monitoring, evaluation and further research

Very little literature of scientific rigour exists on public health law in the developing world. A public health law strategy in Timor-Leste would be advised to include a comprehensive monitoring and evaluation strategy, in order to judge its effectiveness and provide indication of where changes might need to be made so that law could evolve as the nation and its particular health challenges develop. Evaluation data would also provide other developing nation settings with valuable insight, momentum and direction to their own efforts to modernise public health law. Importantly, a monitoring strategy should ensure that human rights remain in focus and that the law does not unduly impinge upon rights.

Further research of public health law in Timor-Leste could build upon this study in a number of areas. It could begin by confirming and further exploring the factors identified as being associated with awareness and support of health law amongst the community, while expanding scope to include the more rural and remote areas outside of Dili. Research might also expand the scope of this study to other areas of public health law, including communicable disease control. Further research would also usefully examine the economic costs and benefits of public health law in order to support arguments for a greater focus to be placed on legislation.

Moreover, this study's proposed framework for the further research and implementation of public health law in a developing nation setting such as Timor-Leste (see 7.4) provides suggested direction for future research. This study has specifically collected data on two aspects of this model, awareness and support of public health law; however a range of other factors are proposed to be important.

7.3 Recommendations from the Study

Analysis of data gathered and a review of literature in this thesis point to an array of efforts that could be made towards a greater focus on public health law in Timor-Leste. This section proposes specific and concise recommendations in this regard for a range of relevant parties.

7.3.1 Recommendations for the Timor-Leste government.

It is recommened that the Timor-Leste government develop a coordinated, resourced and comprehensive public health law strategy, which replaces or updates the nation's existing public health-related laws with a more cohesive, comprehensive, enforced and understood body of law.

In doing so, it is recommened that the Timor-Leste government:

- **Ensures coverage of a *comprehensive*, international best-practice range of legislative areas**.

  Discussion in 3.1.2, 7.2.2.2, and 3.2.3 of this thesis documents the range of public heath areas in which law has been a successful tool, and argues that gaps in legislation allow health risks to go unchecked. In particular it is observed that Timor-Leste public health law leaves globally recognised health issues such as the sale of tobacco to children unregulated. Section 3.1.4.3 also supports the assertion that globalisation necessitates that public health law take into account a degree of harmonisation between nations, and in 3.1.3 and 7.2.2.1 expectations under international treaties are considered.

- **Promotes a *shared responsibility* for health through regulating not only individuals but industry also**.

  As discussed in 3.1.1, responsibility for health is not always or solely that of individuals. Environmental factors (e.g., industry marketing, or limited access to healthy food) act to make healthy choices difficult for people, and industry pressures on a global level can adversely impact upon public health across borders (3.1.4.3). Section 3.1.4.4 discuss that regulation is necessary as industries expand in developing nations, in order to protect populations from risks in relation to chemical safety or air quality for example. Currently as reported in 3.2.3, Timor-Leste lacks indigenous, enforced law targeting both individuals (e.g., smoking in public places) and industry (sale of tobacco to children). Such a balanced approach, highlighting a shared responsibility for health has been successfully employed in public health law elsewhere (3.1.2).

- **Requests the *technical assistance* of the WHO, United Nations and/or bilateral donors such as the Australian Government**.

  Section 1.1.2 argues that there is a need for international assistance to move more from 'band-aid' approaches to capacity building assistance in order to develop better, lasting health systems. Legal and health expertise is lacking in Timor-Leste and developing nations in general, as discussed in sections 2.3, 3.1.4, and 3.2. There is evidence as documented in 2.3.3, 3.2.4 that the WHO, for example, may play a key role in assisting the government and the Ministry of Health in this area.

- **ensures a *consultative* approach with all those affected by new law: government staff, industry and business owners, individuals (e.g., tobacco sellers) and the community more broadly;**

  Discussion of the need to account for local and cultural differences is outlined in Sections 3.1.4.1 and 3.1.4.2, including specific guidance for a consultative approach based on researcher experiences in a group of 14 developing nations in the Pacific. The thesis has also argued that consultation acts as education, and potentially encourages community acceptance or ownership of law (Sections 3.1.4.2 and 7.2.2.5). Consultation may impotantly also identify potential barriers to implementation and enforcement (Section 3.1.4.2).

- **maintains a strong *human rights focus* through legislating for a tempered and objective, risk-based approach through which enforcement is also seen as a means of *educating* the population on health risks;**

  This thesis has discussed that law should be careful to balance regulation with rights and that a risk-based approach is one way to ensure that rights are not unnecessarily restricted (Sections 3.1.2, 3.1.3). It has been also observed that simple education might be an effective means of 'first stage' regulation in a risk-based approach, or through a 'cascading hierarchy of sanctions' (Section 3.1.4.2). Enforcement, and its threat, also acts to educate people on health risks (Sections 3.1.2 and 3.1.4.4).

- **ensures the implementation of a resourced and sustained *monitoring and evaluation* strategy;**

  It has been argued that human rights abuses through unnecessary or disproportionate use of the law should be monitored (Section 3.1.3 and 7.2.2.6). Furthermore, the success of a strategy could not be determined without comprehensive monitoring and evaluation (Section 3.1.4, 7.2.2.6) and such an approach would add to the limited body of research in this area.

- **ensures the implementation of a resourced and sustained *communication* strategy so that all regulated parties are aware of their obligations under law;**

  This thesis has discussed that awareness and understanding of law and health risks are obvious precursors to adherence of law, and indeed represent a form of social and economic fairness (Section 4.1.1, 3.1.4.1). The study has reported low levels of community and professional awareness of public health law in Timor-Leste (Sections 5.5.3 and 6.6.2).

- **dedicates resources (financial, human and structural) to the effective and efficient *enforcement* of public health law, including monitoring minimum standards (e.g., food and water safety standards, for example);**

  The thesis has reported on a lack of enforcement resources and structures (e.g., health regulatory sections of agencies) in developing nations and Timor-Leste, and has discussed that enforcement is a fundamental requirement of effective law (Sections 3.1.4, 3.2.3, 3.2.4).

- **ensures that public health law *training* is included in the 'on-the-job' training provided to health and legal public servants, and also in the curricula of national courses leading to employment in these areas.**

  Legal and health expertise is lacking in Timor-Leste and developing nations in general (Sections 2.3, 3.1.4, 3.2). This study observed low levels of public health law awareness amongst local health and legal study participants (6.6.2). There is a clear need for capacity-building assistance in general (e.g., 1.1.2), and a need not only to train existing staff but also prepare people for such positions

better to ensure sustainability of effective public services (Sections 3.1.4.2, 7.2.2.3).

7.3.2 Recommendations for the United Nations, World Health Organization, International and Bilateral donors.

It is recommended that the major international agencies delivering health and legal system support to Timor-Leste through financing, programs and technical assistance:

- **recognise both the potential of public health law as a preventive health strategy and the current insufficiency of the public health law approach in Timor-Leste, and strongly advise the Timor-Leste government to consider a comprehensive reformation of public health law;**

  Public health law is not currently observed to be a priority of these organisations (Sections 2.3.3, 2.3.4, 3.2.4), despite the acknowledged success of the public health law approach (Section 3.1.2) and its lack of use in the developing world in contrast to its potential benefits (3.1.4). Existing Timor-Leste public health relevant law is disparate and unenforced and does not cover the full range of health risks (Sections 3.2.3, 7.2.2.2). These agencies play a key role in advising, influencing and supporting the government.

- **direct resources to assist the Timorese government with the development of a national public health law strategy, and ensure that technical assistance is provided in a capacity-building manner through training, mentoring and a health systems-strengthening approach;**

  Legal and health expertise is lacking in Timor-Leste and developing nations in general (Sections 2.3, 3.1.4, 3.2) and this study confirmed low levels of public health law awareness amongst local health and legal study participants (6.6.2). There is a need for capacity-building assistance in general (1.1.2), and a need not only to train existing staff but also prepare people for such positions better to ensure sustainability of effective public services (Sections 3.1.4.2, 7.2.2.3).

- **ensure that findings are documented in order to provide guidance to other developing nations wishing to reform public health legislation.**

This thesis has observed that the body of research in this area is relatively small, and that success of a strategy could not be determined without comprehensive monitoring and evaluation (Section 3.1.4, 7.2.2.6).

7.3.3 Recommendations for non-government organisations and advocates for public health law reform.

It is recommended that non-government organisations and other individuals and groups with an interest in advocating for public health law reform (e.g., public health professionals, academics, community leaders):

- **specifically gather and commission information and research on public health law in Timor-Leste and similar developing nation settings, particularly in regard to implementation success factors and cost-benefit analyses;**

  It has been observed that cost-benefit (political and economic cost) are key considerations in governments pursuing legal reform (Section 3.1.3, 3.1.4.1, 2.3.4). Furthermore, the body of research in this area, overall, is relatively small, and further investigation, particularly around implementation success factors will assist in confirming how developing nations can utilise law effectively (Section 3.1.4, 7.2.2.6).

- **directly promote the importance of public health legislation within the Timorese government, international aid agencies and donors through advocating for public health law reform in reports, correspondence, and meetings with officials, for example;**

  Public health law has been successful historically (Section 3.1.2) and its use in the developing world is in contrast to its potential benefits (3.1.4). This thesis has observed that public health law is not currently a priority of government or aid agencies (Sections 2.3.3, 2.3.4, 3.2.4). Reform might need to match the prospect of negative lobbying (e.g., by industry) with positive advocacy.

- **specifically highlight to government the high levels of community and professional support identified in this study for a public health law approach in Timor-Leste;**

  This thesis has observed that political and economic costs are key considerations in governments pursuing legal reform and that democratically elected governments are typically susceptible to community opinion in law reform (Section 3.1.3, 3.1.4.1). The study has found high levels of support amongst the surveyed community, and health and legal professionals (5.5.4, 5.5.6, 6.6.1, 6.6.3)

- **identify and educate 'champions' within the government, public service and donor agencies who may be able to raise the profile of public health law reform amongst policy and decision makers;**

  It has been observed that a 'champion' has been observed to facilitate the law reform process in developing nation settings (Section 3.1.4.2). Furthermore, positive advocacy from within the system may help to support external advocates and counteract negative lobbying against law reform (e.g., by industry).

- **work with the community, local business and industry to provide education on public health law and combat misinformation or unfounded fears of regulation.**

  Awareness and understanding of law and health risks are obvious precursors to adherence of law, and represent social and economic fairness (Section 4.1.1, 3.1.4.1). There are low levels of community awareness of public health law in Timore-Leste (Section 5.5.3) and lobbying against law reform or regulation is not exclusive to the developed world (Section 3.1.4.1).

7.4 A framework for future research and implementation of public health law in the developing world.

This study has involved the review of available relevant literature, observations of the health and legal systems in Timor-Leste, and the collection of a wide range of new data from both community members and health and legal professionals in Timor-Leste. Based on a synthesis of this combined information, a range of factors

have been argued to be key requirements for success in the development and implementation of public health law in Timor-Leste or other similar developing nation settings. These have been discussed at 7.2 and have informed recommendations made at 7.3. These factors have been further crystalised in the model presented visually at *Figure 32*. A finer level of detail to the model is provided in Table 39.

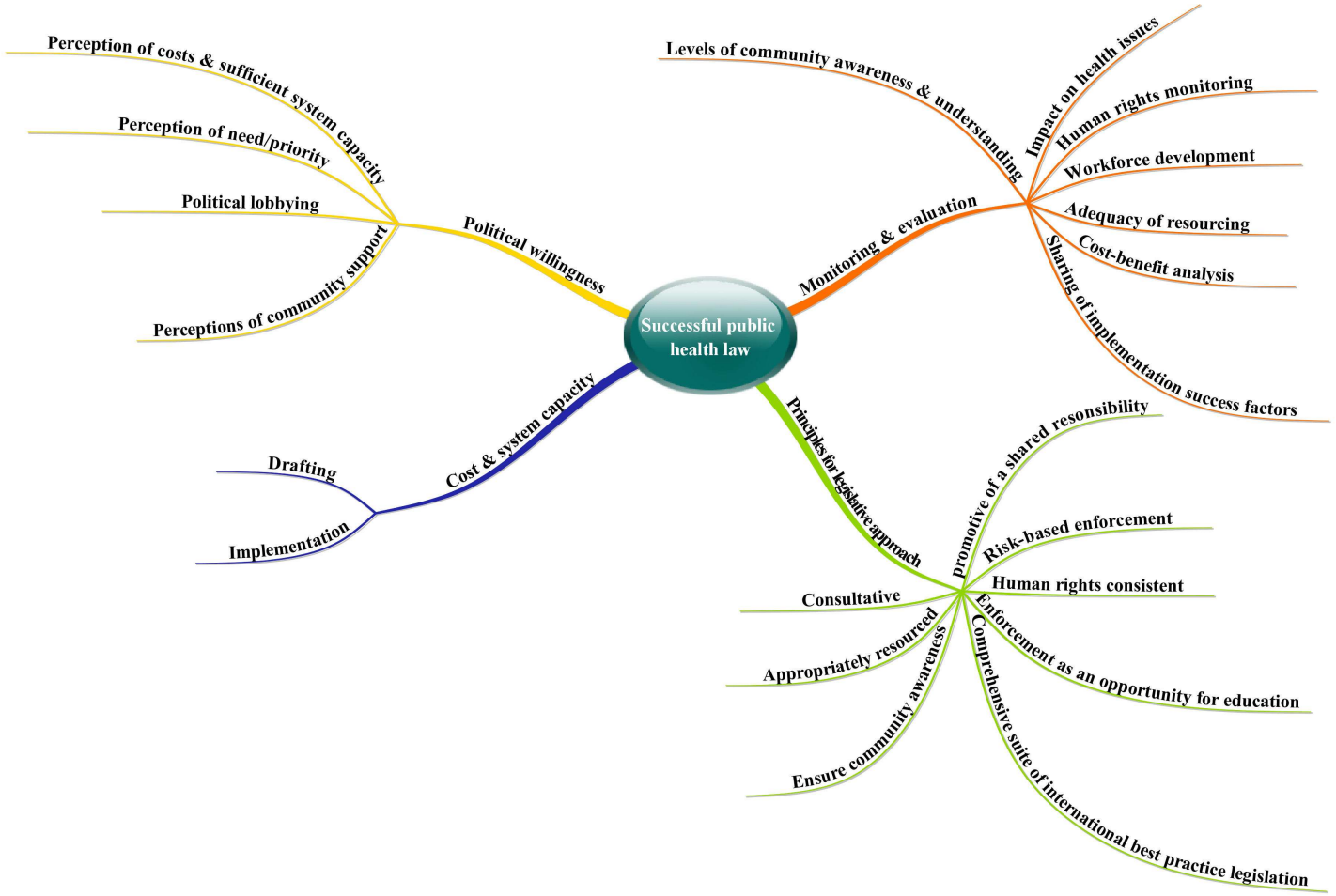

Figure 32. A framework for future research and implementation of public health law in the developing world.

Table 39. ***A framework for future research and implementation of public health law in the developing world***

Core elements	Sub-factors	Key areas of focus/principles
Political willingness	Perceptions of cost and sufficient system capacity	• Lack of data on cost-benefit ratio • Ability of the system to deliver
	Perceptions of need/priority	• Perceptions of competing demands with limited resources • Lack of data on effectiveness • Philosophical or human rights arguments against legislation • Recognition of government role to promote and protect health • Recognition of obligations under international treaties • Level of advocacy and agency advice
	Perceptions of community support	• Influence of community acceptance on adherence & success of the approach • Perceptions of low support influencing voting intentions
	Political lobbying	• Business owners • Industry (e.g., 'big tobacco') • Advocates against legislation in general (i.e., on philosophical grounds)
Cost and system capacity	Drafting	• Local capacity • Available technical assistance
	Implementation & monitoring	• Enforcement infrastructure • Workforce development infrastructure • Monitoring & evaluation infrastructure • Communication strategy & infrastructure • Cost to individuals and businesses to comply
Principles of approach to legislation	Consultative	• Business and industry • Community • Directly affected Ministry of Health staff and cross government partner agencies
	Suite of international best-practice legislation	• Address current risks and prepare for future risks to health • Informed by evidence and experiences of other nations
	Resourced	• Direct long-term, recurrent budget towards drafting, implementation and evaluation • Seek technical assistance

Core elements	Sub-factors	Key areas of focus/principles
	Ensure community awareness	• Ensure population-wide communication and education • Consider targeting or tailoring of communication strategies based on demographic factors identified in this study as being associated with awareness, including: o sex o parental status
	Encourage community support	• Explore and build on factors identified in this study as being associated with support, including: o support for preventive health o confidence in the legal system o perceptions of peer support o levels of concern for health issues
	Promotive of a shared responsibility	• Legislate individuals, industry and the government itself
	Risk-based enforcement	• Objective risk assessments combined with graduated responses
	Enforcement as education	• Enforcement not as 'punishment' but as an opportunity for education on health risks
	Human rights consistency	• Ensure legislation is consistent with international human rights instruments and best practice
Montoring and evaluation	Levels of community awareness and understanding	• Continually monitor so as to inform communication/education strategy
	Impact on health issues	• Identify specific influence of law on related health indicators
	Human rights monitoring	• Allow for independent monitoring of implementation and enforcement to ensure no human rights abuses
	Workforce capacity	• Monitor workforce capacity, understanding and skills in order to inform workforce development needs and strategies
	Cost-benefit analysis	• Investigate the economic costs and benefits of public health law to add to the evidence base and arguments for implementation in other developing nation settings
	Sharing of implementation success factors	• Publish monitoring and evaluation data to inform public health law strategies elsewhere
	Adequacy of resourcing	• Monitor government levels of funding (e.g., to enforcement agencies) to ensure a long-term commitment to a public health law strategy

7.5 Significance of the Study

It is well known that population health in Timor-Leste is extremely poor. An understanding of the broad range of factors that cause and maintain illness in this setting is growing, however, and much developmental assistance continues to be provided in this regard.

