

START

SUN LIFE RESOLUTION RUN



Diabetes in Asia

Empowering communities
to lead healthier lives

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Executive Summary

Diabetes is on the rise globally, but studies show that Asian populations are particularly at risk. While the *Sun Life Financial Asia Diabetes Awareness Study* shows increasing levels of education around what causes diabetes, families and individuals need to be encouraged and empowered to take action. By engaging with communities on initiatives to increase physical exercise and improve diets, we can help people to lead healthier lives.



I. A Global Crisis

Diabetes is a global crisis. Over 422 million adults worldwide are living with diabetes,¹ and it is the fourth leading cause of disability.² It is also on the rise: there was a 4% increase in age-standardised rates of Type II diabetes globally from 2007 – 2017.³

Unlike Type I diabetes, which is a non-curable disease where your body doesn't naturally produce enough insulin, Type II diabetes is caused by a complex mix of biological, environmental and lifestyle factors. In many cases, Type II diabetes is preventable through healthy lifestyle choices, including regular physical exercise and a healthy diet.

In Asia, the growing middle-class, urbanisation and globalisation are causing a rapid and unprecedented change in lifestyles. Whereas in 1990, 21% of the population in developing Asia was considered middle class,⁴ by 2008, this had risen to 56% – far outpacing growth of the middle class in other regions in the world.⁵

The rise in personal wealth amongst these families and individuals provides access to a wider range of consumer choices. While more choice is a positive outcome, it needs to be accompanied with greater levels of education and awareness to help people make the right decisions for their health. Unhealthy diets, smoking, and a lack of physical activity are fueling the rise in Type II diabetes.

A Global Crisis



422 million

Adults worldwide living with diabetes.⁶



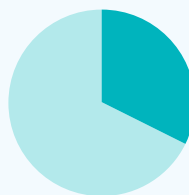
Over 1 million

Deaths from Type II diabetes in 2017.⁷



\$1.7 trillion USD

Lost global GDP from 2011 to 2030, including direct and indirect costs of diabetes.¹⁰



30.5%

Increase in Type II diabetes from 2007 – 2017.⁸



\$827 billion USD

Estimated global direct annual cost of diabetes.⁹

1. *Global Report on Diabetes*, (World Health Organization, 2016), p. 21.
2. 'Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017,' *The Lancet*, Vol. 392, (Elsevier Ltd., 2018), p. 1790.
3. *Ibid*, p. 1818.
4. Developing Asia in this case includes People's Republic of China, Indonesia, Malaysia, Philippines and Vietnam (amongst other countries).
5. *The Rise of Asia's Middle Class* (Asian Development Bank, 2010), chapter 2, p. 6.
6. *Global Report on Diabetes*, (World Health Organization, 2016), p. 21.
7. "GBD 2017: a fragile world," *Global Burden of Disease Study*, *The Lancet*, Vol. 392, (Elsevier Ltd., 2018), p. 1683.
8. "Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017," *The Lancet*, Vol. 392, (Elsevier Ltd., 2018), p. 1818.
9. *Global Report on Diabetes*, (World Health Organization, 2016), p. 14.
10. *Ibid*, p. 15.

The important role of communities

We believe that the only way to stop this public health “tsunami” is for governments, NGOs and the private sector to engage with communities.

At Sun Life Financial Asia, we have over 125 years of experience operating in Asia. Today, we are present in seven markets, which have a combined population of 3 billion people. Through our relationship with over 20 million clients in the region – expected to grow to 520 million by 2030 – we are committed to helping individuals and families achieve financial security and lead healthier lives.

There are four core elements to diabetes support: awareness, prevention, care, and research. Governments,

NGOs and the private sector all have a role to play in each of these four elements to educate, empower and engage people to be active, eat healthily, and get screened for diabetes.

Our primary focus for this white paper is on communities in Hong Kong, Malaysia, Indonesia, the Philippines and Vietnam, which were the countries we looked at in the 2nd Annual *Sun Life Financial Asia Diabetes Awareness Study*, published 13th November 2018. These markets were also where we hosted the Sun Life Resolution Run in January 2019, bringing together 16,000 people who ran a total of 110,000 kilometers and raised C\$250,000 for diabetes charities.



The Sun Life Resolution Run 2019

II. Why diabetes is on the rise, and how to stop it

Globalisation is changing our lifestyles

A confluence of factors are causing the global rise in diabetes, particularly Type II. More people are living sedentary lifestyles than at any other point in history. Combined with high-fat, high-sugar diets, these lifestyle changes present new challenges for our public health systems.

In developing countries, a shift from agricultural to industrial and technology-based economies is fueling a rise in urban populations.

Greater urbanisation has led to a decline in physical activity, as more people work in office- or factory-based jobs. Globally, 23% of adults aged 18 year or older do not meet the World Health Organization's (WHO's) recommended guidelines of 150 minutes of moderate-to-vigorous-intensity physical exercise per week.¹¹

Insufficient physical activity results in 3.2 million deaths worldwide from non-communicable diseases per year, which includes diabetes, heart attacks, strokes, and cancer.¹²

There is also evidence to suggest that air pollution in large urban areas, particularly long-term exposure to ambient particulate matter (PM_{2.5}) produced by cars, power plants, and factories, might be a contributing to rates of Type II diabetes.¹³ A recent study by the Washington University School of Medicine in St. Louis estimates that pollution contributed to 3.2 million new diabetes cases worldwide in 2016, or around 14%.¹⁴

Health & Wellness Tip #1 **Take the family exercise challenge.**

Aerobic exercise reduces your risk of getting Type II diabetes.

