## Health, Nutrition, and Exercise

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## Introduction

After the first five years of life, the burden of disease drops significantly (Roser, Ritchie & Spooner, 2021) and remains low until the age of 50 after which the Disability-Adjusted Life Years (DALYs) gradually increase (WHO, 2022). The DALYs measure years of human life lost because of death and time lived in less than full health (WHO, 2022). Generation Z has some of the lowest DALYs due to low morbidity and mortality (Roser et al., 2021).

However, given the changes in lifestyle, nutrition patterns and the way food is produced, the future health of today's younger people may be at risk in the longer term. Insufficient physical activity among adolescents seems to be looming as a major concern (Guthold et al., 2020). Poor food choices, malnutrition and obesity are other important factors that can affect Generation Z's current health and future outlook (World Obesity Atlas, 2022).

Health describes the condition of the human body and characterizes the lack or presence of diseases as well as its fitness level and ability to perform. This determines the ability of people to function within society and the economy, their capacity to live, learn, love, work and play within the environments of the natural, social, and digital worlds (Boczkowski & Mitchelstein, 2021). Health is extremely important to Generation Z (Linus, 2022). Young people have valuable viewpoints and their voices should be included in decision-making (Smales et al., 2020). One participant from the Global Gen Z Study said: "I worry the most about being able to survive... I

fear I will not be able to support myself in a way that allows me to stay physically healthy and pursue the intellectual and cultural actions that make me feel whole and thus support my mental health."

# **Social Determinants of Health**

Since the early 2000s, significant evidence emerged internationally that individual and population health is strongly influenced by non-medical factors related to the socio-economic environments where people live (Commission of the Social Determinants of Health, 2008). These factors described as social determinant of health (Baum, 2016), represent inequalities in the conditions where people are born and live. The circumstances of their daily lives, such as income and housing, impact on the ability to access healthcare when needed or obtain the desired level of education. Table 1 includes the percentage of Gen Zers from the Global Gen Z Study who indicate being concerned or very concerned about each social determinant.

 Table 1. Social Determinants of Health

Social Determinant of Health	Percent
Access to healthcare	63%
Poverty	62%
Access to viable and affordable housing	61%
Unemployment	53%

# Access to Healthcare

Although the health risk factors for young people are relatively lower based on the DALY measurements, maintaining good health translates into opportunities to achieve better educational outcomes, transition to employment, overcome the challenges of parenthood and family life, as well as maintain friendships and lead healthy adult lives (AIHW, 2022).

Availability and accessibility of healthcare services contribute to these opportunities, and they can assist with health challenges.

For one, preventative healthcare can include immunization and vaccination initiatives, family planning and sexual reproduction educational programs, campaigns against smoking and substance abuse, as well as regular check-ups. In addition, dental services, medical tests, specialized treatment, and physiotherapy can all contribute to preventative healthcare.

New technologies, such as telehealth, digitalization and more accurate diagnostics equipment, are constantly introduced, improving the level of medical care (Shen et al., 2021). These technologies, though, also push up medical costs, which can result in challenges in accessing healthcare and availability of services particularly in poor, remote and vulnerable communities.

The Global Gen Z Survey indicates a very high level of concern about access to healthcare with 63 percent being highly concerned, 29 percent being slightly concerned, and only 8 percent not being concerned. Access to healthcare appeared amongst the top ten social concerns globally – third after racism and education, as well as across all regions of the survey. The levels of concern, however, varied being more pronounced in the African-Islamic countries where 71 percent of Gen Zers expressed being highly concerned, and less prominent in Englishspeaking, Protestant Europe, and Catholic Europe where the respective shares were still above 50 percent.

# Poverty

Sixty-three percent indicated being highly concerned or concerned about poverty, 32 percent somewhat or slightly concerned, and only 6 percent not concerned. This high level of concern may be attributed to individual fears for Gen Zers' own future or represent a broader societal

worning; nevertheless, it shows that inadequate income and insufficient means to lead a normal life are worries of young people. In the Global Gen Z Survey, poverty was ranked fourth of all issues of concern almost uniformly across the different geographic regions.

Poverty may affect Generation Z's attitude towards health and nutrition as limited access to healthy food choices impacts health (Centers for Disease Control, 2020). In addition, poverty can contribute to health inequalities within countries as is often the case between Indigenous and non-Indigenous populations (Marmot, 2011).

## Access to Viable and Affordable Housing

Access to viable and affordable housing is another social determinant of health (Rolfe et al., 2020). Having a secure and comfortable home environment substantially affects physical and mental health and overall sense of wellbeing. The quality of the neighborhood and local social support also impact people (Rolfe et al., 2020). Furthermore, the affordability and stability of the housing arrangements influence, be it indirectly, human health (Hernandez & Suglia, 2016).