However, almost entirely absent from published critical discussion regarding how to address health problems in Timor-Leste and other developing nations, has been one of the most historically successful tools in the public health approach: public health law and regulation. This study appears to be the first to provide such a discussion of related issues in Timor-Leste, and among the first to do so in relation to any post-conflict, developing nation.

Rather than assume levels of awareness and support of public health law in the community, and amongst health and legal professionals, this study has collected new data in these areas. While data has highlighted poor awareness of existing public health law, it has also identified factors statistically associated with levels of awareness, and the health law domains for which awareness was lowest. These findings require clarification through further research, although their discussion in this thesis has provided direction to that research. In the meantime, this study provides the first evidence-based guidance on domains of health and deomographic factors associated with low awareness of health legislation.

It is significant also that this study has identified high levels of community and professional support for public health law in Timor-Leste. This suggests that adherence to such law in the community might be good, and that professionals in health and legal sectors might be willing to assist in the implementation of a more coordinated public health law strategy. The presence of wide ranging support, amongst the community in particular, might also be significant in achieving political willingness for public health law reform and its prioritisation within the Timor-Leste government. Significantly, factors have also been indentified that were statistically associated with community support for public health law, thereby highlighting ways in which levels of support may potentially be maintained or enhanced.

Discussion in this thesis has shown public health law to be an effective and relatively inexpensive health strategy. Scrutiny of the health and legal settings in Timor-Leste, however, has highlighted a range of challenges to the development and implementation of such a strategy. The recommendations proposed in this thesis provide realistic suggestions for overcoming these challenges.

Finally, this thesis has provided what appears to be the first structured guidance to the field of public health law within developing nations by proposing a theoretical framework to guide further research and implementation. It is hoped that significant progress might be made in furthering understanding of public health law in developing nations through the application of this framework by other researchers and health systems.

7.6 Limitations of the Study

This study has provided a background to the health and legal systems in Timor-Leste, with a focus on the current and potential role of public health law in addressing a number of health priorities. A single study could not possibly cover the breadth of issues within this scope and a number of limitations were inherent in the methodological approach taken. These are acknowledged below.

Literature review

A limitation of the approach to reviewing the background literature was of course the restriction to the English language. While the major organisations of relevance, such as the United Nations and WHO publish documents in English, publications of relevance to Timore-Leste may have also been available in Indonesian, Portuguese or Tetun languages. Similarly, publications related to public health law in other developing nations might also be available in a range of other languages. Due to limitations in resources available for translation, only English language documentation was sourced. Efforts were made, however, to search relevant foreign sources (e.g., foreign government or aid agency websites) for documents that may be published in English versions, but no reports of relevance were identified through this approach.

Overcoming the reliance on English literature to a degree was the incorporation into this study of a strategy to interview Timorese health and legal professionals for their perspectives. Interview participants were asked for their opinions and knowledge across a range of areas, including their suggestions for key references relevant to this study. Interviewees were encouraged to discuss the themes of any relevant non-English language reports that they were aware of.

Searches of foreign internet sources and interviews with key local professionals uncovered no foreign language material of relevance to public health law. It is certainly possible that this is because very little actually exists (as appears to be the case within the English language). However this remains a limitation that should be addressed in future research.

Fieldwork location

This study's community survey and interviews with key professionals were conducted solely in Dili, the capital of Timor-Leste. The limitation in this approach is of course that Dili, while highly relevant to the purposes of the study for various reasons, is not representative of the remainder of Timor-Leste. Indeed, outside of Dili, inhabited areas are far less urbanised and considerably more reflective of a traditional or village lifestyle. A large number of language and cultural groups are present throughout the country and it would have been impossible in one study to attempt to capture the potential differences.

In advising on the design of the study, cultural advisors commented that the current relevance of public health law outside of the capital was likely to be very low. For a number of reasons, including this advice, a decision was made to concentrate study efforts in Dili. It is of course recommended that future study investigates the relevance of this study's findings to other Timorese settings (and to other developing nations). This was outside of the scope of the present study, although a framework is provided to guide future research.

Sampling issues

The community survey sample, given the use of a lengthy survey instrument, was appreciably large for a study of this type in a developing nation (n=245). A number

of limitations remained, however. Most notably, the sample was younger in comparison to the wider Dili population and contained slightly more males (based on comparisons to the most recent government census data). Also, the sample was not entirely random. Indeed, obtaining a truly random sample was considered unfeasible. Finally, the survey instrument was translated only into Tetun and participants were required to be literate enough to, with translator assistance, self-complete the survey. Tetun was chosen due to its acknowledged widespread use throughout Timor-Leste, and particularly Dili. In order to overcome many language difficulties all surveys were, however, completed in the presence of a translator who, with the researcher, was on hand to assist with clarification.

Sampling issues were also apparent in the interviews with key health and legal professionals. Firstly, in comparison to the community survey sample of 245, the interview sample of 19 was much lower. This, however, reflects the more extensive nature of the interviews and a notably increased difficulty in obtaining permission to interview many persons of interest. Unfortunately, more health than legal professionals were interviewed also; however this was not through lack of approach.

Scope

The scope of this study was limited both by resourcing (as a postgraduate study) and focus. In terms of focus, in what was an initial step into a large research area, it would not have been possible to seek answers to all currently unanswered questions. Rather, this study focussed on select areas of public health law: road safety, food and water safety, and tobacco- and alcohol-use. These are acknowledged as significant and/or emerging issues in the developing world, including Timor-Leste.

A large part of the study was also focussed specifically on understanding community and professional knowledge of, and support for, public health law. This approach came from confidence (based on literature and observation) that these factors may be important in the success of health law; however other factors may clearly also be important. Further study could be directed towards understanding attitudes to law in other areas of health (e.g., communicable disease control), and indeed other factors in the implementation of health law that are highlighted by the model proposed in this thesis (see 7.4).

7.7 Conclusions

This study arose from the observation that international assistance to developing nations, particularly in post-conflict situations, has been weighted heavily towards aid targeting very specific, immediate priorities, with relatively limited concurrent focus on building lasting, autonomous systemic capacity in those nations.

In Timor-Leste a stark example of this is in the health system-strengthening approach of public health law, a historically successful strategy that has become enmeshed into health systems throughout the developed world. In over ten years of significant development assistance, very little focus has been directed towards improving or enforcing public health legislation in Timor-Leste, despite the nation having significant health concerns for which legislation has shown to be particularly successful (e.g., tobacco control, road safety, communicable disease control). Indeed, very little attention has been directed towards understanding the use or potential of public health law in the developing world in general.

This study has sought to outline and examine some of the critical supporting factors for a successful public health law approach in Timor-Leste. While it has provided important new data on levels of public and professional awareness and support of public health law, it has also looked further into the system capacity constraints and political issues that might currently hinder a greater focus on health law.

There exists very little direction within the published literature for how to begin to examine public health law in a low income, developing nation setting. A famework has been proposed to address this by providing guidance to future critical examination and implementation of public health law in Timor-Leste and similar settings. It is hoped that this will provide impetus and direction to further efforts to understand and utilise what is arguably an underutilised approach in developing nations.

Population health, and the government's capacity to improve it, remains exceptionally low in Timor-Leste, despite significant international assistance. While such assistance will arguably need to continue for many years, a comprehensive,

concurrent strategy to strengthen the health system itself has not received due focus. Public health law reform offers a relatively inexpensive and lasting means to strengthen the health system's approach to population health. Given continued, extremely poor levels of population health, it is arguably time to begin to examine the potential for the legislative approach to health.

References

Achadi, A., Soerojo, W., & Barber, S. (2005). The relevance and prospects of advancing tobacco control in Indonesia. *Health Policy, 72,* 333-349.

Adhikary, S. (2002). *Environmental health in East Timor* (Assignment report: 23 November 2000 – 2 March 2001). Geneva: World Health Organization

Ahmad, S., & Billimek, J. (2007). Limiting youth access to tobacco: Comparing the long-term health impacts of increasing cigarette excise taxes and raising the legal smoking age to 21 in the United States. *Health Policy, 80*, 378-391.

Ahrens, D. (2009). Tobacco taxes and cigarette consumption in low income populations. *American Journal of Public Health, 99* (1), 6.

Ajzen, I. (1988). *Attitudes, personality and behavior.* Chicago: Dorsey Press.

Alderman, J., Smith, J. A., Fried, E. J., & Daynard, R. A. (2007). Application of law to the childhood obesity epidemic. *The Journal of Law, Medicine & Ethics, 35* (1), 90-112.

Alliance for Health Policy and Systems Research. (2004). *Strengthening health systems: The role and promise of policy and systems research*. Retrieved from http://www.who.int/alliance-hpsr/resources/Strengthening_complet.pdf

Alliance for Health Policy and Systems Research. (2008a). *Neglected health systems research: Governance and accountability*. Retrieved from http://www.who.int/alliance-hpsr/resources/AllianceHPSR_ResearchIssue_Governance.pdf

Alliance for Health Policy and Systems Research. (2008b). *Neglected health systems research: Health policy and systems research in conflict-affected fragile states*. Retrieved from http://www.who.int/alliance-hpsr/resources/AllianceHPSR_ResearchIssue_FragileStates.pdf

Alonso, A., & Brugha, R. (2006). Rehabilitating the health system after conflict in East Timor: A shift from NGO to government leadership. *Health Policy and Planning, 21* (3), 206-216.

American Psychological Association (2010). *Publication manual of the American Psychological Association*. (6th ed.). Washington, DC: American Psychological Association.

Anderson, G. F. (2009). Missing in action: International aid agencies in poor countries to fight chronic disease. *Health Affairs, 28* (1), 202-205.

Anderson, T. (2006). Timor-Leste: The second Australian Intervention. *Journal of Australian Political Economy, 58,* 62-93.

Anderson, T. (2008). *Solidarity aid: The Cuba-Timor Leste Health Program*. Presentation at the 17th Biennial Conference of the Asian Studies Association of Australia. Melbourne 1-3 July 2008.

Annas, G. J. (1996). Cowboys, camels, and the first amendment: The FDA's restrictions on tobacco advertising. *The New England Journal of Medicine, 335* (23), 1779-1783.

Annas, G. J. (1997). Tobacco litigation as cancer prevention: Dealing with the devil. *The New England Journal of Medicine, 336* (4), 304-309.

Annas, G. J. (1998). Human rights and health – The Universal Declaration of Human Rights at 50. *The New England Journal of Medicine, 339* (24), 1778-1781.

Annas, G. J. (2002). Bioterrorism, public health, and civil liberties. *The New England Journal of Medicine, 346* (17), 1337-1342.

Aschengrau, A., & Seage, G. R. (2003). *Essentials of Epidemiology in Public Health*. London: Jones and Bartlett.

Asante, A., Roberts, G., & Hall, J. (2011). *A review of health leadership and management capacity in Solomon Islands*. Sydney: University of New South Wales.

Australian Agency for International Development. (2006). Impacts of HIV/AIDS 2005-2025 in Papua New Guinea, Indonesia and East Timor: Final report of HIV epidemiological modelling and impact study. Canberra: AusAid.

Australian Agency for International Development. (2008a). *A balancing act: Implementation of the Paris declaration in Timor-Leste*. Canberra: AusAid.

Australian Agency for International Development. (2008b). *Annual program performance report for East Timor 2007-08*. Canberra: AusAid.

Australian Agency for International Development. (2008c). *Tracking development and governance in the Pacific*. Canberra: AusAid.

Australian Agency for International Development. (2008d). Violence against women in Melanesia and East Timor: Building on global and regional promising approaches. Canberra: AusAid.

Australian Agency for International Development. (2010). *Australia – Timor-Leste country strategy 2009-2014*. Canberra: AusAid.

Backman, G., Hunt., P., Khosla, R., Jaramillo-Strouss, C., Fikre, B. M., Rumble, C., … Vladescu, C. (2008). Health systems and the right to health: An assessment of 194 countries. *The Lancet, 372*, 2047-2085.

Barclay, L. (1998). *Are human rights universal?* Unpublished minor theoretical thesis submitted as part of the Bachelor of Behavioural Science (Hons) Degree, LaTrobe University.

Barnes, B. R. (2007). The politics of behavioural change for environmental health promotion in developing countries. *Journal of Health Psychology, 12* (3), 531-538.

Beijing Review. (2004). Enhanced awareness of law. *Beijing Review, 47* (9).

Belton, S., Whittaker, A., Fonseca, Z., Wells-Brown, T., & Pais, P. (2009). Attitudes towards the legal context of unsafe abortion in Timor-Leste. *Reproductive Health Matters, 17* (34), 55-64.

Bennett, B., & Carney, T. (2010). Law, ethics and pandemic preparedness: The importance of cross-jurisdictional and cross-cultural perspectives. *Australian and New Zealand Journal of Public Health, 34* (2), 106-112.

Berrigan, F. (2001). *Indonesia at the crossroads: U.S. weapons sales and military training*. World Policy Journal Special Report, October 2001.

Bernheim, R. G., Nieberg, P., & Bonnie, R. J. (2007). Ethics and the practice of public health. In R. A. Goodman, R. E. Hoffman, W. Lopez, G. W. Matthews, M. A. Rothstein & K. L. Foster (Eds.), *Law in public health practice*(2nd ed.). (pp. 110-135). United States: Oxford University Press.

Bettcher, D., DeLand, K., Schlundt, J., Gonzalez-Martin, F., Bishop, J., Hamide, S., & Lin, A. (2009). International public health instruments. In R. Detels, R. Beaglehole, M. A. Lansang & M. Gulliford (Eds.), *Oxford textbook of public health* (5th ed.) (Chapter 4.3). Retrieved from Curtin University Library website (e-book): http://apps.lis.curtin.edu.au/singlesearch/search.cgi?query=oxford textbook of public health

Birbili, M. (2000). Translating from one language to another. *Social Research Update, 31*. Retrieved from Surrey University website: http://sru.soc.surrey.ac.uk/SRU31.html

Booth, A., & Carroll, N. (2005). *Overcrowding and Indigenous health in Australia.* (Discussion paper no. 498). Canberra: Australian National University Centre for Economic Policy Research.

Borgerhoff, A. (2006). The double task: Nation- and State-Building in Timor-Leste. *European Journal of East Asian Studies, 5* (1), 101-130.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3* (2), 77-101.

Brinkerhoff, D. W. (2005). Rebuilding governance in failed states and post-conflict societies: Core concepts and cross-cutting themes. *Public Administration and Development, 25* (1), 3-14.

Brown, M. A. (2009). Security, development and the nation-building agenda – East Timor. *Conflict, Security and Development, 9* (2), 141-164.

Brown, M. A. & Gusmao, A. F. (2009). Peacebuilding and political hybridity in East Timor. *Peace Review, 21* (1), 61-69.

Brundtland, G. H. (2000). *International consultation on mental health of refugees and displaced populations in conflict and post-conflict situations* (Speech delivered in October, 2000, at the World Health Organization, Geneva). Retrieved from World Health Organization website: http://www.who.int/director-general/speeches/2000/english/20001023_mental_health.html

Burstein, P. (1998). Bringing the public back in: Should sociologists consider the impact of public opinion on public policy? *Social Forces, 77* (1), 27-62.

Calman, K. (1998). The 1848 Public Health Act and its relevance to improving public health in England now. *British Medical Journal, 317,* 596-598.

Campaign Against Arms Trade. (2005). *Arms to Indonesia. CAAT-TAOL Factsheet.* Retrieved from: http://www.caat.org.uk/resources/publications/countries/indonesia-0604.php

Carmichael, A. G. (1991). Contagion theory and contagion practice in fifteenth-century Milan. *Renaissance Quarterly, 44* (2), 213-256.

Carpenter, C. S., & Stehr, M. (2008). The effects of mandatory seatbelt laws on seatbelt use, motor vehicle fatalities, and crash-related injuries among youths. *Journal of Health Economics, 27* (3), 642-662.

Carvan, J. (2005). *Understanding the Australian legal system* (5th ed.). Australia: Thomson Law Book Co.

Chapman, S. (2007). *Public health advocacy and tobacco control: Making smoking history*. London: Blackwell.

Charmaz, K. (2005). Grounded theory in the 21st century: Applications for advancing social justice studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (3rd ed.). (pp. 507-536). California: Sage Publications Inc.

Chevalier, B., Carmoi, T., Sagui, E., & Pierre, C. (2001). Prevalence of infection with human immunodeficiency virus in East Timor. *Clinical Infectious Diseases, 32* (6), 991-992.

Childress, J. F., Faden, R. R., Gaare, R. D., Gostin, L. O., Kahn, J., Bonnie, R. J., … Nieburg, P. (2002). Public health ethics: Mapping the terrain. *Journal of Law, Medicine & Ethics, 30* (3), 170-178.