Set a goal in your family to see who can walk the most steps using health apps on your mobile phone or a fitness tracker. Choosing to take the stairs or a brisk walk at lunch incorporates more activity into your daily routine.

The family member with the most steps each week wins a prize! It could be picking a movie to watch together, or deciding where to go on a family outing.

At the same time, globalisation of supply chains, particularly in the food and restaurant industries, is causing the spread of "Westernised" diets that are high in carbohydrates, fats, salt, and sugar.

In one study, Chinese adults who ate Western fast food more than twice a week were 27% more likely to develop Type II diabetes than those who ate little to no fast food.¹⁵ Even though urban diets tend to be healthier, the gap between rural and urban diets is narrowing as these lifestyle choices become more widely available.¹⁶

11. Global Status Report on Noncommunicable Diseases 2014 (World Health Organization, 2014), p. xiii.

12. Ibid, p. xii.

13. 'Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017,' The Lancet, Vol. 392, (Elsevier Ltd., 2018), p. 1936.

14. 'Air pollution contributes significantly to diabetes globally,' Kristina Sauerwein, Washington School of Medicine in St. Louis, June 29, 2018. <https://medicine.wustl.edu/news/air-pollution-contributes-significantly-to-diabetes-globally/>

15. 'Exporting Diabetes to Asia: The Impact of Western-Style Fast Food,' An Pan PhD, Vasanti Malik ScD, Frank B. Hu MD, PhD, (National Institute of Health, 2012) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3401093/>

16. 'Diabetes in Asia and the Pacific: Implications for the Global Epidemic,' (Diabetes Care, March 2016), Vol. 29, p. 478.

Changes to our diets are likely fueling a rise in obesity rates, causing more than 1 million deaths from Type II diabetes in 2017.¹⁷ According to a U.S. study, the lifetime risk at 18 years old of developing diabetes increased from 7.6% to 70.3% between underweight and very obese men, and from 12.2% to 74.4% between underweight and very obese women.¹⁸

This dangerous convergence of factors – higher levels of pollution, physical inactivity, and diets high in

carbohydrates, fats, salt, and sugar – has created a ticking timebomb for global public health.

From an economic perspective, the indirect and direct costs of diabetes are taking a toll on public health services and Gross Domestic Product (GDP). At a global level, it is estimated that diabetes will cost \$1.7 trillion USD in lost GDP between 2011 – 2030, of which, \$800 billion will be accounted for by low- to middle-income countries.¹⁹

What Causes Diabetes?



Genetics



**Being overweight
or obese**



**High blood
pressure**



Ethnicity



Inactivity



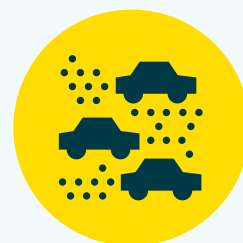
**High blood
glucose**



Smoking



Ageing



Pollution

17. "GBD 2017: a fragile world," Global Burden of Disease Study, The Lancet, Vol. 392, (Elsevier Ltd., 2018), p. 1683.

18. 'Effect of BMI on Lifetime Risk for Diabetes in the U.S.,' K.M.V. Narayan, MD, James P. Boyle, PhD, Theodore J. Thompson, MS, Edward W. Gregg PhD, and David F. Williamson PhD (Diabetes Care, June 2007), Vol. 30, p. 1563.