The high cost of housing can prevent younger people, in particular, from accessing secure and safe housing options, leading to negative health impacts. By comparison, housing policies that ensure affordable access as well as public housing can help with mental health issues (Mwoka et al., 2021). Young people are a key vulnerable population for accessing adequate housing, particularly in a political framework that sees housing as a commodity rather than an element of human development, health and wellness (Mwoka et al., 2021).

Globally, 52 percent of Gen Zers are very concerned or concerned about viable and affordable housing. Thirty-one percent are somewhat or slightly concerned, and only seven percent were not concerned at all. Given many Gen Zers still live at home, with few identifying as being married or having children, their stage in life may lend itself to postponing thinking

about how to provide a shelter for themselves and their future families. Thus, the percentage who are concerned may increase over time.

## Unemployment

The health gap between employed and unemployed people is explained not only by the difference in available economic and social resources but also by the lack of trust in the institutional system supposed to offer support, particularly for young and vulnerable population groups (Brydsten, Hammarström & San Sebastian, 2018). Some describe income and wealth as the "cause of the causes" in the social determinants of health (Braveman & Gottlieb, 2014).

Fifty-three percent of Gen Zers expressed being very concerned or concerned about unemployment, with 39 percent being slightly concerned, and only 9 percent not concerned. Unemployment did not appear in the top ten concerns globally or in any of the regions. A possible explanation is the nature of the sample where only 24 percent of the participants' households had income below the average and almost all were university students predominantly studying full time.

Despite the overall positive outlook for the future of the Global Gen Z given their high education studies, the results show that when it comes to physical health, these young people are largely concerned about the factors that contribute to the social determinants of well-being.

# Gen Z's Perspective on Health and Food

The connection between health and human diet has become a political, environmental, social, cultural, and public policy issue with Generation Z and is projected to be a disruptor to the existing food systems and the food industry globally (Marinova & Bogueva, 2022). This generation's food preferences will shape the development of many new products and their

dietary choices will be made with greater environmental awareness compared to previous generations. They are likely to be active participants in a sustainability transition towards more plant-based food choices (Marinova et al., 2022). Gen Zers are more concerned than the previous generations about the environmental impacts of their food choices and take a more holistic approach to health and nutrition (International Food Information Council, 2022). Plant-based offerings are increasingly popular with them as is the presentability of food (McLymont, 2022).

## **Food Production**

Generation Z's desire for transparency in the way foodstuff is produced is combined with awareness about the health benefits of fresh and wholesome food. Seventy eight percent of these young people want more transparency from food brands and government (EIT, 2021). Factory farming, that is raising farm animals intensively in densely populated environments (Anomaly, 2015), reduces the cost of animal-based foods but poses public health risks, including easy spread of viruses and diseases. These practices are also associated with cruelty towards animals (Huemer, 2019). A 2021 Australian study highlights that two-thirds of those in Generation Z are concerned about animal cruelty (Year13, 2021).

The data from the Global Gen Z Survey indicates 48 percent are very concerned or concerned about factory farming/unhealthy food production. Forty percent indicate being somewhat or slightly concerned, with 11 percent not being concerned at all. Despite the number who are concerned, this issue did not appear among the top ten concerns globally or regionally.

# Nutrition

This generation is also knowledgeable about health and nutrition. Research conducted among Generation Z in Europe shows that young people consider healthy eating as being integral to physical and mental health (EIT, 2021). Seven in ten prefer healthy food options whilst eating

at home and overall, nearly three-quarters see good nutrition contributing to them staying healthy. The Global Gen Z Survey also shows awareness about the importance of nutrition for health with 56 percent being highly concerned and 40 percent slightly concerned about this social issue with only 4 percent indifferent.

### **Other Health Issues**

There is also evidence that obesity and malnutrition, preferences for energy dense, sugary and processed foods combined with a sedentary lifestyle are impacting human health at all ages, including Generation Z.

### Obesity

The World Obesity Atlas (2022) estimates that 1 billion people globally will be living with obesity by 2030 – one in five women and one in seven men. Obesity is classified as a multifactorial disease with serious consequences (World Obesity Federation, 2021), such as diabetes type 2, cardiovascular disease, cancer and hypertension. Alarmingly, the number of people of young age who are obese is increasing with childhood and adolescent obesity at historic highs and projections to grow (World Obesity Atlas, 2022). In 2021, 46% of Generation Z in Australia were obese or overweight (AIHW, 2022).

Health systems are ill-prepared to deal with the consequences from obesity and overweight (World Obesity Atlas, 2022), with economic costs measuring in the billions of dollars that not all economies can afford. While obesity is a health issue, it will likely be a costly economic issue for those in Generation Z left to make policy decisions after older generations have passed.