Chomsky, N. (1999). *Why Americans should care about East Timor*. Retrieved from: http://www.chomsky.info/articles/19990826.htm

Clasen, T., & Sugden, S. (2009). Water and sanitation. In R. Detels, R. Beaglehole, M. A. Lansang & M. Gulliford (Eds.), *Oxford textbook of public health* (5th ed.). (Chapter 2.5). Retrieved from Curtin University Library website (e-book): http://apps.lis.curtin.edu.au/singlesearch/search.cgi?query=oxford textbook of public health

Coben, J. H., Steiner, C. A., & Miller, T. R. (2007). Characteristics of motorcycle related hospitalizations: Comparing states with different helmet laws. *Accident Analysis and Prevention, 39* (1), 190-196.

Cohen, A., & Einav, L. (2003). The effects of mandatory seatbelt laws on driving behaviour and traffic fatalities. *The Review of Economics and Statistics, 85* (4), 828-843.

Coker, R. (2006). Communicable disease control and contemporary themes in public health law. *Public Health, 120*, 23-29.

Coker, R., & Martin, R. (2006). Introduction: The importance of law for public health policy and practice. *Public Health, 120*, 2-7.

Commission of Truth and Friendship Indonesia Timor-Leste (CTF). (2008). Final report of the Commission of Truth and Friendship (CTF) Indonesia Timor-Leste.

Commission for Reception, Truth and Reconciliation in East Timor (CRTR) (2005). Chega! Final report of the Commission for Reception, Truth and Reconciliation in East Timor.

Conrad, P., Bradshaw, Y. S., Lamsudin, R., Kasniyah, N., & Costello, C., (1996). Helmets, injuries, and cultural definitions: Motorcycle injury in urban Indonesia. *Accident Analysis and Prevention, 28* (2), 193-200.

Cook, Creyke, Geddes & Holloway (2005). *Laying down the law* (6th ed.). Sydney: Butterworths.

Cotton, J. (2004). *East Timor, Australia and regional order*. Abingdon, Oxon: Routledge Courzon.

Cotton, J. (2007). Timor-Leste and the discourse of state failure. *Australian Journal of International Affairs, 61* (4), 455-470.

Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions.* London: Sage Publications.

Creswell, J. W. (2003). *Research design: Qualitative, quantitative and mixed methods approaches* (2nd ed.). California: Sage Publications Inc.

Cummins, S., & Macintyre, S. (2006). Food environments and obesity: Neighbourhood or nation? *International Journal of Epidemiology, 35* (1), 100-104.

Daynard, R. A., Gottlieb, M. A., Sweda Jr., E. L., Friedman, L. C., & Eriksen, M. P. (2007). Prevention and control of diseases associated with tobacco use through law and policy. In R. A. Goodman, R. E. Hoffman, W. Lopez, G. W. Matthews, M. A. Rothstein & K. L. Foster (Eds.), *Law in public health practice* (2nd ed.). (pp. 427-451). United States: Oxford University Press.

De Haan, A. (2009). *How the aid industry works: An introduction to International development.* USA: Kumarian Press.

De Sousa, I. C. (2001). The Portuguese colonization and the problem of East Timorese nationalism. *Lusotopie 2001:* 83-194.

Democratic Republic of East Timor. (2002a). *Constitution of the Democratic Republic of East Timor*. Dili: Democratic Republic of East Timor.

Democratic Republic of East Timor. (2002b). *East Timor National Development Plan*. Dili: Democratic Republic of East Timor.

Democratic Republic of East Timor. (2002c). *Law no. 2/02: Interpretation of applicable law on 19 May 2002*. Dili: Democratic Republic of East Timor.

Democratic Republic of East Timor. (2002d). *Joint instruction 13 December 2002*. Dili: Democratic Republic of East Timor.

Democratic Republic of Timor-Leste. (2003a). Law no. 10/03: Interpretation of Section 1 of Law no. 2/2002, of 7 August, and sources of law. Dili: Democratic Republic of Timor-Leste.

Democratic Republic of Timor-Leste. (2003b). *Decree-Law no. 21/2003: Quarantine and sanitary control on goods imported and exported*. Dili: Democratic Republic of Timor-Leste.

Democratic Republic of Timor-Leste. (2003c). *Decree-Law no. 6/2003: The highway code*. Dili: Democratic Republic of Timor-Leste.

Democratic Republic of Timor-Leste. (2003d). *Decree-Law no. 17/2003: On statistics*. Dili: Democratic Republic of Timor-Leste.

Democratic Republic of Timor-Leste. (2004a). *Decree-Law no. 4/2004: On water supply for public consumption*. Dili: Democratic Republic of Timor-Leste.

Democratic Republic of Timor-Leste. (2004b). *Government decree no. 1/2004. The standard orthography of the Tetun language*. Dili: Democratic Republic of Timor-Leste.

Democratic Republic of Timor-Leste. (2008). *Timor-Leste extractive industries transperancy initiative* (for the year ended 31 December 2008). Dili: Democratic Republic of Timor-Leste.

Democratic Republic of Timor-Leste and The United Nations. (2009). *The millennium development goals, Timor-Leste*. Dili: Democratic Republic of Timor-Leste.

Democratic Republic of Timor-Leste, Court of Appeal. (2003). *Court of Appeal proceedings: 15 July 2003*. Dili: Democratic Republic of Timor-Leste.

Denzin, N. K., & Lincoln, Y. S. (2005). Introduction: The discipline and practice of qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (3rd ed.). (pp. 1-32). California: Sage Publications Inc.

Department of Foreign Affairs and Trade. (2010). *East Timor - country brief.* Retrieved from http://www.dfat.gov.au/ geo/east_timor/east_timor_brief.html

Department of Human Services. (2004). *Review of the Health Act 1958: A new legislative framework for public health in Victoria: A discussion paper*. Victoria: Public Health Group, Department of Human Services.

Department of Human Services. (2005). *Review of the Health Act 1958: Draft policy paper – for consultation*. Victoria: Public Health Group, Department of Human Services.

Detels, R. (2009). The scope and concerns of public health. In R. Detels, R. Beaglehole, M. A. Lansang & M. Gulliford (Eds.), *Oxford textbook of public health* (5th ed.). (Chapter 1.1). Oxford: Oxford University Press.

Devore, J., & Peck, R. (1993). *Statistics: The exploration and analysis of data*. California: Duxbury Press.

Dias, M. (2000). Lessons from the Indonesian health system and future health priorities. *The La'o Hamutuk Bulletin, 1* (3), 6-7.

Dick, B. (2002). *Grounded theory: A thumbnail sketch*. Retrieved from the Southern Cross University website: http://www.scu.edu.au/schools/gcm/ar/arp/grounded.html

Donovan, R. J. (1991). Public health advertising: Execution guidelines for health promotion professionals. *Health Promotion Journal of Australia, 1* (1), 40-45.

Dunn, J. (2003). *East Timor: A rough passage to independence*. New South Wales: Longueville Books.

Earnest, J., & Finger, R. (2009). General health in Timor-Leste: Self-assessed health in a large household survey. *Australian and New Zealand Journal of Public Health, 33* (4), 378-383.

European Transport Safety Council. (1999). *Police enforcement strategies to reduce traffic casualties in Europe*. Brussels: European Transport Safety Council.

Evans, M. D. R., & Kelly, J. (2004). Effect of family structure on life satisfaction: Australian evidence. *Social Indicators Research, 69* (3), 303-349.

Falope, 1. A. (1991). Motorcycle accidents in Nigeria: A new group at risk. *West African Journal of Medicine, lO* (2), 187-189.

Fidler, D. P. (2002). A globalized theory of public health law. *Journal of Law, Medicine and Ethics, 30*, 150-161.

Fidler, D. P., & Cetron, M. S. (2007). International considerations. In R. A. Goodman, R. E. Hoffman, W. Lopez, G. W. Matthews, M. A. Rothstein & K. L. Foster (Eds.), *Law in public health practice* (2nd ed.). (pp. 168-198). United States: Oxford University Press.

Fink, A. (2003). *How to sample in surveys: Second edition*. California: Sage Publications Inc.

Fischhoff, B. (2009). Risk perception and communication. In R. Detels, R. Beaglehole, M. A. Lansang & M. Gulliford (Eds.), *Oxford textbook of public health* (5th ed.). (Chapter 8.8). Retrieved from Curtin University Library website (e-book): http://apps.lis.curtin.edu.au/singlesearch/search.cgi?query=oxford textbook of public health

Fitzroy Legal Service. (2008). *The Law Handbook 2008*. Melbourne: Fitzroy Legal Service Inc.

Fleming, D. T., & Wasserheit, J. N. (1999). From epidemiological synergy to public health policy and practice: The contribution of other sexually transmitted diseases to sexual transmission of HIV infection. *Sexually Transmitted Infections, 75* (1), 3–17.

Frankenberg, E., & Jones, N. R. (2004). Self-rated health and mortality: Does the relationship extend to a low income setting? *Journal of Health and Social Behavior, 45* (4), 441-452.

Friedkin, N. (1998). *A Structural Theory of Social Influence*. Cambridge: Cambridge University Press.

Friedkin, N. (2010). The attitude-behavior linkage in behavioral cascades. *Social Psychology Quarterly, 73* (2), 198-213.

Garrard, J., Lewis, B., Keleher, H., Tunny, N., Burke L., Harper, S. & Round, R. (2004). *Planning for healthy communities: Reducing the risk of cardiovascular disease and type 2 diabetes through healthier environments and lifestyles*. Victoria: Department of Human Services.

Gensini, G. F., Yacoub, M., H., & Conti, A. A. (2004). The concept of quarantine in history: from plague to SARS. *Journal of Infection, 49*, 257-261.

Giles-Corti, B., Wilson-Roberston, J., Wood, L., & Falconer, R. (2010). *The Role of the Changing Built Environment in Shaping Our Shape, in Geographies of Obesity: Environmental understandings of the obesity epidemic.* J. Pearce and K. Witten (Eds.). Oxford: Ashgate.

Gilmore, A., Collin, J., & Townsend, J. (2007). Transnational tobacco company influence on tax policy during privatization of a state monopoly: British American Tobacco and Uzbekistan. *American Journal of Public Health, 97* (11), 2001-2009.

Glennie, J. (2008). *The trouble with aid: Why less could mean more for Africa*. London: Zed Books.

Gonzalez-Block, M. A., Lucas, A., Gomez-Dantes, O., & Frenk, J. (2009). Health policy in developing countries. In R. Detels, R. Beaglehole, M. A. Lansang & M. Gulliford (Eds.), *Oxford textbook of public health* (5th ed.). (Chapter 3.3). Retrieved from Curtin University Library website (e-book): http://apps.lis.curtin.edu.au/singlesearch/search.cgi?query=oxford textbook of public health

Goodhand, J. (2002). Aiding violence or building peace? The role of international aid in Afghanistan. *Third World Quarterly, 23* (5), 837-859.

Goodman, C., Kachur, S. P., Abdulla, S., Bloland, P., & Mills, A. (2007). Drug shop regulation and malaria treatment in Tanzania: Why do shops break the rules, and does it matter? *Health Policy and Planning, 22*, 393-403.

Gostin, L. O. (2000). *Public health law: Power, duty, restraint*. Berkeley: University of California Press.

Gostin, L. O. (2004). Law and ethics in population health. *Australian and New Zealand Journal of Public Health, 28* (1), 7-12.

Gostin, L. (2006). Legal foundations of public health law and its role in meeting future challenges. *Public Health, 120*, 8-15.

Gostin, L. O., Thompson, F. E., & Grad, F. P. (2007). The law and the public's health: The foundations. In R. A. Goodman, R. E. Hoffman, W. Lopez, G. W. Matthews, M. A. Rothstein & K. L. Foster (Eds.), *Law in public health practice* (2nd ed.). (pp. 25-44). United States: Oxford University Press.

Gove, W. R., Hughes, M. D., & Galle, O. R. (1983). *Overcrowding in the household: An analysis of determinants and effects.* New York: Academic Press.

Grad, F. P. (1998). Public health law: Its form, function, future, and ethical parameters. *International Digest of Health Legislation, 49*, 19-39.

Habibzadeh, F., Yadollahie, M., & Kucheki, M. (2008). International aid in distaster zones: Help or headache? *The Lancet, 372 (9636)*, 374.

Hagquist, C., Sundh, M., & Eriksson, C. (2007). Smoking habits before and after the introduction of a minimum-age law for tobacco purchase: Analysis of data on adolescents from three regions of Sweden. *Scandinavian Journal of Public Health, 35*, 373-379.

Harmon, S. H. E. (2009). International public health law: Not so much WHO as why, and not enough WHO and why not? *Medicine, Health Care and Philosophy, 12*, 245-255.

Harrington, A. (2007). *The commission of truth and friendship Indonesia Timor-Leste: Competing concepts of justice*. Retrieved from East Timor Law Journal website: http://www.eastimorlawjournal.org/ARTICLES/2007/Commission_Truth_Friendship_East_Timor_Competing_Concepts_of_Justice_Harrington.pdf

Hawkes, C. (2007). Regulating food marketing to young people worldwide: Trends and policy drivers. *American Journal of Public Health, 97* (11), 1962-1973.

Hazarika, S., Yadav, A., Reddy, K. S., Prabhakaran, D., Jafar, T. H., & Venkat Narayan, K. M. (2009). Pubic health law in India: A framework for its application as a tool for social change. *The National Medical Journal of India, 22* (4), 199-203.

Hennink, M. (2008). Emergent issues in international focus group discussions. In S. Hesse-Biber & P. Leavy (Eds), *Handbook of emergent methods* (pp. 207-220). New York: Guildford Press.

Hinkle, D. E., Wiersma, W., & Jurs, S. G. (1994). *Applied statistics for the behavioual sciences* (3rd ed.). Boston: Houghton Mifflin Company.

Hodge, J. G., Gostin, L. O., Gebbie, K., & Erikson, D., L. (2006). Transforming public health law: The Turning Point Model State Public Health Act. *The Journal of Law, Medicine & Ethics, 34* (1), 77-84.

Hogg, M. A., & Vaughan, G. M. (2010). *Essentials of social psychology*. New York: Pearson.

Houston, D. J., & Richardson Jr., L. E. (2007). Motorcycle safety and the repeal of universal helmet laws. *American Journal of Public Health, 97* (11), 2063-2069.

Howell, D. C. (2005). Nonparametric correlation (tau). In B. S. Everitt & D. C. Howell (Eds.), *Encyclopedia of statistics in behavioral science* (pp. 1420-1421). Chichester: John Wiley & Sons, Ltd.

Howse, G. (2009). Formulating a model public health law for the pacific: Programme methods. *Public Health, 123*, 237-241.

Howse, G. (2011). Public health law in the Pacific: A Legislators' companion. Melbourne: LaTrobe University School of Public Health. Retrieved from website: ftp://ftp.wpro.who.int/scratch/HSD/Public_Health_Law/Public%20Health%20Law%20in%20the%20Pacific,%20%20A%20Legislators%92%20Companion.pdf

Huff, J. (2007). Industry influence on occupational and environmental public health. International *Journal of Occupational and Environmental Health*, 13 (1), 107-117.

Hull, G. (2002). *Standard Tetum-English dictionary* (3rd. Ed.). New South Wales: Sebastiao Aparicio Da Silva Project in association with Instituto Nacional De Linguistica, Timor-Leste.

Hyder, A. A., Waters, H., Phillips., T., & Rehwinkel, J. (2007). Exploring the economics of motorcycle helmet laws: Implications for low- and middle-income countries. *Asia-Pacific Journal of Public Health, 19* (2), 16-22.

Institute of Medicine. (1988). *The future of public health*. Washington, DC: National Academy Press.

International Crisis Group. (2006). *Resolving Timor-Leste's crisis. Asia report no. 120 – 10 October 2006*. Brussels: International Crisis Group.

Jacobson, P. D., Hoffman, R. E., & Lopez, W. (2007). Regulating public health: Principles and application of administrative law. In R. A. Goodman, R. E. Hoffman, W. Lopez, G. W. Matthews, M. A. Rothstein & K. L. Foster (Eds.), *Law in public health practice* (2nd ed.). (pp. 69-88). United States: Oxford University Press.

Jones, M. M., & Bayer, R., (2007). Paternalism and its discontents: Motorcycle helmet laws, libertarian values, and public health. *American Journal of Public Health, 97* (2), 208-217.

Judicial System Monitoring Programme. (2006a). *JSMP Training in the districts of Timor-Leste 2005: Report, reflection and recommendations*. Retrieved from http://www.jsmp.minihub.org/Reports/2006/Training%20Report%202005%20(e).pdf

Judicial System Monitoring Programme. (2006b). *Overview of Timor-Leste justice sector 2005*. Retrieved from http://www.jsmp.minihub.org/Reports/2006/Final%20Overview%20Report%202005%20(e).pdf

Kapborg, I., & Berterö, C. (2002). Using an interpreter in qualitative interviews: Does it threaten validity? *Nursing Inquiry, 9* (1), 52-56.

Kasimbazi, E., Moses, M., & Loewenson, R. (2008). *A review of Kenyan, Ugandan and Tanzanian public health law relevant to equity in health*. EQUINET Discussion Paper 63. Faculty of Law, Makerere University, Training and Research Support Centre; Regional

Network for Equity in Health in East and southern Africa (EQUINET): Harare. Retrieved from website: http://www.equinetafrica.org/bibl/docs/DIS63EAlaws.pdf

Kass, N. (2009). Ethical principles and ethical issues in public health. In R. Detels, R. Beaglehole, M. A. Lansang & M. Gulliford (Eds.), *Oxford textbook of public health* (5th ed.). (Chapter 4.4). Retrieved from Curtin University Library website (e-book): http://apps.lis.curtin.edu.au/singlesearch/search.cgi?query=oxford textbook of public health

Kavanagh, A., Thornton, L., Tattam, A., Thomas, L., Jolley, D., & Turrell, G. (2007). *Place does matter for your health: A report of the Victorian Lifestyle and Neighbourhood Environment Study*. Melbourne: University of Melbourne.