19. Global Report on Diabetes, (World Health Organization, 2016), p. 15.

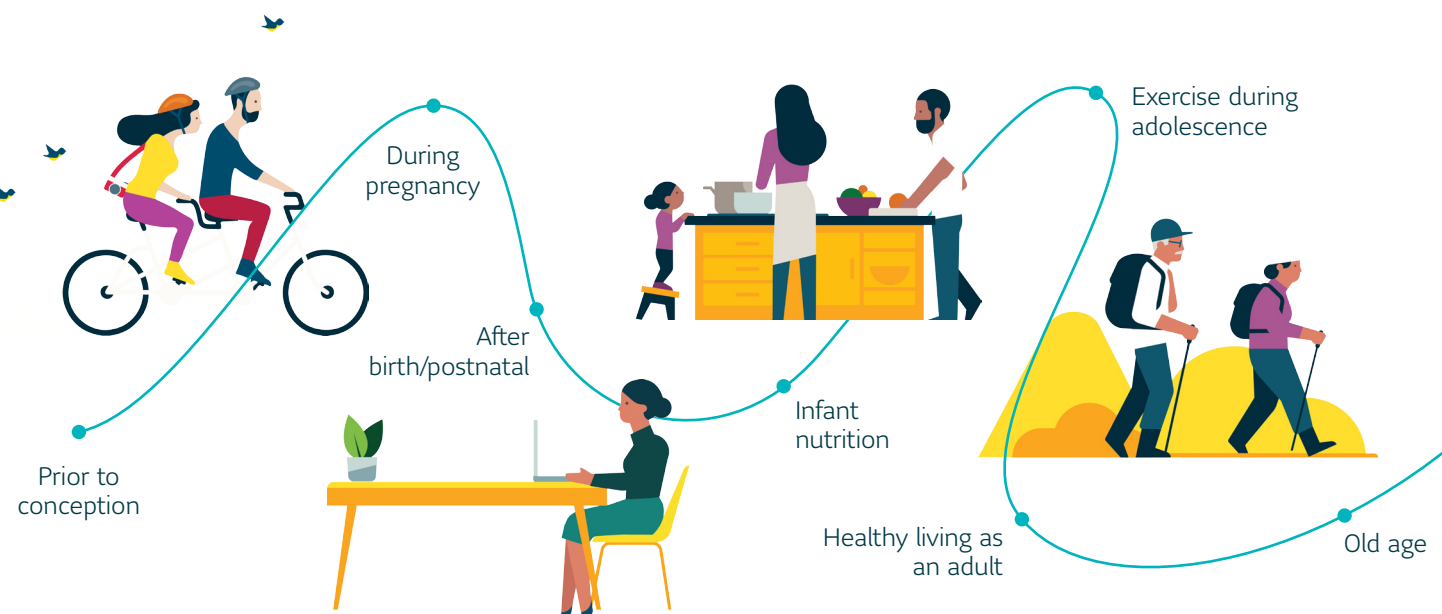
Halting the rise of Type II diabetes

To achieve its ambitious goals of reducing early deaths from noncommunicable diseases by one third and to halt the rise in diabetes by 2030, the WHO has set global targets to:

- Reduce physical inactivity by 10%.
- Reduce the mean population intake of salt/sodium by 30%.
- Reduce overall premature mortality from the disease by 25% by 2020.²⁰

Empowering communities, families and individuals to lead healthier lifestyles is key to realizing these targets. As the Global Report on Diabetes notes: “No single policy or intervention can ensure this happens. It calls for a whole-of-government and whole-of-society approach...”.

It adds that taking a lifecycle approach is important: “Early in life, when eating and physical activity habits are formed and when the long-term regulation of energy balance may be programmed, there is a critical window for intervention to mitigate the risk of obesity and Type II diabetes later in life.”²¹



Health & Wellness

Tip #2: Use exercise to socialize more!

Learn a new sport with your friends by joining a class together – it is a good way to make exercise more fun. See what's available in your local area. It could be anything from Zumba to rock climbing.

Post a story of your adventures on Instagram, and encourage other friends to join you next time!

It is never too late to adopt a healthier lifestyle. Among obese and overweight people, losing weight through more exercise and a better diet drastically reduces the risk of developing diabetes. A small 5 – 7% reduction in a person's weight decreases the incidence of Type II diabetes by 58% during a 3-year follow-up, and by 34% during a 10-year follow-up, according to studies in the U.S.²²

20. NCD Global Monitoring Framework (World Health Organization) https://www.who.int/nmh/global_monitoring_framework/gmf1_large.jpg?ua=1

21. Global Report on Diabetes, (World Health Organization, 2016), p. 7.

22. 'Global, regional, and national disability-adjusted life-years (DALYs) for 359 diseases and injuries and healthy life expectancy (HALE) for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017,' The Lancet, Vol. 392, (Elsevier Ltd., 2018), p. 1907.

III. Asian populations are increasingly at risk

Asian countries now account for more than 60% of the world's diabetic population.²³ This poses huge economic and societal challenges, unless immediate action is taken.

In the WHO's Western Pacific Region, which includes Malaysia, the Philippines, Vietnam and China, more than 138.2 million people have diabetes. This is projected to increase to 201.8 million people with diabetes by 2035.²⁴

Non-communicable diseases account for 50% of premature deaths (under 70 years of age) in West Pacific low- and middle-income countries.²⁵

In the WHO's South-east Asian Region, which includes Indonesia, Type II diabetes is estimated to increase by more than 150% between 2000 and 2035.²⁶ An estimated 96 million people have diabetes in the region, and Type II diabetes accounts for 90% of all cases.²⁷



23. 'Diabetes in Asia and the Pacific: Implications for the Global Epidemic,' Arun Nanditha, Roland C.W. Ma, Ambady Ramachandran, Chamukuttan Snehalatha, Juliana C.N. Chan, Kee Sang Chia, Jonathan E. Shaw, and Paul Z. Zimmet, (Diabetes Care, March 2016), Vol. 39, p. 472.

24. Ibid.

25. Western Pacific Regional Action Plan for the Prevention and Control of Noncommunicable Diseases (2014 – 2020), (World Health Organization, 2014), p. 1.

26. 'Diabetes in Asia and the Pacific: Implications for the Global Epidemic,' Arun Nanditha, Roland C.W. Ma, Ambady Ramachandran, Chamukuttan Snehalatha, Juliana C.N. Chan, Kee Sang Chia, Jonathan E. Shaw, and Paul Z. Zimmet, (Diabetes Care, March 2016), Vol. 39, p. 472. <http://care.diabetesjournals.org/content/39/3/472>

27. 'Addressing Asia's fast growing diabetes epidemic,' (Bulletin of the World Health Organization, 2017), Vol. 95, p. 550.