# **Commercial Determinants**

In addition to the social determinants of health, commercial interests also impact population health (Maani, Petticrew & Galea, 2022). These commercial determinants of health manifest themselves by putting profits, along with socially and environmentally irresponsible practices, above the physical wellbeing of people and the planet. In a competitive market economy, government policies rarely manage to safeguard the public from the harmful impacts of commercial products (World Obesity Atlas, 2022). Commercial actors who stand to gain a profit may encourage poor nutritional choices, including energy-dense often ultra-processed products, high sugar content in snacks and drinks, fast, takeaway and convenient eating places that offer meal options low in nutrients and fiber but high in calories. If left unchecked and unregulated, the commercial determinants of health will continue to shape the economic system in which Generation Z lives.

### Sedentary vs Active Lifestyle

Generation Z's physical health is impacted by a sedentary lifestyle (Sparks & Honey, 2014), which can be linked to intensive use of electronic devices, social media and gaming, limited physical exercise and lack of regular medical and preventative check-ups. One-third of the global population over 15 years of age engages in insufficient physical activities with sedentary behavior having wide-ranging adverse impacts on the human body (Park et al., 2020, p. 365). Young people are particularly exposed to the risks associated with sedentary lifestyle making some commentators call them "Generation Z(edentary)" (Lawrence, 2017). In the United States and Australia, a sedentary lifestyle seems to be equally encouraged by work and recreational trends (The Healthy Journal, 2022).

Generation Z however states high levels of physical exercise with 49 percent reporting working out one to three times per week (AdAge, 2018) which is above average compared to the

general population. Home gyms, jogging, weight lifting, strength training, pilates, yoga, aerobic and cardio exercising are all popular ways to maintain mental health and wellness, often combined with wearable fitness trackers (Commisso, 2022).

## Conclusion

Generation Z has already embraced a wide range of social issues related to human wellbeing and social determinants of health, and many Gen Zers are concerned about unhealthy food production. However, there is a range of other significant issues such as obesity, commercial determinants of health, and sedentary lifestyles that they will need to tackle, both for themselves and for society at large. In many ways, Generation Z is more aware of the environmental implications of its food choices and is already opting for more plant-based options. Whilst food is a personal choice, more efforts are needed by policy makers and society at large to reduce the social and commercial determinants of health and decrease the vulnerability of young people when it comes to housing, access to healthcare, poverty and unemployment. The food industry will also have to respond to the expectations about transparency and improved nutritional quality. There is an important role for educators, parents and supervisors to encourage active lifestyles and reduce alarming obesity trends to achieve better health and well-being outcomes for Generation Z.

# References

AdAge. (2018). Z: A Generation Redefining Health and Wellness. https://cdn2.hubspot.net/hubfs/4000540/content-reports/reports-pdf-versions/UNiDAYS-Ad-Age-Health-Wellness-2018-Report.pdf

Anomaly, J. (2015). What's wrong with factory farming? *Public Health Ethics*, 8(3), 246-254. https://doi.org/10.1093/phe/phu001

Australian Institute of Health and Welfare (AIHW). (2022). Health of young people.

https://www.aihw.gov.au/reports/children-youth/health-of-young-people

Baum, F. (2016). The new public health, 4th edition. Oxford University Press.

Boczkowski, P. J., & Mitchelstein, A. (2021). *The digital environment: How we live, learn, work, and play now*. MIT Press.

Braveman, P., & Gottlieb, L. (2014). The social determinants of health: It's time to consider the causes of the causes. *Public Health Reports*, *129*(Suppl 2), 19-31. https://doi.org/10.1177/00333549141291S206.

Brydsten, A., Hammarström, A. & San Sebastian, M. (2018). Health inequalities between employed and unemployed in northern Sweden: A decomposition analysis of social determinants for mental health. *International Journal of Equity in Health*, 17, 59. https://doi.org/10.1186/s12939-018-0773-5

Centers for Disease Control. (2020). Healthy food environments: Improving access to healthier food. https://www.cdc.gov/nutrition/healthy-food-environments/improving-access-to-healthier-food.html

Commisso, D. (2022). 7 Quick Health & Fitness Trends That Lead Among Gen Z. https://civicscience.com/7-quick-health-fitness-trends-that-lead-among-genz/#:~:text=Gen%20Z%20is%20big%20into,compared%20to%20the%20general%20populatio n

European Institute of Innovation and Technology (EIT) Food. (2021). Our Food, Our Food System: What Generation Z Wants from a Healthy Food System.

https://www.eitfood.eu/media/news-pdf/Our\_Food,\_Our\_Food\_System\_-

\_EIT\_Food\_report\_.pdf

Guthold, R., Stevens, G. A., Riley, L. M., & Bull, F. C. (2020). Global trends in insufficient

physical activity among adolescents: A pooled analysis of 298 population-based surveys with

1.6 million participants. The Lancet Child & Adolescent Health, 4(1), 23-35.

https://doi.org/10.1016/S2352-4642(19)30323-2

Hernandez, D., & Suglia, S. (2016). Housing as a social determinant of health. Columbia

University. https://healthequity.globalpolicysolutions.org/wp-

content/uploads/2016/12/Housing2.pdf

Huemer, M. (2019). Dialogues on ethical vegetarianism. Routledge.