Kendall, M. G., & Gibbons, J. D. (1990). *Rank correlation methods* (5th ed.). London: Edward Arnold.

Khaleghian, P., & and Das Gupta, M. (2005). Public Management and the essential public health functions. *World Development, 33* (7), 1083-1099.

Kincheloe, J. L., & McLaren, P. (2005). Rethinking critical theory and qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (3rd ed.). (pp. 303-342). California: Sage Publications Inc.

Kingsbury, D., & Leach, M. (2007). *East Timor: Beyond independence*. Victoria: Monash Asia Institute Press.

Kinney, E. D. (2001). The international human right to health: What does this mean for our nation and world? *Indiana Law Review, 34*, 1457-1475.

Koh, H. K., Joossens, L. X., & Connolly, G. N. (2007). Making smoking history worldwide. *New England Journal of Medicine, 356* (15), 1496-1498.

Kornbrot, D. (2005). Correlation. In B. S. Everitt & D. C. Howell (Eds.), *Encyclopedia of statistics in behavioral science* (pp. 398-400). Chichester: John Wiley & Sons, Ltd.

Kortmann, F. (2001). *WHO short-term consultancy on mental health in East Timor* (11 March to 14 April, 2001). Retrieved from the World Health Organization website: http://www.who.int/disasters/repo/6633.doc

Krech, R. (2010). The Adelaide Statement on Health in All Policies: Moving towards a shared governance for health and well-being. *Health Promotion International, 25* (2), 258-260.

Kruk, M. E., & Freedman, L. P. (2008). Assessing health system performance in developing countries: A review of the literature. *Health Policy, 85*, 263-276.

Kux, L., Sobel, J., & Fain, K. M. (2007). Control of foodborne diseases. In R. A. Goodman, R. E. Hoffman, W. Lopez, G. W. Matthews, M. A. Rothstein & K. L. Foster (Eds.), *Law in public health practice* (2nd ed.). (pp. 361-384). United States: Oxford University Press.

Kvaavik, E., Batty, D., Ursin, G., Huxley, R., & Gale, C. R. (2010). Influence of individual and combined health behaviors on total and cause-specific mortality in men and women. The United Kingdom health and lifestyle survey. *Archives of Internal Medicine, 170* (8), 711-718.

Lains, P. (2003). Catching up to the European core: Portuguese economic growth 1910-1990. *Explorations in Economic History, 40*, 369-386.

Lang, T. (2006). Food, the law and public health: Three models of the relationship. *Public Health, 120*, 30-41.

Laster, K. (2001). *Law as culture* (2nd ed.). New South Wales: The Federation Press.

Lemstra, M., Neudorf, C., & Opondo, J. (2008). Implications of a public smoking ban. *Canadian Journal of Public Health, 99* (1), 62-65.

Leowski, J., & Krishnan, A. (2009). Capacity to control noncommunicable diseases in the countries of South-East Asia. *Health Policy, 92*, 43-48.

Locke, P. A., Falk, H., Kochtitzky, C. S., & Bump, C. P. (2007). Environmental health and protection. In R. A. Goodman, R. E. Hoffman, W. Lopez, G. W. Matthews, M. A. Rothstein & K. L. Foster (Eds.), *Law in public health practice* (2nd ed.). (pp. 478-505). United States: Oxford University Press.

Loff, B. (1998). Reconciling rights with risk. In C. Reynolds (Ed.), *Public health law in Australia: New perspectives* (pp.139-149). Canberra: Australian Institute of Health Law and Ethics.

Lundahl, M. & Sjoholm, F. (2009). Population growth and job creation in Timor-Leste. *Journal of the Asia Pacific Economy, 14* (1), 90-104.

Lunneborg, C. E. (2005). Distribution-free inference, an overview. In B. S. Everitt & D. C. Howell (Eds.), *Encyclopedia of statistics in behavioral science* (pp. 506-513). Chichester: John Wiley & Sons, Ltd.

Magnusson, R. S. (2007). Mapping the scope and opportunities for public health law in liberal democracies. *Global Health Law, Ethics and Policy, 35* (4), 571-587.

Makubalo, L., Lansang, M. A., & Figueroa, P. J. (2009). Public health sciences and policy in low- and middle-income countries. In R. Detels, R. Beaglehole, M. A. Lansang & M. Gulliford (Eds.), *Oxford textbook of public health* (5th ed.). (Chapter 7.7). Retrieved from Curtin University

Library website (e-book): http://apps.lis.curtin.edu.au/singlesearch/search.cgi?query=oxford textbook of public health

Malone, K., M., & Hinman, A. R. (2007). Vaccination mandates: The public health imperative and individual rights. In R. A. Goodman, R. E. Hoffman, W. Lopez, G. W. Matthews, M. A. Rothstein & K. L. Foster (Eds.), *Law in public health practice* (2nd ed.). (pp. 338-360). United States: Oxford University Press.

Marmot, M. (2005). Social determinants of health inequalitites. *The Lancet, 365*, 1099-1104.

Martin, I. & Mayer-Rieckh, A. (2005). The United Nations and East Timor: From self-determination to state-building. *International Peacekeeping, 12* (1), 125-145.

Martin, R. (2006). The limits of law in the protection of public health and the role of public health ethics. *Public Health, 120*, 71-80.

Martin, R., & Lo, D. W. (2009). Comparative national public health legislation. In R. Detels, R. Beaglehole, M. A. Lansang & M. Gulliford (Eds.), *Oxford textbook of public health* (5th ed.). (Chapter 4.2). Retrieved from Curtin University Library website (e-book): http://apps.lis.curtin.edu.au/singlesearch/search.cgi?query=oxford textbook of public health

Martinkus, J. (2001). *A dirty little war*. New South Wales: Random House Australia Pty Ltd.

McDade, T. W. (2007). Challenges and opportunities for integrative health research in the context of culture: A commentary on Gersten. *Social Science and Medicine, 66*, 520-524.

McDougall, D., & Edney, K. (2007). *Howards way? Public opinion as an influence on Australia's engagement with Asia*. (Paper presented at the annual conference of the Australasian Political Studies Association, Monash University, Melbourne, September 2007). Retrieved from Monash University website: http://arts.monash.edu.au/psi/news-and-events/apsa/refereed-papers/international-relations/mcdougal.pdf

McGowan, A. K., Brownson, R. C., Wilcox, L. S., & Mensah, G. A. (2007). Prevention and control of chronic disease. In R. A. Goodman, R. E. Hoffman, W. Lopez, G. W. Matthews, M. A. Rothstein & K. L. Foster (Eds.), *Law in public health practice* (2nd ed.). (pp. 402-426). United States: Oxford University Press.

McGreggor, A. (2007). Development, foreign aid and post-development in Timor-Leste. *Third World Quarterly, 28* (1), 155-170.

Mensah, G. A., Goodman, R. A., Zaza, S., Moulton, A. D., Kocher, P. L., Dietz, W. H., … Marks, J. S. (2004a). Law as a tool for preventing chronic diseases: Expanding the range of effective public health strategies. *Preventing Chronic Disease: Public Health Research, Practice, and Policy, 1* (1), 1-8.

Mensah, G. A., Goodman, R. A., Zaza, S., Moulton, A. D., Kocher, P. L., Dietz, W. H., … Marks, J. S. (2004b). Law as a tool for preventing chronic diseases: Expanding the spectrum of effective public health strategies. *Preventing Chronic Disease: Public Health Research, Practice, and Policy, 1* (2), 1-6.

Mertz, K. & Weiss, H. B. (2008). Changes in motorcycle-related head injury deaths, hospitalizations, and hospital charges following repeal of Pennsylvania's mandatory motorcycle helmet law. *American Journal of Public Health, 98* (8), 1464-1467.

Ministry of Health, Timor-Leste. (2007). *Health sector strategic plan 2008-2012*. Dili: Democratic Republic of Timor-Leste.

Ministry of Justice, Timor Leste & United National Development Programme. (2002). *Joint assessment of the justice system*. Dili: Democratic Republic of Timor-Leste.

Minium, E. W., King, B. M., & Bear, G. (1993). *Statistical reasoning in psychology and education.* New York: John Wiley & Sons Inc.

Misrahi, J. J., Foster, J. A., Shaw, F. E., & Cetron, M. S. (2004). HHS/CDC legal response to SARS outbreak. *Emerging Infectious Diseases, 10* (2), 353-355.

Modvig, J., Pagaduan-Lopez, J., Rodenberg, J., Salud, C. M., Cabigon, R. V., & Panelo, C. I. (2000). Torture and trauma in post-conflict East Timor. *The Lancet, 18* (356), 1763.

Mok, E. A., Gostin, L. O., Das Gupta, M., & Levin, M. (2010). Implementing public health regulations in developing countries: Lessons from the OECD countries. *Journal of Law, Medicine and Ethics, 38* (3), 508-519.

Molnar, A. K. (2005). *East Timor: An introduction to the history, politics and culture of Southeast Asia's youngest nation*. Illinois: Northern Illinois University, Department of Anthropology and Center for Southeast Asian Studies.

Morgan, M., Reid, R., & Ogden, J. (2009). Sociology and psychology in public health. In R. Detels, R. Beaglehole, M. A. Lansang & M. Gulliford (Eds.), *Oxford textbook of public health* (5th ed.). (Chapter 7.1). Retrieved from Curtin University Library website (e-book): http://apps.lis.curtin.edu.au/singlesearch/search.cgi?query=oxford textbook of public health

Morris, K. (2001). Growing pains of East Timor: Health of an infant nation, *The Lancet, 357*, 873-877.

Moulton, A. D., Goodman, R. A., & Parmet, W. E. (2007). Perspective: Law and great public health achievements. In R. A. Goodman, R. E. Hoffman, W. Lopez, G. W. Matthews, M. A. Rothstein & K. L. Foster (Eds.), *Law in public health practice* (2nd ed.). (pp. 3-21). United States: Oxford University Press.

Moulton, A. D., Mercer, S. L., Popovic, T., Briss, P. A., Goodman, R. A., Thombley, M. L., … Fox, D. M. (2009). The scientific basis for law as a public health tool. *American Journal of Public Health, 99* (1), 17-24.

Moyo, D. (2009). *Dead Aid: Why aid is not working and how there is another way for Africa*. London: Penguin Books Ltd.

National Highway Traffic Safety Administration. (2003). *Safety belts and teens 2003 report*. United States: National Highway Traffic Safety Administration.

National Public Health Partnership. (1998). *Public health in Australia: The public health landscape: Person, society, environment*. Victoria: National Public Health Partnership.

Neslund, V. S., Goodman, R. A., & Hadler, J. L. (2007). Frontline public health: Surveillance and field epidemiology. In R. A. Goodman, R. E. Hoffman, W. Lopez, G. W. Matthews, M. A. Rothstein & K. L. Foster (Eds.), *Law in public health practice* (2nd ed.). (pp. 222-237). United States: Oxford University Press.

Neuberger, B., & Christoffel, T. (2006). *The legal basis of public health*. Retrieved from the Centers for Disease Control Public Health Training Network website: http://www2.cdc.gov/phtn/legal-basis/info.asp

Nevins, J. (2002). The making of "ground zero" in East Timor in 1999: An analysis of international complicity in Indonesia's crimes. *Asian Survey, 42* (4), 623-641.

Noy, C. (2008). Sampling knowledge: The hermeneutics of snowball sampling in qualitative research. *International Journal os Social Research Methodology, 11* (4), 327-344.

Organization for Economic Cooperation and Development (2005). *Paris declaration on aid effectiveness*. Retrieved from: http://www.oecd.org/dataoecd/30/63/43911948.pdf

O'Shaughnessy, H. (2000). Reporting East Timor: Western Media Coverage of the Conflict". In P. Hainsworth & S. Mccloskey (eds), *The East Timor Question: The Struggle for Independence from Indonesia* (pp.31-40). New York: I. B. Taurus.

Oxfam Australia. (2008). *Timor-Leste food security baseline survey report*. Retrieved from the Australian Agency for International Development website: http://www.ausaid.gov.au/publications/pdf/et-food-security-survey.pdf

Parliament of the Australian Capital Territory. (1997). *Public Health Act 1997*. Canberra: Parliament of the Australian Capital Territory.

Parliament of Victoria. (2008). *Public Health and Wellbeing Act 2008. No. 46 or 2008*. Victoria: Parliament of Victoria.

Parmet, W. E. (2007). Introduction: The interdependency of law and public health. In R. A. Goodman, R. E. Hoffman, W. Lopez, G. W. Matthews, M. A. Rothstein & K. L. Foster (Eds.), *Law in public health practice* (2nd ed.). (pp. xxvii). United States: Oxford University Press.

Patrick, I. (2001). East Timor emerging from conflict: The role of local NGOs and international assistance. *Disasters, 25* (1), 48-66.

Pedersen, J., & Arneberg, M. (1999). *Social and economic conditions in East Timor*. New York: Columbia University and Fafo Institute of Applied Social Science.

Penman, R. (2005). Current approaches to marriage and relationship research in the United States and Australia. *Family Matters, 70*, 26-35.

Pervin, A., Passmore, J., Sidik, M., McKinley, T., Nguyen Thi Hong Tu, & Nguyen Phoung Nam (2009). Viet Nam's mandatory motorcycle helmet law and its impact on children. *Bulletin of the World Health Organization, 87* (5), 369-373.

Philpott, S. (2007). Another go at life: Dili, East Timor. *Theory and Event, 10* (2).

Pineault, R., Laaser, U., & Robbins, A. (2006). Introduction: The law and legislation to advance prevention: The start of a series. *Journal of Public Health Policy, 27* (4), 349-354.

Pomeranz, J. L., & Brownell, K. D. (2008). Legal and public health considerations affecting the success, reach, and impact of menu-labeling laws. *American Journal of Public Health, 98* (9), 1578-1583.

Porter, D. (1999). *Health, civilization and the state: A history of public health from ancient to modern times*. London: Routledge.

Porter, J. D. H. (2006). Commentary on "Communicable disease control and contemporary themes in public health law". *Public Health, 120*, 28-29.

Putsch, R. W. (1985). Cross-cultural communication: The special case of interpreters in health care. *Journal of the American Medical Association, 254* (23), 3344-48.

Republic of Indonesia (2010). National portal: Republic of Indonesia. Retreieved from Government of Indonesia website: http://www.indonesia.go.id/en/index.php?option=com_frontpage &Itemid=1

Reynolds, C. (1997). Public health law: Its problems and challenges. *UNSW Law Journal, 20* (3), 576-593.

Reynolds, C. (1998a). Forms of public health law: A general outline. In C. Reynolds (Ed.), *Public health law in Australia: New perspectives* (pp. 27-57). Canberra: Australian Institute of Health Law and Ethics.

Reynolds, C. (1998b). Ideas and arguments about public health law. In C. Reynolds (Ed.), *Public health law in Australia: New perspectives* (pp. 1-25). Canberra: Australian Institute of Health Law and Ethics.

Reynolds, C. (2004). *Public health law and regulation*. New South Wales: The Federation Press.

Richards, E. P., & Rathbun, K., C. (2004). Making state public health laws work for SARS outbreaks. *Emerging Infectious Diseases, 10* (2), 356-357.

Richards III, E. P., & Birkhead, G. S. (2007). Bloodborne and sexually transmitted infections. In R. A. Goodman, R. E. Hoffman, W. Lopez, G. W. Matthews, M. A. Rothstein & K. L. Foster (Eds.), *Law in public health practice* (2nd ed.). (pp. 385-401). United States: Oxford University Press.

Rogers, A. (2001). *Treating child illness in Dili: A household level analysis.* Preliminary report of findings. Connecticut: Yale University.

Rose, G. (1992). *The strategy of preventive medicine*. United Kingdom: Oxford University Press.

Rubenstein, L. S. (2009). *Post-conflict health reconstruction: New foundations for U. S. policy.* United States Institute of Peace Working Paper. Washington: United States Institute of Peace.

Sampson, R. J., & Bartusch, D., J. (1998). Legal cynicism and (Subcultural?) tolerance of deviance: The neighbourhood context of racial differences. *Law and Society Review, 32* (4), 774-804.

Samuels, K. (2006). *Rule of law reform in post-conflict countries: Operational initiatives and lessons learnt* (Social Development Papers: Conflict Prevention & Reconstruction. Paper no. 37). Washington: The World Bank.

Saucier, G. (2000). Isms and the structure of social attitudes. *Journal of Personality and social psychology, 78* (2), 366-385.

Saukko, P. (2005). Methodologies for cultural studies: An integrative approach. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (3rd ed.). (pp. 343-356). California: Sage Publications Inc.

Sechrist, G. B., & Stangor, C. (2007). When are intergroup attitudes based on perceived consensus information? *Social Influence, 2* (3), 211-235.

Sein, T. (2009). The history and development of public health in low- and middle-income countries. In R. Detels, R. Beaglehole, M. A. Lansang & M. Gulliford (Eds.), *Oxford textbook of public health* (5th ed.). (Chapter 1.3). Retrieved from Curtin University Library website (e-book): http://apps.lis.curtin.edu.au/singlesearch/search.cgi?query=oxford textbook of public health

Senanayake, S. N., & Ferson, M. J. (2004). Detention for tuberculosis: Public health and the law. *Medical Journal of Australia, 180*, 573-576.