Genetics

In part, Asians may be more likely to develop Type II diabetes due to genetics. According to KM Venkat Narayan, a leading diabetes researcher from the Rollins School of Public Health at Emory University: "First, the population of south Asia seems to produce less insulin than people in other regions and, secondly, once their glucose levels go up to prediabetes levels, they quickly develop diabetes. Why this is the case, we don't know."²⁸

There also appears to be a higher prevalence of diabetes among younger Asian age groups (under 40 years old), compared to white Caucasians.²⁹ Asians are also more likely to develop diabetes at a lower Body-Mass Index (BMI) than other ethnic groups.³⁰

Health & Wellness

Tip #3: Be an entrepreneur – start a local running group.

If there aren't any exercise classes in your area, start a regular 5 km run and invite your friends and neighbours to join. It's a fun way to achieve something together.

Time yourselves each week, and try to beat your personal best. When you reach a targeted time for the run add a mile.



Physical activity

The biggest contributor to the prevalence of diabetes in South-east Asia and the West Pacific Region has been the rapid rise in urbanised lifestyles. Urban populations are estimated to more than double by 2050 in South-east Asia, after having already increased from 26% of the population in 1990 to 33% of the population in 2009.³¹

As urbanised lifestyles have increased, physical activity has declined.

Activity levels in South-east Asia vary amongst adult men from 3% to 41%, and 6.6% to 64% in women, while an estimated 800,000 deaths are attributed to a lack of exercise.³²

28. Ibid.

29. 'Evolution of Diabetes Care in Hong Kong: From the Hong Kong Diabetes Register to JADE-PEARL Program to RAMP and PEP Program,' Ivy H.Y. Ng, Kitty K.T. Cheung, Tiffany T.L. Yau, Elaine Chow, Risa Ozaki, Juliana C.N. Chan, (Endocrinology and Metabolism, 2018), Vol. 33, p 24.

30. 'Why are Asians at Higher Risk?' (Asian Diabetes Prevention Initiative). <http://asiandiabetesprevention.org/what-is-diabetes/why-are-asians-higher-risk>

31. 'Action plan for the prevention and control of noncommunicable diseases in South-East Asia (2013–2020), (World Health Organization, 2013), p.2.

32. Ibid, p.4.

Diet

At the same time, diets in Asia could be improved.

Around 80% of the population in South-east Asia does not eat five portions of fruits and vegetables a day, and the mean daily intake of salt greatly exceeds recommended levels.³³ Consumption of sugar-sweetened drinks, which contribute to causing Type II disease, is also on the rise in China.³⁴ Brown and whole grain rice in Asian diets have been typically replaced by white “polished” rice, which causes sudden spikes in blood sugar levels, particularly among those with Asian ethnicity.³⁵

As the WHO notes in the case of West Pacific islanders: “Fifty years ago, noncommunicable diseases were not a major concern for people in the Pacific. Traditional diets were predominantly plant-based, with vegetables such as yams and taro, and fish was the main protein source. People lived more active lifestyles.”³⁶

However, globalisation of supply chains and the introduction of cash-based economies gave way to changes in lifestyles and diets. “Families abandoned traditional diets and shifted to the consumption of white bread, white rice, canned goods, sugar and processed foods.”

As physical activity and healthy diets have declined, obesity levels in Asia have increased. In the West Pacific Region, one third of adults were overweight or obese in 2014.³⁷ In addition, 25% of the population in the region has high blood pressure.³⁸ Being overweight or obese increases your risk of developing diabetes.

Health & Wellness

Tip #4: Create a healthier version of your favourite meal.

Replace white rice with brown or whole grain rice, add an extra serving of fruit and vegetables, and leave out the salt altogether to make it healthier – it will still taste great!

Post your new culinary creation on Instagram.

Smoking

Tobacco use in these regions is also high. Almost 50% of adult men in Asia are regular smokers, which increases their likelihood of developing diabetes by 45%.³⁹ In the West Pacific Region alone, there are an estimated 430 million smokers, accounting for some one-third of the world’s smokers.⁴⁰

This conflation of high-risk factors is driving the increase in rates of diabetes in South-east Asia and the West Pacific Region, creating a geographically broad public health crisis.

33. Ibid, p.4.

34. ‘Causes of type 2 diabetes in China,’ Ronald Ching Wan Ma, Xu Lin, Weiping Jia, (Lancet Diabetes Endocrinol, 2014), p. 985.

35. ‘Diabetes in Asia and the Pacific: Implications for the Global Epidemic,’ Arun Nanditha, Roland C.W. Ma, Ambady Ramachandran, Chamukuttan Snehalatha, Juliana C.N. Chan, Kee Sang Chia, Jonathan E. Shaw, and Paul Z. Zimmet, (Diabetes Care, March 2016), Vol. 39, p. 479. <http://care.diabetesjournals.org/content/39/3/472>

36. Western Pacific Regional Action Plan for the Prevention and Control of Noncommunicable Diseases (2014 – 2020), (World Health Organization, 2014), p.2.