International Food Information Council. (2022). 2022 Food and Health Survey.

https://foodinsight.org/wp-content/uploads/2022/05/IFIC-2022-Food-and-Health-Survey-

Report.pdf

Lawrence, C. (2017). Generation Z(edentary). https://www.linkedin.com/pulse/generationzedentary-case-lawrence/

Linus. (2022). Gen Z + the future of health. https://www.thelinusgroup.com/gen-z-report

Maani, M., Petticrew, M., & Galea, S. (eds). (2022). *The commercial determinants of health*. Oxford University Press.

Marinova, D., & Bogueva, D. (2022). Food in a planetary emergency. Springer.

Marinova, D., Bogueva, D., Wu, Y., & Guo, X. (2022). China and changing food trends: A sustainability transition perspective. Ukrainian Food Journal, 11(1), 126-147. https://doi.org/10.24263/2304-974X-2022-11-1-13

Marmot, M. (2011). Social determinants and the health of Indigenous Australians. *Medical Journal of Australia*, 194(10), 512-513. https://doi.org/10.5694/j.1326-5377.2011.tb03086.x

McLymont, V. (2022). What Gen Z wants: A look inside their food preferences.

https://hospitalitynewsny.com/what-gen-z-wants-a-look-inside-their-food-preferences/

Mwoka, M., Biermann, O., Ettman, C. K., Abdalla, S. M., Ambuko, J., Pearson, M., Rashid, S. F., Zeinali, Z., Galea, S., Valladares, L. M., Mberu, B. (2021). Housing as a social determinant of health: Evidence from Singapore, the UK, and Kenya: the 3-D Commission. *Journal of Urban Health*, 98(Suppl 1),15-30. https://doi.org/10.1007/s11524-021-00557-8.

- Park, J. H., Moon, J. H., Kim, H. J., Kong, M. H., & Oh, Y. H. (2020). Sedentary lifestyle:
  Overview of updated evidence of potential health risks. *Korean Journal of Family Medicine*, 41(6), 365-373. https://doi.org/10.4082/kjfm.20.0165.
- Rolfe, S., Garnham, L., Godwin, J., Anderson, I., Seaman, P., & Donaldson, C. (2020). Housing as a social determinant of health and wellbeing: Developing an empirically-informed realist theoretical framework. *BMC Public Health*, 20, 1138. https://doi.org/10.1186/s12889-020-09224-0
- Roser, M., Ritchie, H., & Spooner, S. (2021). Burden of disease. https://ourworldindata.org/burden-of-disease
- Smales, M., Savaglio, M., Morris, H., Bruce, L., Skouteris, H., & Green (née Cox), R. (2020).
  "Surviving not thriving": Experiences of health among young people with a lived experience in out-of-home care. *International Journal of Adolescence and Youth*, 25(1), 809-823.
  https://doi.org/10.1080/02673843.2020.1752269

Seemiller, C., & Grace, M. (2021). Global Gen Z. Unpublished data set.

Shen, Y-T., Chen, L., Yue, W.-W., & Xu, H.-X. (2021). Digital technology-based telemedicine for the COVID-19 pandemic. *Frontiers in Medicine*, 8, 646506.

https://doi.org/10.3389/fmed.2021.646506

Sparks & Honey. (2014). Meet Generation Z: Forget everything you learned about Millennials.

https://www.slideshare.net/sparksandhoney/generation-z-final-june-17

The Healthy Journal. (2022). What do Gen Z want in the future?

https://www.thehealthyjournal.com/faq/what-do-gen-z-want-in-the-future

World Health Organization (WHO). (2022). Disability-adjusted life years (DALYs).

https://www.who.int/data/gho/indicator-metadata-registry/imr-details/158

World Obesity Atlas. (2022). World Obesity Atlas 2022.

https://www.worldobesity.org/resources/resource-library/world-obesity-atlas-2022

- World Obesity Federation. (2021) Obesity is a disease. www.worldobesityday.org/assets/ downloads/Obesity\_Is\_a\_Disease.pdf
- Year13. (2021). Gen Z's animal cruelty awakening. https://year13.com.au/business/articles/genzs-animal-cruelty-awakening?next=gen-zs-animal-cruelty-awakening