Shalom, S. R., Chomsky, N., & Albert, M. (1999). *East Timor questions and answers*. Retrieved from http://www.chomsky.info/articles/199910--02.htm

Shiffman, J. (2008). Has donor prioritization of HIV/AIDS displaced aid for other health issues? *Health Policy and Planning, 23,* 95-100.

Smart, T. (2005). Humanitarian aeromedical evacuation support to Timor-Leste: A country in transition. *ADF Health, 6*, 19-24.

Sprent, P., & Smeeton, N. C. (2007). *Applied nonparametric statistical methods* (4th ed.). London: Chapman and Hall.

Stanton, S. (2005). *Since Roe v. Wade: American Public Opinion and Law on Abortion (CSA Discovery Guide)*. Retrieved from: http://www.csa.com/discoveryguides/roe/overview.php

Stewart, A. J., & Devlin, P. M. (2006). The history of the smallpox vaccine. *Journal of Infection, 52* (5), 329-334.

Stokke, U. (2009). *The UN and development: From aid to cooperation*. USA: Indiana University Press.

Stott, N. C. H., Kinnersley, P., & Rollnick, S. (1994). The limits of health promotion. *British Medical Journal,* 309, 971-972.

Swinburn, B., Sacks, G., & Ravussin, E. (2009). Increased food energy supply is more than sufficient to explain the US epidemic of obesity. *American Journal of Clinical Nutrition, 90* (6), 1453-1456.

Tadjoeddin, M. Z. (2002). Anatomy of social violence in the context of transition: The case of Indonesia, 1990-2001. *Politics, Administration and Change, 38*, 1-35.

Taffet, J. F. (2007). *Foreign aid as foreign policy*: *The alliance for progress in Latin America*. New York: Routledge.

Taylor, A. L. (2002). Global governance, international health law and WHO: Looking towards the future. *Bulletin of the World Health Organization, 80* (12), 975-980.

Taylor, R. (2002). East Timor: Independence celebrated. *UN Chronicle, 39* (3), 71.

Taylor-Leech, K. (2008). Language and identity in East Timor: The discourses of nation building. *Language Problems and Language Planning, 32* (2), 153-180.

The Asia Foundation. (2001). *East Timor national survey of voter knowledge*. Retrieved from http://asiafoundation.org/publications/pdf/389

The Asia Foundation. (2008). *A survey of community-police perceptions: Timor-Leste in 2008.* Retrieved from http://www.asiafoundation.com/publications/pdf/506

The Asia Foundation. (2009*). Law and justice in Timor-Leste: A survey of citizen awareness and attitudes regarding law and justice*. Retrieved from http://www.asiafoundation.com/publications/pdf/549

The University of Melbourne (2008). *Regulations or subordinate legislation: Legal research guide no. 7*. Melbourne: The University of Melbourne.

Tulloch, J., Saadah, F., de Araujo, R. M., de Jesis, R. P., Lobo, S., Hemming, I., … Morris, I. (2003). *Initial steps in rebuilding the health sector in East Timor*. Washington: The National Academies Press.

UNDP Justice System Programme. (2010). *Strengthening the justice system in Timor-Leste. UNDP Justice System Programme Update*. Report Date: March 2010. Dili: United Nations Development Programme.

United Nations. (1948). *The Universal Declaration of Human Rights*. New York: The United Nations.

United Nations Development Programme. (2004). *Reflections on the state institution-building support in Timor-Leste: Capacity development, integrating mission, and financial challenges.* Retrieved from http://www.undp.org/oslocentre/docs05/Toshi_final.pdf

United Nations Development Programme. (2006). *Timor-Leste human development report 2006: The path out of poverty: Integrated rural development.* Retrieved from http://hdr.undp.org/en/reports/nationalreports/asiathepacific/timorleste/TIMOR_LESTE_2006_en.pdf

United Nations Development Programme. (2009). *Human development report 2009: Overcoming barriers: Human mobility and development*. Retrieved from http://hdr.undp.org/en/media/HDR_2009_EN_Complete.pdf

United Nations Integrated Mission in East Timor. (2008). *Timor-Leste legal reference material.* Retrieved from http://www.unmit.org/legal/index-e.htm

United Nations Population Fund. (2006). *Census of population and housing atlas*. Dili: United Nations Population Fund.

United Nations Population Fund. (2008). *United Nations development assistance framework 2009-2013, Democratic Republic of Timor-Leste*. Retrieved from http://countryoffice.unfpa.org/timor-leste/drive/00UndafDecember181208.pdf

United Nations Secretary-General. (2008). *Report of the Secretary-General on the United Nations Integrated Mission in Timor-Leste (for the period from 21 August 2007 to 7 January 2008).* Retrieved from http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N08/208/18/PDF/N0820818.pdf?OpenElement

United Nations Security Council. (2010). *Resolution 1912 (2010).* Geneva: United Nations.

United Nations Transitional Administration in East Timor. (1999). *Regulation no. 1999/1 on the authority of the transitional administration in East Timor*. Retrieved from http://www.unmit.org/legal/UNTAET-Law/index-e.htm

Vatikiotis, M. R. J. (1998). *Indonesian politics under Suharto: The rise and fall of the new order*. (3rd ed.). London: Routledge.

Vos, T., Carter, R., Barendregt, J., Mihalopoulos, C., Veerman, L., Magnus, A., Cobiac, L., Bertram, M., & Wallace, A. (2010). *Assessing cost-effectiveness in prevention*. Final Report. University of Queensland, Brisbane and Deakin University, Melbourne.

Wacks, R. (2006). *The philosophy of law*. Oxford: Oxford University Press.

Wanless, D. (2004). Securing good health for the whole population. UK: HM Treasury.

Ware, J. E., & Sherbourne, C. D. (1992). The MOS 36-Item Short-Form Health Survey (SF-36): Conceptual framework and item selection. *Medical Care, 30* (6), 473-483.

Waters, H., Garrett, B., & Burnham, G. (2007). *Rehabilitating health systems in post-conflict situations* (Research paper no. 2007/06). Retrieved from the United Nations University World Institute for Development, Economics Research website: http://www.wider.unu.edu/publications/working-papers/research-papers/2007/en_GB/rp2007-06/

Weber, R. E., & Shaffer, W. R. (1972). Public opinion and American State policy-making. *Midwest Journal of Political Science, 16* (4), 683-699.

Wilson, K., McDougall, C., Fidler, D. P., & Lazar, H. (2008). Strategies for implementing the new international health regulations in federal countries. *Bulletin of the World Health Organization, 86* (3), 215-220. Retrieved from http://www.who.int/bulletin/volumes/86/3/07-042838.pdf

Woollery, T., Asma, S., & Sharp, D. (2000). Clean indoor-air laws and youth access restrictions. In P. Jha & F. J. Chaloupka (Eds.), *Tobacco control in developing countries* (pp. 274-286). New York: Oxford University Press.

World Bank. (1999). *Curbing the epidemic: Governments and the economics of tobacco control*. Retrieved from http://www1.worldbank.org/ tobacco/book/pdf/tobacco.pdf

World Bank. (2008). *Policy note on population growth and its implications in Timor-Leste*. Retrieved from the Australian Agency for International Development website: http://www.ausaid.gov.au/publications/pdf/et-pop-growth09.pdf

World Bank. (2009). *Bulletin board on statistical capacity, Timor-Leste*. Retrieved from http://bbsc.worldbank.org/bbsc/Overview?cid=626

World Bank. (2010). *World Development Indicators 2010*. Washington: The World Bank.

World Health Organization. (1978). *Declaration of Alma-Ata* (Declaration of the International Conference on Primary Health Care, Alma-Ata, USSR, 6-12 September 1978). Retrieved from http://www.who.int/hpr/NPH/docs/ declaration_almaata.pdf

World Health Organization. (1986). *Ottawa charter for health promotion* (Charter of the First International Conference on Health Promotion, Ottawa, 21 November 1986). Retrieved from http://www.who.int/hpr/NPH/docs/ ottawa_charter_hp.pdf

World Health Organization. (1997). *The Jakarta declaration on leading health promotion into the 21st century* (Declaration of the Fourth International Conference on Health Promotion, July 21-25, 1997, Jakarta, Republic of Indonesia). Retrieved from http://www.who.int/hpr/NPH/ docs/jakarta_declaration_en.pdf

World Health Organization. (2000a). *East Timor health sector situation report: January – June 2000*. Retrieved from http://www.tls.searo.who.int/LinkFiles/Areas_of_Work_Health SectorSituation-JAN-JUNE000.pdf

World Health Organization. (2000b). *WHO collaboration in East Timor* (A review of activities since September 1999). Retrieved from www.who.int/disasters/repo/5660.doc

World Health Organization. (2001). *WHO's contribution to health sector development in East Timor* (Background paper for donors' meeting on East Timor, Canberra, 14-15 June, 2001). Retrieved from www.who.int/disasters/repo/6979.doc

World Health Organization. (2003a). *Democratic Republic of Timor Leste: Country profile for emergencies and disasters*. Retrieved from http://www.who.int/disasters/repo/9618.pdf

World Health Organization. (2003b). *Framework Convention on Tobacco Control*. Geneva: World Health Organization.

World Health Organization. (2004a). *WHO country cooperation strategy 2004-2008, Democratic Republic of Timor-Leste*. Retrieved from http://www.tls.searo.who.int/LinkFiles/ Areas_of_Work_CountryCooperationStrategy.pdf

World Health Organization. (2004b). *World report of road traffic injury prevention*. Retrieved from http://whqlibdoc.who.int/publications/2004/9241562609.pdf

World Health Organization. (2004c). *Health sector development in Timor-Leste*. Retrieved from http://www.tls.searo.who.int/LinkFiles/ Areas_of_Work_HSD2004.pdf

World Health Organization. (2005a). *Timor Leste and family planning: An overview*. Retrieved from http://www.searo.who.int/LinkFiles/Family_Planning_Fact_Sheets_timor.pdf

World Health Organization. (2005b). *International health regulations, second edition*. Retrieved from http://whqlibdoc.who.int/publications/2008/9789241580410_eng.pdf

World Health Organization. (2005c). *Work Health Report 2005: Make every mother and child count.* Geneva: World Health Organization.

World Health Organization. (2005d). *Preventing chronic diseases: A vital investment*. Geneva: World Health Organization.

World Health Organization. (2006a). *World health statistics 2006*. Retrieved from http://www.who.int/whosis/whostat2006.pdf

World Health Organization. (2006b). *Country cooperation strategy at a glance, Timor-Leste*. Retrieved from http://www.who.int/countryfocus/cooperation_strategy/ccsbrief_tls_en.pdf

World Health Organization. (2006c). *Alcohol control policies in the South-East Asia region: Selected issues*. Retrieved from http://www.searo.who.int/LinkFiles/Alcohol_and_Substance_abuse_ ACS3.pdf

World Health Organization. (2007a). *WHO Expert Committee on problems related to alcohol consumption: Second report.* Geneva: World Health Organization.

World Health Organization. (2007b). *Food Safety and Foodborne illness: Factsheet no. 237*. Geneva: World Health Organization.

World Health Organization. (2008a). *Communicable diseases: Tuberculosis: Country profile: Timor-Leste*. Retrieved from http://www.searo.who.int/en/Section10/Section2097/Section2100_ 14804.htm

World Health Organization. (2008b). *Roll back malaria monitoring and evaluation: Country profile: Timor-Leste*. Retrieved from http://www.rollbackmalaria.org/wmr2005/profiles/easttimor.pdf

World Health Organization. (2008c). *World malaria report 2008*. Retrieved from http://whqlibdoc.who.int/publications/2008/9789241563697_eng.pdf

World Health Organization (2008d). *World health report 2008: Primary health care now more than ever*. Retrieved from http://www.who.int/whr/2008/en/index.html

World Health Organization (2008e). *Closing the gap in a generation: Health equity through action on the social determinants of health.* Geneva: World Health Organization.

World Health Organization. (2008f). *2008-2013 Action Plan for the global strategy for the prevention and control of noncommunicable diseases.* Geneva: World Health Organization.

World Health Organization. (2009a). *Immunization profile, Timor-Leste*. Retrieved from http://www.who.int/immunization_monitoring/en/globalsummary/countryprofileselect.cfm

World Health Organization. (2009b). *Plan for resource mobilization, WHO office, Timor-Leste, 2010-2011*. Retrieved from http://www.searo.who.int/LinkFiles/Build_Partnerships_RMP_TLS_2010_11.pdf

World Health Organization. (2009c). *Global tuberculosis control: Epidemiology, strategy, financing.* Retrieved from http://www.who.int/tb/publications/global_report/2009/pdf/full_report.pdf

World Health Organization. (2009d). *Global tuberculosis control: A short update to the 2009 report*. Retrieved from http://www.who.int/tb/publications/global_report/2009/update/tbu_9.pdf

World Health Organization. (2009e). *WHO report on the global tobacco epidemic, 2009: Implementing smoke-free environments*. Retrieved from: http://www.who.int/tobacco/mpower/2009/gtcr_download/en/index.html

World Health Organization (2009f). *Global status report on road safety: Time for action*. Geneva: World Health Organization.

World Health Organization. (2009g). *Casebook on ethical issues in international health research*. Geneva: World Health Organization.

World Health Organization. (2010). *Parties to the WHO Framework Convention on Tobacco Control*. Retrieved from World Health Organization website: http://www.jsmp.minihub.org/Reports/2006/Final%20Overview%20Report%202005%20(e).pdf

Zwi, A. B., Martins. J., Grove, N., J., Wayte, K., Kelly, P., & Timor-Leste Health Sector Resilience Study (2007). *Timor-Leste health sector resilience and performance in a time of instability*. Retrieved from the University of New South Wales School of Public Health and Community Medicine website: http://www.sphcm.med.unsw.edu.au/SPHCMWeb.nsf/resources/Resilience_Report.pdf/$file/Resilience_Report.pdf

Appendix 1

Curtin University of Technology

SURVEY ON HEALTH AND LAW IN EAST TIMOR

Checklist (please tick as appropriate):

- **I have read the 'Information Sheet'** ☐
- **I have signed the 'Consent form'** ☐

"Firstly, thank you for agreeing to help with this survey. If you have any questions please just ask the researcher".

1. What is your gender? Male ☐ Female ☐

2. What is your age? _____

3. What is the name of the town or village that you live in? _____

4. How long have you lived there? Years ___ Months ___

5. Were you born in East Timor? Yes ☐ No ☐

*If you were not born in East Timor, where were you born?*_____

6. Which of the following best describes your marital status?

Married ☐ Single ☐ Divorced/Separated ☐
Widowed ☐ De-Facto ☐

7. How many children do you have?

0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ More than 6 ☐

8. How many people live in your household? ___

9. What is the main language spoken in your household?

Tetun ☐ Portuguese ☐ Bahasa ☐

Other ☐ … *What other language is this?* _____

10. Did you go to school? Yes ☐ No ☐

(If yes): What is your highest level of education?

Completed some primary school ☐

Completed primary school ☐

Completed some secondary school ☐

Completed secondary school ☐

Completed some tertiary education ☐

Completed tertiary level course ☐

11. Which of the following best describes your current work status?

Employed for wages ☐

Self-employed ☐

Home duties ☐

Student ☐

Retired ☐

Not currently working ☐

What is your usual/most recent occupation?

_____

12. You do not have to answer this if you do not want to - what is your usual weekly income?

$US: _____

13. You do not need to answer this question if you don't want to – what is your religion?

Roman Catholic ☐ Muslim ☐ Protestant ☐

None ☐

Other ☐ … *What other religion is this?* _____

14. Do you smoke tobacco? Yes ☐ No ☐

(If yes): How many cigarettes do you usually smoke per day?

1-5 ☐

5-10 ☐

10-15 ☐

15-20 ☐

More than 20 ☐

If you do not currently smoke, have you ever smoked? Yes ☐ No ☐

15. Have you had an alcoholic drink of any kind in the past 12 months?

Yes ☐ No ☐

(If yes): How often do you drink?

Occasionally (less than weekly)	☐
Once or twice a week	☐
A few times a week	☐
Nearly every day	☐
Every day	☐

(If yes): On days that you drink, how much do you usually drink? (*one 'drink' is the equivalent of one small glass of wine, one can of mid-strength beer, or one small glass of spirits*)

1 drink	☐
1-3 drinks	☐
3-6 drinks	☐
More than 6 drinks	☐

If you do not currently drink alcohol, have you ever tried alcohol?

Yes ☐ No ☐

16. Do you use any of the following as a form of transport for more than 30 minutes per week?

Walking	☐	Car	☐	Boat	☐
Motorbike	☐	Bicycle	☐	Truck	☐
Bus	☐	Taxi	☐		

"The next group of questions will be about health…"

17. In general, how would you rate your health today?

- Very good ☐
- Good ☐
- Average ☐
- Bad ☐
- Very bad ☐

18. In the past week, have your daily activities been affected by poor health at all?

- Severely affected ☐
- Somewhat affected ☐
- Unsure ☐
- Not really affected ☐
- Not affected at all ☐

19. Do any of your close family members currently have any health problems?

- Mother? ☐ → (Detail: _____)
- Father? ☐ → (Detail: _____)
- Sons? ☐ → (Detail: _____)
- Daughters? ☐ → (Detail: _____)
- Siblings? ☐ → (Detail: _____)

20. Overall, how important is it to you, personally, to have good health?

Very important	☐
Somewhat important	☐
Unsure	☐
Somewhat unimportant	☐
Not at all important	☐

21. Overall, what do you think is the most urgent health problem in East Timor?

_____

_____

What do you think is the main cause of this?