37. ‘Overweight and Obesity in the Western Pacific Region: An equity perspective,’ (World Health Organization, 2017), p. 13. <http://iris.wpro.who.int/bitstream/handle/10665.1/13583/9789290618133-eng.pdf>

38. Western Pacific Regional Action Plan for the Prevention and Control of Noncommunicable Diseases (2014 – 2020), (World Health Organization, 2014), p.1.

39. ‘Why are Asians at Higher Risk?’ (Asian Diabetes Prevention Initiative). <http://asiandiabetesprevention.org/what-is-diabetes/why-are-asians-higher-risk>

40. Western Pacific Regional Action Plan for the Prevention and Control of Noncommunicable Diseases (2014 – 2020), (World Health Organization, 2014), p.1.

IV. The Sun Life Financial Asia Diabetes Awareness Study

Growing levels of awareness, but apathy remains

According to the 2nd Annual Sun Life Financial Asia Diabetes Awareness Study, published 13th November 2018, while there has been an improvement in awareness and understanding of the causes of Type II diabetes in the past year, there is still a substantial gap between this understanding and the number of people taking preventative measures.⁴¹

82% of respondents are aware that there is more than one type of diabetes, a 5-point increase from

77% in 2017. There has also been an improvement in understanding that a diet high in carbohydrates or starch is a high-risk factor for diabetes, compared to the previous year.

However, while 90% of respondents agree that health screening for diabetes is necessary, only 67% have actually been screened. In addition, only 38% of respondents are willing to change their diet, and 32% are willing to exercise to support a family member with diabetes.

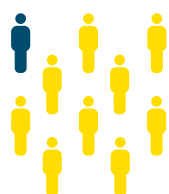


41. The study is based on independent market research conducted by Ipsos in October 2018 through online interviews with 3,860 respondents, who were at least 25 years old and lived in Hong Kong, Indonesia, Malaysia, the Philippines, or Vietnam.

Hong Kong

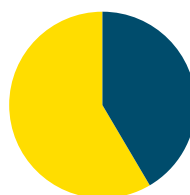
1 in 10 adults in Hong Kong, or 636,000 people, have diabetes, according to the Hong Kong Department of Health.⁴²

While awareness about the causes of diabetes is high – 41% incorrectly believe that diabetes is hereditary, while 61% understand that physical activity is a contributing high-risk factor – few are willing to take action, such as exercising with a diabetic family member or being screened for diabetes.⁴³



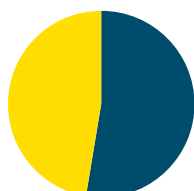
1 in 10

Number of people in Hong Kong who have diabetes.⁴⁴



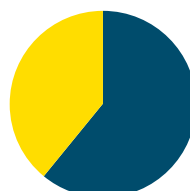
41%

Believe that diabetes is hereditary.⁴⁷



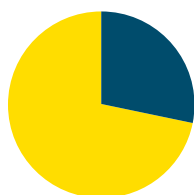
53%

Screened for diabetes.⁴⁵



61%

Understand lack of physical activity or exercise is a contributing factor for diabetes.⁴⁸



28%

Willing to exercise with a diabetic family member.⁴⁶

42. IDF Western Pacific members: Hong Kong <https://www.idf.org/our-network/regions-members/western-pacific/members/103-hongkong.html>

43. Sun Life Financial Asia Diabetes Awareness Study 2018: Family and Diabetes (Sun Life Financial Asia, November 2018).

44. IDF Western Pacific members: Hong Kong <https://www.idf.org/our-network/regions-members/western-pacific/members/103-hongkong.html>

45. Percentage of respondents in the Sun Life Financial Asia Diabetes Awareness Study 2018: Family and Diabetes (Sun Life Financial Asia, November 2018).

46. Ibid.

47. Ibid.

48. Ibid.

Indonesia

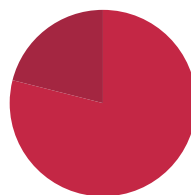
In Indonesia, approximately 10,276,100 or 6.7% of the population has diabetes, while 24.4% are overweight,⁴⁹ 5.7% are obese and 22.8% are physically inactive, raising their risk of developing diabetes.⁵⁰ Compared to the regional average, a large majority believe that diabetes is hereditary.⁵¹

Nonetheless, the most widely thought-of contributing factor to diabetes is having a high-carbohydrate or starchy diet (78% of respondents), while 64% identified lack of physical activity or exercise. Most believe that diabetes screening should take place at least once a year.⁵²



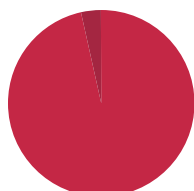
10.27 million

Indonesians with diabetes.⁵³



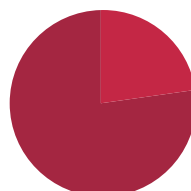
68%

Believe diabetes is hereditary.⁵⁶



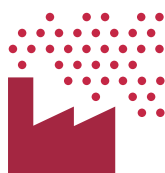
97%

Agree that diabetes screening with family should take place at least once a year.⁵⁴