_____

_____

22. What are some of the other important health problems in East Timor?

_____

_____

23. Personally, do you think that having a healthy population is a more urgent priority than…

…having a good education system?	Yes ☐	No ☐	Unsure ☐
…having a strong economy?	Yes ☐	No ☐	Unsure ☐
…having low rates of unemployment?	Yes ☐	No ☐	Unsure ☐
…having low rates of crime?	Yes ☐	No ☐	Unsure ☐

24. Are you concerned about road safety (car accidents) in East Timor?

Not concerned ☐ A little concerned ☐ Moderately concerned ☐
Very concerned ☐

25. Are you concerned about HIV/AIDS in East Timor?

Not concerned ☐ A little concerned ☐ Moderately concerned ☐
Very concerned ☐

26. Are you concerned about malaria in East Timor?

Not concerned ☐ A little concerned ☐ Moderately concerned ☐
Very concerned ☐

27. Are you concerned about young people drinking alcohol in East Timor?

Not concerned ☐ A little concerned ☐ Moderately concerned ☐
Very concerned ☐

28. Are you concerned about alcohol abuse in general in East Timor?

Not concerned ☐ A little concerned ☐ Moderately concerned ☐
Very concerned ☐

29. Are you concerned about drug abuse in East Timor?

Not concerned ☐ A little concerned ☐ Moderately concerned ☐
Very concerned ☐

30. Are you concerned about young people smoking tobacco in East Timor?

Not concerned ☐ A little concerned ☐ Moderately concerned ☐
Very concerned ☐

31. Are you concerned about people in general smoking tobacco in East Timor?

Not concerned ☐ A little concerned ☐ Moderately concerned ☐
Very concerned ☐

32. Are you concerned about the safety of the food in East Timor?

Not concerned ☐ A little concerned ☐ Moderately concerned ☐
Very concerned ☐

33. Are you concerned about the safety of the drinking water in East Timor?

Not concerned ☐ A little concerned ☐ Moderately concerned ☐
Very concerned ☐

34. Are you concerned about environmental pollution in East Timor?

Not concerned ☐ A little concerned ☐ Moderately concerned ☐
Very concerned ☐

35. Overall, how would you rate the general health of the East Timorese population?

Very good ☐
Good ☐
Unsure ☐
Poor ☐
Very poor ☐

36. How satisfied are you with your local health services? By services, I mean hospitals and clinics?

- Very satisfied ☐
- Satisfied ☐
- Unsure ☐
- Somewhat unsatisfied ☐
- Very unsatisfied ☐

37. Regarding health, do you agree with the statement 'prevention is better than cure'?

- Strongly agree ☐
- Somewhat agree ☐
- Unsure ☐
- Somewhat disagree ☐
- Strongly Disagree ☐

38. Can you list any negative health effects of drinking alcohol?

_____

_____

39. Can you list any negative health effects of smoking tobacco?

_____

_____

40. What factors do you think lead to injury in road accidents?

_____

_____

41. What factors do you think can lead to illness related to food consumption?

_____

_____

42. What factors do you think can lead to illness related to drinking water consumption?

_____

_____

43. How would you say that HIV/AIDS is spread?

_____

_____

44. How would you say that malaria is spread?

_____

_____

45. Would you say that it is OK to drive a vehicle under the influence of alcohol?

Sometimes ☐ Always ☐ Never ☐ Unsure ☐

46. Would you say that it is OK to drive a vehicle without using a seatbelt?

Sometimes ☐ Always ☐ Never ☐ Unsure ☐

47. Would you say that it is OK to ride a motorbike without wearing a helmet?

Sometimes ☐ Always ☐ Never ☐ Unsure ☐

48. Would you say that it is OK to drive faster than the posted speed limit?

Sometimes ☐ Always ☐ Never ☐ Unsure ☐

"The next group of questions will be about laws…"

49. Firstly, overall, how well do you think the legal system in East Timor functions?

Very well ☐
Satisfactory ☐
Unsure ☐
Not very well ☐
Very badly ☐

50. Do you agree with the statement, 'laws were meant to be broken'?

Strongly agree ☐
Somewhat agree ☐
Unsure ☐
Somewhat disagree ☐
Strongly Disagree ☐

51. Overall, are you confident that there is a good system in place to ensure justice in East Timor?

- Very confident ☐
- Somewhat confident ☐
- Unsure ☐
- Somewhat not confident ☐
- Not at all confident ☐

52. Do you think that there most people in the community generally follow the law?

Sometimes ☐ Always ☐ Never ☐ Unsure ☐

53. Can you think of any laws in place that are related to health?

_____

_____

_____

_____

_____

_____

_____

_____

54. Do you know if it is illegal in East Timor to travel in a car without using a seatbelt?

Legal ☐ Illegal ☐ Unsure ☐

Do you agree or disagree that there should be a law in place to ensure that people must wear a seatbelt when in a car?

Strongly agree ☐
Somewhat agree ☐
Unsure ☐
Somewhat disagree ☐
Strongly Disagree ☐

Do you think that most others in the community would agree with such a law?

Yes ☐ No ☐ Unsure ☐

55. Do you know if it is illegal in East Timor to drive a vehicle under the influence of alcohol?

Legal ☐ Illegal ☐ Unsure ☐

Do you agree or disagree that there should be a law in place to ensure that people do not drive a vehicle under the influence of alcohol?

Strongly agree ☐
Somewhat agree ☐
Unsure ☐
Somewhat disagree ☐
Strongly Disagree ☐

Do you think that most others in the community would agree with such a law?

Yes ☐ No ☐ Unsure ☐

56. Do you know if it is illegal in East Timor to ride on a motorbike without a helmet?

Legal ☐ Illegal ☐ Unsure ☐

Do you agree or disagree that there should be a law in place to ensure that people riding on a motorbike must wear a helmet?

Strongly agree ☐
Somewhat agree ☐
Unsure ☐
Somewhat disagree ☐
Strongly Disagree ☐

Do you think that most others in the community would agree with such a law?

Yes ☐ No ☐ Unsure ☐

57. Do you know if it is illegal in East Timor for children to buy tobacco?

Legal ☐ Illegal ☐ Unsure ☐

Do you agree or disagree that there should be laws in place to ensure that children cannot buy tobacco?

Strongly agree ☐
Somewhat agree ☐
Unsure ☐
Somewhat disagree ☐
Strongly Disagree ☐

Do you think that most others in the community would agree with such a law?

Yes ☐ No ☐ Unsure ☐

58. Do you know if it is illegal in East Timor for children to buy alcohol?

Legal ☐ Illegal ☐ Unsure ☐

Do you agree or disagree that there should be laws in place to ensure that children cannot buy alcohol?

Strongly agree ☐
Somewhat agree ☐
Unsure ☐
Somewhat disagree ☐
Strongly Disagree ☐

Do you think that most others in the community would agree with such a law?

Yes ☐ No ☐ Unsure ☐

59. Do you know if there are laws in East Timor that say the food you purchase should be safe – that is, not make you sick?

Yes ☐ No ☐ Unsure ☐

Do you agree or disagree that there should be laws in place to ensure that the food you purchase is safe (will not make you sick)?

Strongly agree ☐
Somewhat agree ☐
Unsure ☐
Somewhat disagree ☐
Strongly Disagree ☐

Do you think that most others in the community would agree with such a law?

Yes ☐ No ☐ Unsure ☐

60. Do you know if there are laws in East Timor that say that the environment, including the water supply should not be polluted or made unhygienic?

Yes ☐ No ☐ Unsure ☐

Do you agree or disagree that there should be laws in place to ensure that the environment/water supply is not polluted or made unhygienic?

Strongly agree ☐
Somewhat agree ☐
Unsure ☐
Somewhat disagree ☐
Strongly Disagree ☐

Do you think that most others in the community would agree with such a law?

Yes ☐ No ☐ Unsure ☐

61. Overall, do you think that health regulations such as those mentioned might be a good way to prevent illness or injuries in the community?

Strongly agree ☐
Somewhat agree ☐
Unsure ☐
Somewhat disagree ☐
Strongly Disagree ☐

62. Using the example of a law banning the sale of tobacco to children, which of the following do you think would be appropriate penalties….

A financial penalty for the child?

Yes ☐ No ☐

A financial penalty for the child's parents?

Yes ☐ No ☐

A financial penalty for the tobacco seller?

Yes ☐ No ☐

The tobacco seller being permanently banned from selling tobacco?

Yes ☐ No ☐

The tobacco seller being temporarily banned from selling tobacco?

Yes ☐ No ☐

Compulsory education classes for the child?

Yes ☐ No ☐

Compulsory education classes for the tobacco seller?

Yes ☐ No ☐ Other?

_____

63. Do you have any specific suggestions for health-related regulations that might be useful in East Timor?

_____

_____

_____

_____

_____

_____

64. Do you have any other general suggestions to improve the health of the East Timorese population?

_____

_____

_____

_____

_____

_____

"We have reached the end of the survey. Thank you very much for your time – it is greatly appreciated. If you have any questions, please ask the researcher"

SURVEI KONABA SAUDE NO LEI IHA TIMOR LESTE

Checklist (favor tau sinal ho risku iha fatin lolós):

- **Hau le ona "Surat Informasaun" nian** ☐
- **Hau asina ona "formulariu konsentimentu" nian** ☐

"Uluk liu, hau hato'o obrigadu tan itabot simu atu fo tulun iha survey ne'e. Iha pergunta ruma karik halo favor husu de'it ba peskizador"

1. Itabot? Mane ☐ Feto ☐

2. Itabot nia tinan hira? _____

3. Itabot nia helafatin naran sá? _____

4. Itabot hela iha fatin nebá tinan hira ona? Tinan ___ Fulan ___

5. Itabot moris ita Timor Leste? Los ☐ Lae ☐

*Itabot lamoris iha Timor Leste karik, itabot moris iha rai ida nebé?*_____

6. Tuir mai ne'e, ida nebé mak haktuir lolós itabot nia vida kabena'in nian?

Kabena'in ☐ Klosan ☐ Divorsiadu/Separadu ☐
Faluk ☐ De-Facto ☐

7. Itabot nia oan na'in hira?

0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ Liu na'in 6 ☐

8. Ema na'in hira mak moris hamutuk iha itabot nia umakain? ___

9. Lian ida nebé mak koalia liu iha itabot nia umakain?

Tetun ☐ Portuges ☐ Bahasa ☐

Seluk ☐ … Lian ida nebe tan*?* _____

10. Itabot uluk ba eskola? Los ☐ Lae ☐

(Los karik):Itabot eskola to'o klase hira?

Remata klase ruma iha eskola primaria ☐

Remata eskola primaria ☐

Remata klase ruma iha eskola sekundaria ☐

Remata eskola sekundaria ☐

Remata semester ruma iha edukasaun tersiaria ☐

Remata kursu edukasaun tersiaria ☐

11. Tuirmai ne'e, idanebé mak haktuir lolós itabot nia vida serbisu nian?

Serbisu ba pagamentu ☐
Serbisu mesak ☐
Halo serbisu iha uma ☐
Estudante ☐
Reformadu ☐
La iha serbisu ☐

Baibain/ikus liu itabot serbisu saida?

_____

12. Itabot lakohi karik, lalika hatan ba pergunta ida ne'e – Baibain itabot hetan osan hira iha semana ida nia laran?

$US: _____

13. Itabot lakohi karik, lalika hatan ba pergunta ida ne'e – Itabot nia relijiaun saida?

Katoliku ☐ Muslim ☐ Protestante ☐
Laiha relijiaun ☐ Seluk ☐ … Relijiaun seluk ida nebe? _____

14. Itabot fuma tabaku? Los ☐ Lae ☐

(Los karik): Baibain iha loron ida, itabot fuma sigaru lolon hira?

1-5 ☐
5-10 ☐
10-15 ☐
15-20 ☐
Liu 20 ☐

Oras ne'e itabot lafuma karik, uluk itabot fuma ka? Los ☐ Lae ☐

15. Iha fulan 12 liu ba nia laran, itabot hemu buat ruma ho alkol karik?

Los ☐ Lae ☐

(Los karik): Itabot hemu dala hira?

Dalaruma (liu semana ida dalaida)	☐
Dalaida ka dalarua semana ida nia laran	☐
Dalaruma iha semana nia laran	☐
Bele dehan lor-loron	☐
Lor-loron la falta	☐

(Los karik): "hemu ida" hanesan hemu tintu kopu ida - Iha loron nebe itabot hemu, itabot baibain hemu to'o hira? (tintu kopu ida, serveja kalen ida ka alkol kopu ki'ioan ida)

hemu 1	☐
hemu 1-3	☐
hemu 3-6	☐
Liu 6 ba leten	☐

Oras ne'e itabot lahemu karik, uluk itabot hemu alkol karik?

Los ☐ Lae ☐

16. Itabot uza karik buat hirak tuir mai ne'e hanesan forma transporte <u>liu minutu 30 iha semana ida nia laran</u> ?

La'o de'it	☐	Kareta	☐	Bero	☐
Motor	☐	Bisikleta	☐	Truk	☐
Bis	☐	Taxi	☐		

"Pergunta grupu tuirmai ne'e sei kona ba saude…"

17. Em jeral, oinsa itabot sukat itabot nia saude oras ne'e daudaun?

- Di'ak teb-tebes ☐
- Di'ak ☐
- Normal ☐
- Ladi'ak ☐
- Ladi'ak teb-tebes ☐

18. Iha semana kotuk, saude nebe ladun d'ak afeta itabot nia serbisu lor-loron karik?

- Afeta maka'as teb-tebes ☐
- Dalaruma afeta ☐
- Ladun hatene ☐
- Ladun afeta ☐
- La afeta buat ida ☐

19. Itabot nia membru familia ruma oras ne'e iha problema saude nian?

Inan? ☐ → (esplika: _____)
Aman? ☐ → (esplika: _____)
Oanmane sira? ☐ → (esplika: _____)
Oanfeto sira? ☐ → (esplika: _____)
Maunalin sira? ☐ → (esplika: _____)

20. Em jeral, oin sá itabot haré katak hetan saude di'ak ne'e importante tebes ba ita nia an rasik?

Importante teb-tebes	☐
Importante	☐
Ladun hatene	☐
Ladun importante	☐
La importante liu	☐

21. Em jeral, tuir itabot hanoin problema saude ida nebe mak urjente liu iha Timor Leste?

_____

_____

Tuir itabot nia hanoin sa de'it mak nudar abut nebe hamusu problema hirak ne'e?

_____

_____

22. Sa de'it mak hanesan problema saude sira seluk nebe mos importante iha Timor Leste?

_____

_____

23. Pesoalmente, itabot hanoin katak hetan populasaun ida nebe iha saude diak mak prioridade urjente liu fali…

…iha sistema edukasaun ida nebe di'ak?	Los ☐	Lae ☐	Lahatene ☐
…iha ekonomia ida nebe forte/maka'as?	Los ☐	Lae ☐	Lahatene ☐
…iha numeru ki'ik dezempregadu sira?	Los ☐	Lae ☐	Lahatene ☐
…iha numeru ki'ik krime sira?	Los ☐	Lae ☐	Lahatene ☐

24. Itabot hatene kona ba seguransa trafiku nian (asidente kareta nian) iha Timor Leste?

La hatene ☐ Hatene uitoan ☐ Ladun hatene ☐

Hatene lolos ☐

25. Itabot hatene kona ba HIV/AIDS iha Timor Leste?

La hatene ☐ Hatene uitoan ☐ Ladun hatene ☐

Hatene lolos ☐

26. Itabot hatene kona ba Malaria iha Timor Leste?

La hatene ☐ Hatene uitoan ☐ Ladun hatene ☐

Hatene lolos ☐

27. Itabot hatene kona ba foinsae sira hemu alkol iha Timor Leste ?

La hatene ☐ Hatene uitoan ☐ Ladun hatene ☐

Hatene lolos ☐

28. Itabot hatene kona ba abuzu alkol nian iha Timor Leste?

La hatene ☐ Hatene uitoan ☐ Ladun hatene ☐

Hatene lolos ☐

29. Itabot hatene kona ba abuzu droga nian iha Timor Leste?

La hatene ☐ Hatene uitoan ☐ Ladun hatene ☐

Hatene lolos ☐

30. Itabot hatene kona ba foinsae sira nebe fuma tabaku iha Timor Leste?

La hatene ☐ Hatene uitoan ☐ Ladun hatene ☐
Hatene lolos ☐

31. Itabot hatene kona ba ema barak mak fuma tabaku iha Timor Leste?

La hatene ☐ Hatene uitoan ☐ Ladun hatene ☐
Hatene lolos ☐

32. Itabot hatene konaba seguransa hahan nian iha Timor Leste?

La hatene ☐ Hatene uitoan ☐ Ladun hatene ☐
Hatene lolos ☐

33. Itabot hatene kona ba seguransa hemu be mós iha Timor Leste?

La hatene ☐ Hatene uitoan ☐ Ladun hatene ☐
Hatene lolos ☐

34. Itabot hatene kona ba poluisaun meiu ambiente nian iha Timor Leste?

La hatene ☐ Hatene uitoan ☐ Ladun hatene ☐
Hatene lolos ☐

35. Em jeral, oinsa itabot hanoin konaba nivel saude populasaun Timor Leste nian?

Di'ak teb-tebes ☐
Di'ak ☐
Ladun hatene ☐
At ☐
At teb-tebes ☐

36. Oinsa itabot haksolok kona asistensia saude lokal? Tuir serbisu, hanesan ospital no klinika sira?

- Haksolok teb-tebes ☐
- Haksolok ☐
- Ladun hatene ☐
- Ladun haksolok ☐
- La haksolok liu ☐