22.8%

Percentage of the population that is physically inactive.⁵⁷



Top 50

Jakarta is one of the top 50 most polluted cities in the world.⁵⁵



1,675

Cigarettes smoked annually per capita.⁵⁸

49. IDF Western Pacific members: Indonesia <https://www.idf.org/our-network/regions-members/western-pacific/members/104-indonesia.html>

50. Ibid.

51. Sun Life Financial Asia Diabetes Awareness Study 2018: Family and Diabetes (Sun Life Financial Asia, November 2018).

52. Ibid.

53. IDF Western Pacific members: Indonesia <https://www.idf.org/our-network/regions-members/western-pacific/members/104-indonesia.html>

54. Percentage of respondents in the Sun Life Financial Asia Diabetes Awareness Study 2018: Family and Diabetes (Sun Life Financial Asia, November 2018).

55. Pollution Index 2019 <https://www.numbeo.com/pollution/rankings.jsp>

56. Percentage of respondents in the Sun Life Financial Asia Diabetes Awareness Study 2018: Family and Diabetes (Sun Life Financial Asia, November 2018).

57. IDF Western Pacific members: Indonesia <https://www.idf.org/our-network/regions-members/western-pacific/members/104-indonesia.html>

58. 'Mapped: The countries that smoke the most,' Oliver Smith (The Telegraph, 31 May, 2018). <https://www.telegraph.co.uk/travel/maps-and-graphics/world-according-to-tobacco-consumption/>

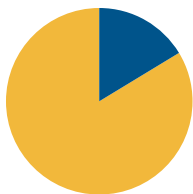
Malaysia

Malaysia has one of the highest rates of diabetes in the region: 3,492,600 adult Malaysians are diabetic, which is 16.9% of the population.⁵⁹

50% of Malaysians are willing to change their diet to support a family member with diabetes, compared to the regional average of 38%. However, while 93% of

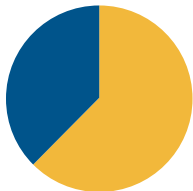
Malaysians also think screening for diabetes is necessary, only 27% have actually been screened.⁶⁰

Most Malaysians identify a high-carbohydrate diet and lack of exercise as high-risk factors for diabetes.⁶¹



16.9%

Population that has diabetes.⁶²



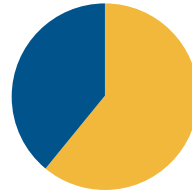
63%

Think a high-carbohydrate diet is a high-risk factor for diabetes.⁶³



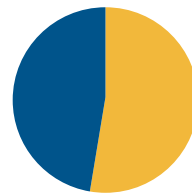
50%

Willing to change their diet to support a family member with diabetes.⁶⁴



62%

Aware there is more than one type of diabetes.⁶⁵



53%

Know that a lack of exercise is a high-risk factor for diabetes.⁶⁶

59. IDF Western Pacific members: Malaysia <https://www.idf.org/our-network/regions-members/western-pacific/members/108-malaysia.html>

60. Sun Life Financial Asia Diabetes Awareness Study 2018: Family and Diabetes (Sun Life Financial Asia, November 2018).

61. Ibid.

62. IDF Western Pacific members: Malaysia <https://www.idf.org/our-network/regions-members/western-pacific/members/108-malaysia.html>

63. Percentage of respondents in the Sun Life Financial Asia Diabetes Awareness Study 2018: Family and Diabetes (Sun Life Financial Asia, November 2018).

64. Ibid.

65. Ibid.

66. Ibid.

The Philippines

In the Philippines, 3,721,900 or 6.2% of adults have diabetes.⁶⁷

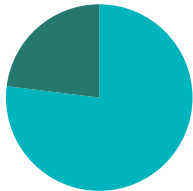
A high number of people know that a high-carbohydrate diet, in addition to a lack of exercise, are high-risk factors for diabetes. However, 77% still believe that diabetes is inherited from their parents.⁶⁸

47% of respondents are willing to exercise with a family member who had diabetes, and 95% think that screening for diabetes is necessary.⁶⁹



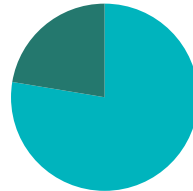
3.72 million

Adults with diabetes.⁷⁰



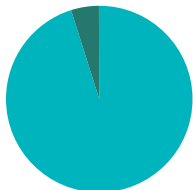
76%

Understand that a high-carbohydrate diet is a high risk-factor for diabetes.⁷¹



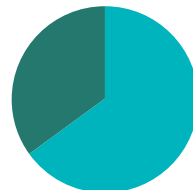
77%

Believe that diabetes is hereditary.⁷⁴



95%

Think diabetes screening is necessary.⁷²



65%

Understand that a lack of exercise is a high risk-factor for diabetes.⁷⁵



Top 50

Manila is one of the top 50 most polluted cities in the world.⁷³



1,132

Cigarettes smoked annually per capita.⁷⁶

67. IDF Western Pacific members: Philippines <https://www.idf.org/our-network/regions-members/western-pacific/members/116-the-philippines.html>

68. Sun Life Financial Asia Diabetes Awareness Study 2018: Family and Diabetes, (Sun Life Financial Asia, November 2018).

69. Ibid.

70. IDF Western Pacific members: Philippines <https://www.idf.org/our-network/regions-members/western-pacific/members/116-the-philippines.html>

71. Percentage of respondents in the Sun Life Financial Asia Diabetes Awareness Study 2018: Family and Diabetes (Sun Life Financial Asia, November 2018).

72. Ibid.

73. Pollution Index 2019 <https://www.numbeo.com/pollution/rankings.jsp>

74. Percentage of respondents in the Sun Life Financial Asia Diabetes Awareness Study 2018: Family and Diabetes (Sun Life Financial Asia, November 2018).

75. Ibid.

76. 'Mapped: The countries that smoke the most,' Oliver Smith, (The Telegraph, 31 May, 2018). <https://www.telegraph.co.uk/travel/maps-and-graphics/world-according-to-tobacco-consumption/>

Vietnam

In Vietnam, 3,535,700 adults (5.5%), have diabetes.⁷⁷ This is the lowest percentage among the five markets highlighted here.

A smaller percentage of respondents in Vietnam believe that diabetes is inherited from parents, compared to other regions. 70% of respondents also know that a high-carbohydrate or sugar-rich diet are contributing factors for Type II diabetes – however, only 36% were willing to change their diet to support a family-member with diabetes.⁷⁸

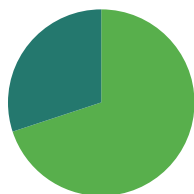
Vietnam also has the highest number of respondents who identified lack of exercise as a top contributing factor to diabetes, however, only 42% are willing to exercise with a diabetic family member.⁷⁹

96% of respondents think that diabetes screening is necessary, and 82% have been screened for diabetes – much higher than other regions in the study.⁸⁰



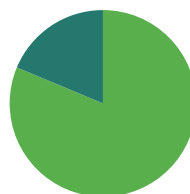
3.53 million

Diabetic adults in Vietnam.⁸¹



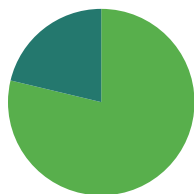
Over 70%

Understand that a high carbohydrate or sugar-rich diet are risk factors for developing Type II diabetes.⁸²



82%

Screened for diabetes.⁸⁵



78%

Think lack of physical activity is a contributing risk factor for diabetes.⁸³



Top 50

Ho Chi Minh City is one of the top 50 most polluted cities in the world.⁸⁶



1,049

Cigarettes smoked annually per capita.⁸⁴

77. IDF Western Pacific members: Vietnam <https://www.idf.org/our-network/regions-members/western-pacific/members/119-vietnam.html>

78. Sun Life Financial Asia Diabetes Awareness Study 2018: Family and Diabetes, (Sun Life Financial Asia, November 2018).

79. Ibid.

80. Ibid.

81. IDF Western Pacific members: Vietnam <https://www.idf.org/our-network/regions-members/western-pacific/members/119-vietnam.html>

82. Percentage of respondents in the Sun Life Financial Asia Diabetes Awareness Study 2018: Family and Diabetes (Sun Life Financial Asia, November 2018).

83. Ibid.

84. 'Mapped: The countries that smoke the most,' Oliver Smith, (The Telegraph, 31 May, 2018). <https://www.telegraph.co.uk/travel/maps-and-graphics/world-according-to-tobacco-consumption/>

85. Percentage of respondents in the Sun Life Financial Asia Diabetes Awareness Study 2018: Family and Diabetes (Sun Life Financial Asia, November 2018).

86. Pollution Index 2019 <https://www.numbeo.com/pollution/rankings.jsp>

V. Community-driven health and wellness



As we look to halt the rise in Type II diabetes among our five key markets in the South-east Asia and the West Pacific region, community-driven approaches play an important role in educating, engaging and encouraging people to lead healthier lives.

Communities are hard to define. They can include neighbourhoods, workplaces, schools and places of worship that bring together groups of people. Typically, these communities share common values or a shared purpose, which bonds these groups closer together.

Within a community, there is often the sense that you “know” everyone – at least by recognition, if not by name – which builds a sense of shared experience, even trust. These are people who you are more likely to turn to for help, and listen to for advice. As such, communities can be powerful agents for promoting and enabling healthier lifestyle choices among their constituents (families and individuals).

Healthcare policy

Practical healthcare policy solutions can be provided on a community level.

Greater access to healthcare services, including screening for non-communicable diseases, will help to detect and prevent early on-set of diabetes. In Hong Kong, for instance, more public sector patients could use vouchers for private healthcare for diabetes screening, which would ease the workload on the public health system while making these services more widely accessible.⁸⁷

Transportation and urban planning can also help communities to adopt more active lifestyles. In Hong Kong, the government seeks to incorporate “active design”

considerations into its urban planning policy to increase cycling, walking and exercising throughout the city.

Public parks, walkways and cycle paths are particularly important in providing space for exercise within urban environments, which is why Sun Life Financial's foundation has built a Linear Park in Marikina City, the Philippines, to provide space for 19,000 households in the area to exercise outside.

Likewise, creating “smoke free” spaces, increasing taxation on tobacco products, and banning tobacco advertising helps to educate and promote non-smoking as a healthier lifestyle.