37. Konaba saude, itabot konkorda ho lia menon ‘prevene mak diak liu halo kurativu’?

- Konkorda teb-tebes ☐
- Dalaruma konkorda ☐
- Ladun hatene ☐
- Dalaruma la konkorda ☐
- La konkorda teb-tebes ☐

38. Itabot bele halo lista ida konaba efeitu negativu hemu alkol ba saude?

_____

_____

39. Itabot bele halo lista ida kona ba efeitu negativu fuma tabaku nian ba saude?

_____

_____

40. Tuir itabot nia hanoin, faktor saida mak halo ema hetan kanek ka mate iha asidente trafiku nian?

_____

_____

41. Itabot bele dehan katak han hahan nebe laos fresku ka te'in ladun diak bele halo ita moras?

_____

_____

42. Itabot bele dehan katak hemu bé nebe la nono ka bé nebe hetan poluisaun bele halo ita moras?

_____

_____

43. Oin sa itabot bele dehan katak moras HIV/AIDS da'et ba beibeik?

_____

_____

44. Oin sa itabot bele dehan katak moras Malaria da'et ba beibeik?

_____

_____

45. Itabot bele dehan katak laiha buat ida wainhira ema kaer kareta hodi hemu alkol?

Dala ruma ☐ Nafatin ☐ Nunka ☐ Ladun hatene ☐

46. Itabot bele dehan katak laiha buat ida wainhira ema kaer kareta lapresiza uza sintu?

Dala ruma ☐ Nafatin ☐ Nunka ☐ Ladun hatene ☐

47. Itabot bele dehan katak laiha buat ida wainhira ema sa’e motor la tau kapasete?

Dala ruma ☐ Nafatin ☐ Nunka ☐ Ladun hatene ☐

48. Itabot bele dehan katak laiha buat ida wainhira ema kaer kareta ka motor halai liu limite velosidade nian?

Dala ruma ☐ Nafatin ☐ Nunka ☐ Ladun hatene ☐

"Perguntas grupu tuir mai ne'e sei kona ba lei …"

49. Ulukliu, em jeral, oinsa itabot hanoin katak lei nebe funsiona iha Timor Leste la'o ho diak ?

- Di'ak teb-tebes ☐
- Satisfatoriu ☐
- Ladun hatene ☐
- Ladun di'ak ☐
- At teb-tebes ☐

50. Itabot konkorda ho liafuan hirak ne'e "Lei ne'e halo atu ema hakat liu" ?

- Konkorda teb-tebes ☐
- Dalaruma konkorda ☐
- Ladun hatene ☐
- Dalaruma la konkorda ☐
- La konkorda teb-tebes ☐

51. Em jeral, itabot fiar katak iha ona sistema diak atu hametin justisa iha Timor Leste?

- Fiar teb-tebes ☐
- Dalaruma fiar ☐
- Ladun hatene ☐
- Dalaruma la fiar ☐
- Lafiar liu kedas ☐

52. Itabot hanoin katak ema barak iha komunidade neba jeralmente tuir lei?

Dalaruma ☐ Sempre ☐ Nunka ☐ Ladun hatene ☐

53. Itabot bele hanoin konaba lei ruma nebe hala'o ona mak iha relasaun ho saude?

_____
_____
_____
_____
_____
_____

54. Itabot hatene katak halo viajen ho kareta iha Timor Leste nia laran hodi la tau sintu ne'e ilegal?

Legal ☐ Ilegal ☐ Ladun hatene ☐

Itabot konkorda ka la konkorda katak tenke iha lei ida atu hametin katak ema sira tenke tau sintu wainhira sira sa'e kareta?

Konkorda teb-tebes ☐
Dalaruma konkorda ☐
Ladun hatene ☐
Dalaruma la konkorda ☐
La konkorda teb-tebes ☐

Itabot hanoin katak iha ema barak iha komunidade neba sei simu lei hanesan neé ?

Los ☐ Lae ☐ Ladun hatene ☐

55. Itabot hatene ona katak iha Timor Leste wainhira kaer kareta hemu tua ne'e ilegal?

Legal ☐ Ilegal ☐ Ladun hatene ☐

Itabot konkorda ka la konkorda katak tenke iha lei ida atu hametin katak ema sira labele kaer kareta hodi hemu tua ?

Konkorda teb-tebes ☐
Dalaruma konkorda ☐
Ladun hatene ☐
Dalaruma la konkorda ☐
La konkorda teb-tebes ☐

Itabot hanoin katak iha ema barak iha komunidade neba sei simu lei hanesan neé ?

Los ☐ Lae ☐ Ladun hatene ☐

56. Itabot hatene ona katak iha Timor Leste wainhira ema ruma sa'e motor la tau kapasete ne'e ilegal?

Legal ☐ Ilegal ☐ Ladun hatene ☐

Itabot konkorda ka la konkorda katak tenke iha lei ida atu hametin katak ema sira nebe sa'e motor tenke tau kapasete?

Konkorda teb-tebes ☐
Dalaruma konkorda ☐
Ladun hatene ☐
Dalaruma la konkorda ☐
La konkorda teb-tebes ☐

Itabot hanoin katak iha ema barak iha komunidade neba sei simu lei hanesan neé ?

Los ☐ Lae ☐ Ladun hatene ☐

57. Itabot hatene ona katak iha Timor Leste winhira labarik sira sosa tabaku ne'e ilegal?

Legal ☐ Ilegal ☐ Ladun hatene ☐

Itabot konkorda ka la konkorda katak tenke iha lei ida atu hametin katak labarik sira labele sosa tabaku ?

Konkorda teb-tebes ☐
Dalaruma konkorda ☐
Ladun hatene ☐
Dalaruma la konkorda ☐
La konkorda teb-tebes ☐

Itabot hanoin katak iha ema barak iha komunidade neba sei simu lei hanesan neé ?

Los ☐ Lae ☐ Ladun hatene ☐

58. Itabot hatene ona katak iha Timor Leste winhira labarik sira sosa alkol ne'e ilegal?

Legal ☐ Ilegal ☐ Ladun hatene ☐

Itabot konkorda ka la konkorda katak tenke iha lei ida atu hametin katak labarik sira labele sosa alkol ?

Konkorda teb-tebes ☐
Dalaruma konkorda ☐
Ladun hatene ☐
Dalaruma la konkorda ☐
La konkorda teb-tebes ☐

Itabot hanoin katak iha ema barak iha komunidade neba sei simu lei hanesan neé ?

Los ☐ Lae ☐ Ladun hatene ☐

59. Itabot hatene ona katak iha Timor Leste iha lei nebe dehan katak hahan nebe itabot sosa ne'e iha seguransa – ne'e dehan katak lahalo itabot hetan moras?

Los ☐ Lae ☐ Ladun hatene ☐

Itabot konkorda ka la konkorda katak tenke iha lei ida atu hametin katak hahan nebe itabot sosa ne'e iha seguransa (sei lahalo itabot moras)?

Konkorda teb-tebes ☐
Dalaruma konkorda ☐
Ladun hatene ☐
Dalaruma la konkorda ☐
La konkorda teb-tebes ☐

Itabot hanoin katak iha ema barak iha komunidade neba sei simu lei hanesan neé ?

Los ☐ Lae ☐ Ladun hatene ☐

60. Itabot hatene ona katak iha Timor Leste iha lei nebe dehan katak meiu ambiente, ho tan bé mos labele hetan poluisaun ka laiha ijiene?

Los ☐ Lae ☐ Ladun hatene ☐

Itabot konkorda ka la konkorda katak tenke iha lei ida atu hametin katak meiu ambiente/ bé mos lahetan poluisaun ka laiha ijiene ?

Konkorda teb-tebes ☐
Dalaruma konkorda ☐
Ladun hatene ☐
Dalaruma la konkorda ☐
La konkorda teb-tebes ☐

Itabot hanoin katak iha ema barak iha komunidade neba sei simu lei hanesan neé ?

Los ☐ Lae ☐ Ladun hatene ☐

61. Em jeral, itabot hanoin katak regulamentu kona ba saude hanesan dehan tiha ona, bele sai dalan di'ak ida atu prevene moras ka kanek iha komunidade?

Konkorda teb-tebes ☐

Dalaruma konkorda ☐

Ladun hatene ☐

Dalaruma la konkorda ☐

La konkorda teb-tebes ☐

62. Kaer ezemplu lei nebe bandu fa'an tabaku ba labarik sira, tuir mai ne'e ida nebe mak tuir itabot nia hanoin bele uza hanesan penalidade/multa nebe di'ak liu ….

Fo multa osan ba labaik sira?

Los ☐ Lae ☐

Fo multa osan ba labaik sira nia inan aman?

Los ☐ Lae ☐

Fo multa osan ba ema nebe fa'an tabaku?

Los ☐ Lae ☐

Fa'an tabaku na'in sira hetan bandu permante atu fa'an tabaku?

Los ☐ Lae ☐

Fa'an tabaku na'in sira hetan bandu temporariu atu fa'an tabaku?

Los ☐ Lae ☐

Edukasaun obrigatiriu ba labarik sira iha klase?

Los ☐ Lae ☐

Edukasaun obrigatoriu ba fa'an tabaku na'in sira iha klase?

Los ☐ Lae ☐

Seluk tan?

_____

63. Itabot iha sujestaun espesial ruma kona ba regulamentu sira nebe iha relasaun ho saude nebe bele halo diak iha Timor Leste?

_____
_____
_____
_____
_____

64. Itabot iha sujestaun jeral selu-seluk tan atu hadi'a populasaun Timor Leste nia saude?

_____
_____
_____
_____
_____
_____

"Ita to'o ona survei nia rohan. Obrigadu barak ba itabot nia tempu – ami apresia teb-tebes itabot nia tulun. Itabot iha pergunta ruma karik, halo favor husu ba peskizador "

Appendix 2

Curtin University of Technology

INTERVIEW ON HEALTH AND LAW IN EAST TIMOR

Checklist (please tick as appropriate):

- **'Information Sheet' has been read** ☐
- **'Consent form' has been signed** ☐

"Firstly, thank you for agreeing to participate in this survey. If you have any questions please just stop me at any time and ask".

1. Male ☐ Female ☐

2. Can I start by asking how old you are? Age: _____

3. Where were you born? Country: _____

4. Where do you currently live? Country: _____

5. How long have you lived there? Years ___ Months ___

6. Which of the following best describes your marital status?

Married ☐
De-Facto ☐
Single ☐
Divorced/Separated ☐
Widowed ☐

7. Do you have any children?

No ☐ ….**GO TO 8**

Yes ☐ ….How many children do you have?_____

8. How many people live in your household? Number of people: ___

9. What is the main language spoken in your household?

Language: _____

10. What is your highest level of education?

Completed some primary school ☐

Completed primary school ☐

Completed some secondary school ☐

Completed secondary school ☐

Completed some tertiary education ☐

Completed tertiary level course ☐

Completed post-graduate studies ☐

Other: _____

11. Which of the following best describes your current work status?

Employed for wages ☐…**GO TO 12**

Self employed ☐…**GO TO 13**

Unemployed/Between jobs ☐…**GO TO 14**

Retired ☐…**GO TO 14**

Homemaker ☐…**GO TO 14**

Student ☐…**GO TO 15**

12. What is your current position title?

Title: _____

Who is your employer?

Employer: _____

Which section of the organisation do you work in?

Section: _____

Is this position casual, part-time, or full-time? C ☐ P/T ☐ F/T ☐

How long have you been employed in this position? Y: ☐ M: ☐ W: ☐ D: ☐

How long have you been employed in this general field? Y: ☐ M: ☐ W: ☐ D: ☐

GO TO 16

13. Do you have a formal business name?

Name: _____

What is the nature of your work?

_____

_____

How long have you been in this business? Y: ☐ M: ☐ W: ☐ D: ☐

How long have you been in this general field? Y: ☐ M: ☐ W: ☐ D: ☐

GO TO 16

14. What was your most recent position title?

Title: _____

(If no previous employment GO TO 16)

Who was your employer?

Employer: _____

Which section of the organisation did you work in?

Section: _____

Was this position casual, part-time, or full-time? C ☐ P/T ☐ F/T ☐

How long were you employed in this position? Y: ☐ M: ☐ W: ☐ D: ☐

How long were you employed in this general field? Y: ☐ M: ☐ W: ☐ D: ☐

GO TO 16

15. What course are you studying?

Course: _____

Which institution are you enrolled in?

Name: _____

In what year of your studies are you now in? Year: _____

Are you a part-time or full-time student? P/T ☐ F/T ☐

Are you specialising in any particular area (What is your thesis topic)?

_____

GO TO 16

16. You do not have to answer this if you don't want to - would you mind telling me your usual weekly income?

$US: _____ £: _____ $Au: _____

Other denomination: _____ Declined to answer ☐

17. You do not have to answer this question if you don't want to – would you mind telling me, what is your religion?

Religion: _____ Declined to answer ☐

18. Do you smoke tobacco? Yes ☐ No ☐

(If yes): How many cigarettes do you usually smoke per day?

1-5 ☐
5-10 ☐
10-15 ☐
15-20 ☐
More than 20 ☐

If you do not currently smoke, have you ever smoked? Yes ☐ No ☐

19. Have you had an alcoholic drink of any kind in the past 12 months? Yes ☐ No ☐

(If yes): How often do you drink?

Occasionally (less than weekly)	☐
Once or twice a week	☐
A few times a week	☐
Nearly every day	☐
Every day	☐

(If yes): On days that you drink, how much do you usually drink? (*one 'drink' is the equivalent of one small glass of wine, one can of mid-strength beer, or one small glass of spirits*)

1 drink	☐
1-3 drinks	☐
3-6 drinks	☐
More than 6 drinks	☐

If you do not currently drink alcohol, have you ever tried alcohol?

Yes ☐ No ☐

20. Do you use any of the following as a form of transport for more than 30 minutes per week?

Walking	☐	Car	☐	Motorbike	☐	Boat	☐
Bicycle	☐	Bus	☐	Taxi	☐	Truck	☐

21. Have you visited East Timor?

Yes ☐

No ☐ **GO TO 22**

Planning to visit ☐ **GO TO 22**

On how many occasions? ☐

When was the last time you were there? Year: _____ Month: _____

How long in total have you spent in East Timor?

Y: ☐ M: ☐ W: ☐ D: ☐

22. Could you please describe to me the nature of your interest or work in East Timor?

_____

_____

_____

_____

_____

_____

_____

"The next group of questions will be about health…"

23. In general, how would you rate your health today?

- Very good ☐
- Good ☐
- Average ☐
- Bad ☐
- Very bad ☐

24. In the past week, have your daily activities been affected by poor health at all?

- Severely affected ☐
- Somewhat affected ☐
- Unsure ☐
- Not really affected ☐
- Not affected at all ☐

25. Overall, how important is it to you, personally, to have good health?

- Very important ☐
- Somewhat important ☐
- Unsure ☐
- Somewhat unimportant ☐
- Not at all important ☐

26. Overall, what do you think is the most urgent health problem in East Timor?

_____

_____

What do you think is the main cause of this?

_____

_____

27. What are some of the other important health problems in East Timor?

_____

_____

28. For East Timor, do you think that having a healthy population is a more urgent priority than…

…having a good education system?	Yes ☐	No ☐	Unsure ☐
…having a strong economy?	Yes ☐	No ☐	Unsure ☐
…having low rates of unemployment?	Yes ☐	No ☐	Unsure ☐
…having low rates of crime?	Yes ☐	No ☐	Unsure ☐

29. Weighing up health priorities, how much of a problem is road safety in East Timor?

Not as issue ☐ Of mild concern ☐ Of moderate concern ☐
Of major concern ☐

30. How much of a problem is HIV/AIDS in East Timor?

Not as issue ☐ Of mild concern ☐ Of moderate concern ☐
Of major concern ☐

31. How much of a problem is malaria in East Timor?

Not as issue ☐ Of mild concern ☐ Of moderate concern ☐
Of major concern ☐

32. How much of a problem is the use of alcohol among young people in East Timor?

Not as issue ☐ Of mild concern ☐ Of moderate concern ☐
Of major concern ☐

33. How much of a problem is alcohol abuse in general in East Timor?

Not as issue ☐ Of mild concern ☐ Of moderate concern ☐
Of major concern ☐

34. How much of a problem is the abuse of other drugs in East Timor?

Not as issue ☐ Of mild concern ☐ Of moderate concern ☐
Of major concern ☐

35. How much of a problem is the use of tobacco among young people in East Timor?

Not as issue ☐ Of mild concern ☐ Of moderate concern ☐
Of major concern ☐

36. How much of a problem is the use of tobacco in general in East Timor?

Not as issue ☐ Of mild concern ☐ Of moderate concern ☐
Of major concern ☐

37. How much of a problem is food safety in East Timor?

Not as issue ☐ Of mild concern ☐ Of moderate concern ☐
Of major concern ☐

38. How much of a problem is the safety of the drinking water in East Timor?

Not as issue ☐ Of mild concern ☐ Of moderate concern ☐
Of major concern ☐

39. How much of a problem is environmental pollution in East Timor?

Not as issue ☐ Of mild concern ☐ Of moderate concern ☐
Of major concern ☐

40. Overall, how would you rate the general health of the East Timorese population?

Very good ☐
Good ☐
Unsure ☐
Poor ☐
Very poor ☐

41. Overall, how would you rate the availability of health services in East Timor? By services, I mean hospitals and clinics?

- Very good ☐
- Good ☐
- Unsure ☐
- Bad ☐
- Very bad ☐

Would you like to comment any further on the availability of health services?

_____

_____

_____

_____

42. Overall, how would you rate the quality of health services in East Timor? By services, I mean hospitals and clinics?

- Very good ☐
- Good ☐
- Unsure ☐
- Bad ☐
- Very bad ☐

Would you like to comment any further on the quality of health services?

_____

_____

_____

_____

43. Regarding health, do you agree with the statement 'prevention is better than cure'?

- Strongly agree ☐
- Somewhat agree ☐
- Unsure ☐
- Somewhat disagree ☐
- Strongly Disagree ☐

44. In your opinion, what is the general East Timorese population's level of understanding of the health effects of drinking alcohol?

Excellent ☐ Adequate ☐ Poor ☐ Very poor ☐ Unsure ☐

45. In your opinion, what is the general East Timorese population's level of understanding of the health effects of smoking tobacco?

Excellent ☐ Adequate ☐ Poor ☐ Very poor ☐ Unsure ☐

46. In your opinion, what is the general East Timorese population's level of understanding of the major causes of injury in road accidents – that is, speed, alcohol, seatbelt-use, helmet-use etc?

Excellent ☐ Adequate ☐ Poor ☐ Very poor ☐ Unsure ☐

47. In your opinion, what is the general East Timorese population's level of understanding of the methods by which HIV can be spread – that is, unsafe blood or injecting practices, unsafe sex?

Excellent ☐ Adequate ☐ Poor ☐ Very poor ☐ Unsure ☐

48. In your opinion, what is the general East Timorese population's level of understanding of the method by which malaria is spread?

Excellent☐ Adequate ☐ Poor ☐ Very poor ☐ Unsure ☐

49. In your opinion, do members of the general East Timorese population see alcohol as a risk factor in road accidents?

Definitely ☐ Mostly☐ Not really ☐ Not at all ☐ Unsure ☐

50. In your opinion, do members of the general East Timorese population see not using a seat-belt as a factor in injury within road accidents?

Definitely ☐ Mostly☐ Not really ☐ Not at all ☐ Unsure ☐

51. In your opinion, do members of the general East Timorese population see not using a helmet on motorbikes as a factor in injury within road accidents?

Definitely ☐ Mostly☐ Not really ☐ Not at all ☐ Unsure ☐

52. In your opinion, do members of the general East Timorese population see excessive speed as a factor in road accidents?

Definitely ☐ Mostly☐ Not really ☐ Not at all ☐ Unsure ☐

53. In your opinion, what is the general East Timorese population's level of understanding of safe food handling and cooking practices?

Excellent☐ Adequate ☐ Poor ☐ Very poor ☐ Unsure ☐

54. In your opinion, what is the general East Timorese population's level of understanding of the health effects of drinking polluted/dirty water?

Excellent☐ Adequate ☐ Poor ☐ Very poor ☐ Unsure ☐

"The next group of questions will be about laws…"

55. Firstly, overall, how well do you think the legal system in East Timor functions?

Very well ☐
Satisfactory ☐
Unsure ☐
Not very well ☐
Very badly ☐

Would you like to comment any further on the legal system?

_____

_____

56. Do you agree with the statement, ‘laws were meant to be broken’?

Strongly agree ☐
Somewhat agree ☐
Unsure ☐
Somewhat disagree ☐
Strongly Disagree ☐

57. Overall, are you confident that there is a good system in place to ensure justice in East Timor?

Very confident ☐
Somewhat confident ☐
Unsure ☐
Somewhat not confident ☐
Not at all confident ☐

Would you like to comment any further?

_____

_____

58. Do you think that there most people in the community generally follow the law?

Sometimes ☐ Always ☐ Never ☐ Unsure ☐

59. Do you think that there is sufficient law enforcement in place (police etc) to ensure that laws are followed by the community?

Yes ☐ No ☐ Unsure ☐

Would you like to comment any further?

_____

_____

60. Can you think of any laws in place that are related to health?

_____

_____

_____

_____

61. Do you know if it is illegal in East Timor to travel in a car without using a seatbelt?

Legal ☐ Illegal ☐ Unsure ☐

Do you agree or disagree that there should be a law in place to ensure that people must wear a seatbelt when in a car?

Strongly agree ☐
Somewhat agree ☐
Unsure ☐
Somewhat disagree ☐
Strongly Disagree ☐

Do you think that most others in the community would agree with such a law?

Yes ☐ No ☐ Unsure ☐

62. Do you know if it is illegal in East Timor to drive a vehicle under the influence of alcohol?

Legal ☐ Illegal ☐ Unsure ☐

Do you agree or disagree that there should be a law in place to ensure that people do not drive a vehicle under the influence of alcohol?

Strongly agree ☐
Somewhat agree ☐
Unsure ☐
Somewhat disagree ☐
Strongly Disagree ☐

Do you think that most others in the community would agree with such a law?

Yes ☐ No ☐ Unsure ☐

63. Do you know if it is illegal in East Timor to ride on a motorbike without a helmet?

Legal ☐ Illegal ☐ Unsure ☐

Do you agree or disagree that there should be a law in place to ensure that people riding on a motorbike must wear a helmet?

Strongly agree ☐
Somewhat agree ☐
Unsure ☐
Somewhat disagree ☐
Strongly Disagree ☐

Do you think that most others in the community would agree with such a law?

Yes ☐ No ☐ Unsure ☐

64. Do you know if it is illegal in East Timor for children to buy tobacco?

Legal ☐ Illegal ☐ Unsure ☐

Do you agree or disagree that there should be laws in place to ensure that children cannot buy tobacco?

Strongly agree ☐
Somewhat agree ☐
Unsure ☐
Somewhat disagree ☐
Strongly Disagree ☐

Do you think that most others in the community would agree with such a law?

Yes ☐ No ☐ Unsure ☐

65. Do you know if it is illegal in East Timor for children to buy alcohol?

Legal ☐ Illegal ☐ Unsure ☐

Do you agree or disagree that there should be laws in place to ensure that children cannot buy alcohol?

Strongly agree ☐
Somewhat agree ☐
Unsure ☐
Somewhat disagree ☐
Strongly Disagree ☐

Do you think that most others in the community would agree with such a law?

Yes ☐ No ☐ Unsure ☐

66. Do you know if there are laws in East Timor that say the purchased food should be safe?

Yes ☐ No ☐ Unsure ☐

Do you agree or disagree that there should be laws in place regarding food safety?

Strongly agree ☐
Somewhat agree ☐
Unsure ☐
Somewhat disagree ☐
Strongly Disagree ☐

Do you think that most others in the community would agree with such a law?

Yes ☐ No ☐ Unsure ☐

67. Do you know if there are laws in East Timor that say that the environment, including the water supply should not be polluted or made unhygienic?

Yes ☐ No ☐ Unsure ☐

Do you agree or disagree that there should be laws in place to ensure that the environment/water supply is not polluted or made unhygienic?

Strongly agree ☐
Somewhat agree ☐
Unsure ☐
Somewhat disagree ☐
Strongly Disagree ☐

Do you think that most others in the community would agree with such a law?

Yes ☐ No ☐ Unsure ☐

68. Overall, do you think that health regulations such as those mentioned might be a good way to prevent illness or injuries in the East Timorese community?

Strongly agree ☐
Somewhat agree ☐
Unsure ☐
Somewhat disagree ☐
Strongly Disagree ☐

69. Using the example of a law banning the sale of tobacco to children, which of the following do you think would be appropriate/suitable penalties in East Timor….

A financial penalty for the child?
Yes ☐ No ☐
A financial penalty for the child's parents?
Yes ☐ No ☐
A financial penalty for the tobacco seller?
Yes ☐ No ☐
The tobacco seller being permanently banned from selling tobacco?
Yes ☐ No ☐
The tobacco seller being temporarily banned from selling tobacco?
Yes ☐ No ☐
Compulsory education classes for the child?
Yes ☐ No ☐
Compulsory education classes for the tobacco seller?
Yes ☐ No ☐
Other?..._____

70. Do you think that an increased focus on health regulations would be well received by the East Timorese population?

- Strongly agree ☐
- Somewhat agree ☐
- Unsure ☐
- Somewhat disagree ☐
- Strongly Disagree ☐

71. Do you have any specific suggestions for health-related regulations that might be useful in East Timor?

_____
_____
_____
_____
_____
_____

72. Do you have any other general suggestions to improve the health of East Timorese population?

_____
_____
_____
_____
_____
_____

"We have reached the end of the survey. Thank you very much for your time – it is greatly appreciated. If you have any questions, please ask the researcher"

Appendix 3

RESEARCH PROJECT: PUBLIC HEALTH LAW IN EAST TIMOR
INFORMATION FOR SURVEY PARTICIPANTS

BACKGROUND:

My name is Lee Barclay. I am a student at the Centre For International Health at Curtin University in Perth, Western Australia. I would like to ask your help in a project about health in East Timor. I am especially interested in learning what people think about health-related laws. You and many other people living in East Timor are being asked to provide your opinions on what you think about health, health laws and laws in general.

As this project is part of my studies, it has been approved by my University and its Human Research Ethics Committee. If you have any questions about the project, please ask me and I will be happy to provide you with more information.

Your help with this survey is completely voluntary. It is important for you to know that there is no money payable for helping and your level of health care will remain the same whether you take part or not. At any time you can stop taking part in the survey.

The survey could take up to 1 hour to complete. Your answers will be kept safe and there will be no way that anyone can match your name to your answers. You may complete the survey yourself or the researcher can read the questions to you and record your answers (with the help of a translator).

If you are happy to help with the survey, please read the next page and sign your name. If you do not wish to participate, I would like to thank you very much for your time and wish you well in the future.

THANK YOU VERY MUCH

CONTACT DETAILS:

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email. Lee.barclay@student.curtin.edu.au

Please contact the Human Research Ethics Committee (Secretary) should you wish to make a complaint on ethical grounds (phone: + 61 8 9266 2784 or email S.Darley@curtin.edu.au or write C/- Office of Research and Development, Curtin University of Technology, GPO Box U1987, Perth WA 6845).

RESEARCH PROJECT: PUBLIC HEALTH LAW IN EAST TIMOR
INFORMATION FOR INTERVIEW PARTICIPANTS

BACKGROUND:

My name is Lee Barclay. I am a PhD student at the Center for International Health at Curtin University in Perth, Western Australia. My supervisor is Dr Jaya Earnest, a lecturer at the Center for International Health and my co-supervisor is Mary Adam, a population health lawyer at the Western Australian Department of Health.

I would like to ask your help in a project that aims to identify the use and understanding of health laws to address public health problems. In addition to asking yourself and other key people to participate in an interview, I am conducting a comprehensive review of the literature and available documentation, and also a survey of general public in East Timor.

As this project is part of my studies, it has been approved by my University and its Human Research Ethics Committee. If you have any questions about the project, please ask me and I will be happy to provide you with more information.

Your help with this interview is completely voluntary. It is important to know that there is no money or gift payable to you or your organisation for taking part. At any time you can stop taking part in the interview. The interview may take up to 60 minutes. Your answers will be kept completely secure and confidential and, if you wish, your name or organisation will not be in any way associated with your answers.

To assist with accuracy, I would like to record the interview on audio-tape. You can of course choose not to have the interview recorded.

If you are happy to help with the interview, please read the next page and sign your name. If you do not wish to take part, I would like to thank you very much for your time and wish you well in the future.

THANK YOU VERY MUCH

CONTACT DETAILS:

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PROJETU PESKIZA : LEI KONA BA SAUDE PUBLIKU IHA TIMOR LESTE
INFORMASAUN BA PARTISIPANTES SURVEY

LIA DAHULUK:

Hau nia naran Lee Barclay. Hau estudante iha Sentru ba Saude Internasional iha Universidade Curtin iha Perth, Western Australia. Hau hakarak husu itabot nia tulun iha projetu, kona ba saude iha Timor Leste. Hau iha interese espesial atu aprende oinsa ema hanoin kona ba lei nebe iha relasaun ho saude. Ema balun husu ona itabot no ema lubun bot seluk tan nebe moris iha Timor Leste atu fo imi nia opiniaun kona ba sa mak imi hanoin kona ba saude, lei kona ba saude no lei jeral.

Projetu ida ne'e halo parte ba hau nia estudus, nebe hetan ona aprovasaun husi hau nia Universidade ho ninia Komite ba Etika Peskiza Emar nian. Itabot iha pergunta ruma karik kona ba projetu ne'e, halo favor ida husu mai hau no hau sei haksolok tebes atu fo informasaun barak liu tan ba imi.

Itabot nia tulun iha survei ne'e kompletamente voluntariu. Ne'e importante ba itabot atu hatene katak laiha osan atu selu tan itabot fo tulun no itabot nia saude mos sei nafatin de'it wainhira itabot fo tulun ka la fo. Wainhira de'it itabot bele para atu hola parte iha survei ida ne'e.

Survei sei lori minutu 60. Itabot nia resposta sira sei rai iha fatin seguru no laiha dalan ba ema seluk atu hatene itabot nia naran ho itabot nia resposta sira. Itabot bele kompleta survei ne'e mesak, selae peskizador bele le pergunta sira ba itabot, hafoin grava itabot nia resposta sira (hodi tradutor ida nia tulun).

Itabot kontente karik atu fo tulun iha survey ne'e, halo favor le pajina tuir mai ne'e hodi asina itabot nia naran. Itabot hakarak karik atu partisipa, hau hakarak hato'o obrigadu barak no hein itabot hetan isin diak nafatin iha loron aban bainrua.

OBRIGADU BARAK

ENDERESU KONTAKTU NIAN:

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Favor kontakta Komite ba Etika Peskiza Emar nian (Sekretariu) atu hat'o kesar ruma kona ba asuntu etika nian (phone: + 61 8 9266 2784 or email S.Darley@curtin.edu.au ka hakerek C/- Eskritoriu Peskiza no Dezenvolvimentu, Universidade Teknolojia Curtin, GPO Box U1987, Perth WA 6845).

Appendix 4

Curtin
University of Technology

RESEARCH PROJECT: PUBLIC HEALTH LAW IN EAST TIMOR

CONSENT FORM FOR SURVEY PARTICIPANTS

My name is _____

I have read the information sheet about this project (or a translator has read it to me) and I am happy to help by completing a survey.

I am helping voluntarily and I understand that I am not being paid or given any gifts of any sort for my help.

I understand that I will be treated the same by health staff whether I help with this project or not.

I understand that I can stop answering the survey questions at any time.

I am helping with the survey on the understanding that my answers will be kept confidential and my name will not be associated with my answers.

I am happy for the researcher to use my answers to the survey questions in reports and publications as long as my name or any other information that identifies me is not used.

I am happy for my answers to be tape-recorded *(please ignore this if you are completing the survey by yourself).*

Signed: _____

Date: ____ November, 2004

PROJETU PESKIZA : LEI KONA BA SAUDE PUBLIKU IHA TIMOR LESTE

FORMULARIU KONSENTIMENTU BA PARTISIPANTE SURVEI NIAN

Hau nia naran _____

Hau le tiah ona surat informasaun kona ba projetu ne'e (ka tradutor mak le mai hau) no hau kontente atu fo tulun atu remata survei ne'e.

Hau fo tulun hanesan voluntariu no hau komprende katak hau sei lahetan osan ka simu premiu ka buat ruma kona ba tulun nebe hau fo.

Hau komprende katak hau sei hetan asistensia saude nebe hanesan ho ema seluk wainhira hau fo tulun ka la fob a survei ne'e.

Hau komprende katak wainhira de'it hau bele para atu hatan ba pergunta sira survei nian.

Hau fo tulun ba survei ne'e hodi komprende katak hau nia resposta sira sei rai hanesan segredu no hau nia naran sei la liga bah au nia resposta sira.

Hau kontente ho peskizador sira katak hau nia resposta sira ba survei ne'e sei tama iha relatoriu ka publikasaun sira, naran katak hau nia naran ka informasaun ruma nebe hatudu sai hau nia identidade sei la uza.

Hau kontente tamba hau nia resposta sira tama iha gravasaun (*favor haluha tiha ida ne'e wainhira itabot hatan rasik ba survei ne'e*)

Asina: _____

Loron: ____ Novembru, 2004

Curtin
University of Technology

RESEARCH PROJECT: PUBLIC HEALTH LAW IN EAST TIMOR

CONSENT FORM FOR INTERVIEW PARTICIPANTS

My name is _____

I have read the information sheet about this project (or a translator has read it to me) and I am happy to assist by taking part in a survey.

I am helping voluntarily and I understand that neither I nor my organisation are being paid or given any gifts of any sort for my help.

I understand that I can stop answering the interview questions at any time.

I am helping with the project on the understanding that, *unless I agree otherwise below*, my name will not be associated with my responses.

I am happy for the researcher to use my answers to the interview questions in reports and publications as long my wishes regarding confidentiality (*below*) are followed.

I am happy for my responses to be tape-recorded. Yes ☐ No ☐

Signed _____

Date ____/____/____

Please tick only one of the following:

I **hereby allow** my name **and** my organisation's name to be reported ☐

I **do not** wish my name **or** my organisation's name to be reported ☐

I **hereby allow** my name **but not** my organisation's name to be reported ☐

I **hereby allow** my organisation's name **but not** my name to be reported ☐