Innovations in Medtech

In the future, medtech innovations might help governments provide healthcare services at a lower cost, and with higher up-take.

- Google launched an artificial intelligence programme in December 2018 in Thailand and India to screen for diabetic eye disease. These programmes are shown to have a higher rate of accuracy, compared to opticians.⁸⁸
- Continuous glucose monitors, which will track blood sugar levels in real-time, are a more accurate alternative to monitors which involve pricking a finger for a blood sample. Users are able to precisely pinpoint what is causing a spike in their blood glucose levels, which helps them to manage their diets better. Many of these devices are also discrete and less painful to use, like Abbott's Freestyle Libre scanner, which involves a small sensor applied to the skin for 14 days.⁸⁹
- Emerging technologies, such as 3D printing of human tissue and Artificial Intelligence, might also support the creation of pancreatic cells for transplant and more accurate medical devices.

87. 'Hong Kong scheme for public sector patients to use private health care, "should be expanded,"' Naomi Ng, (South China Morning Post, 30 November, 2018) <https://www.scmp.com/news/hong-kong/health-environment/article/2175896/hong-kong-scheme-public-sector-patients-use>

88. 'Google launches AI health service in Thailand to screen for diabetic eye disease that causes blindness,' Patpicha Tanakasempipat, (Reuters, 13 December, 2018), <https://www.reuters.com/article/us-thailand-google/google-launches-thai-ai-project-to-screen-for-diabetic-eye-disease-idUSKBN1OC1N2>

89. 'By 2025, a lot more people will be tracking their blood sugar, predicts doctor - here's why,' Aaron Neinstein, MD, (CNBC, 1 February, 2019), <https://www.cnn.com/2019/01/31/blood-sugar-tracking-useful-for-more-than-diabetes-commentary.html>

90.

Technology

Adoption of mobile phone technology in Asia is fast outpacing the Western world. Over 98% of China's 1.3 billion people has access to a mobile phone.⁹¹ In such a digitally connected society, mobile phones can be a powerful way to empower communities to lead healthier lives.

According to the WHO, mass media and social media can be used to "educate the public and empower communities to take control over determinants of health."⁹²

Online communities, particularly those created through social media, are a powerful way to connect and influence individuals into leading healthier lives. 42% of social media users viewed health-related consumer reviews on the platform, while 32% used social media to view health experiences of family and friends, according to the PwC HRI Social Media Consumer Survey in 2012.⁹³

Mobile phone apps can also be used to reinforce healthy habits. A recent study in India showed that people with prediabetes who received frequent text messages on how to live a healthy lifestyle had lower cumulative incidences of diabetes in 2 years (18%), compared with a control group who did not receive the text messages (27%).⁹⁴

Health & Wellness

Tip #5: Use fitness apps that offer rewards for staying active.

Fitness apps that offer rewards are a great way to measure your progress, and also be rewarded for working out! It's a win win!

Health and Wellness Apps

- In Malaysia, the SunActiv app offers rewards based on the number of steps taken each month. This is combined with latest health news and insights, the functionality to search and book healthcare providers, and to shop for wellness products.
- DietBet by Waybetter is a popular app which lets you join games and win money for losing weight. You join a game with other people on the app, or start one with your friends, and contribute money to a prize. After four weeks, whoever's lost 4% of their body weight gets a share of the winnings.
- Strava and Runkeeper are two apps that enable users to track their running routes. Creating achievable goals and sharing progress with other users helps you to stay motivated.
- Under Armour's MyFitnessPal is a free app that helps users to track calories and create a diet plan that meets their nutritional needs.

91. 'Mobile phone use continues to rise in China,' Ben Kwok, (Asia Times, 22 August, 2018). <http://www.atimes.com/article/mobile-phone-use-continues-to-rise-in-china/>

92. Western Pacific Regional Action Plan for the Prevention and Control of Noncommunicable Diseases (2014–2020), (World Health Organization, 2014), p.3.

93. 'Social media "likes" healthcare: From marketing to social business,' (Health Research Institute, PwC, April 2012), p.9.

94. 'Effectiveness of mobile phone messaging in prevention of type 2 diabetes by lifestyle modification in men in India: a prospective, parallel-group, randomised controlled trial,' (The Lancet, 2013), Vol. 1, p. 191 – 198.

Education

Community events can help engage and educate people on making healthy choices, and encourage them to be more active. This lies at the heart of the Sun Life Resolution Runs, which empowered 16,000 people in 2019 to get active together and make healthier lifestyle choices.

However, it doesn't always have to be on this scale – there are multiple ways NGOs, the government and the private sector can support local communities in being more active, from creating public spaces for exercise, sponsoring non-profit activity groups (for instance, local running or exercise groups), and promoting healthier meal options in school and work canteens.



Prevention is better than Cure

Sun Life Financial Asia's commitment to raising awareness about diabetes is central to our purpose helping people achieve lifetime financial security and lead healthier lives. Empowerment is the key. Knowledge about what causes Type II diabetes and how to prevent its onset is central to tackling this growing health problem, but so is empowering and engaging communities.

5 Community-led Approaches to Health and Wellness

1

Incentivizing people to stay active through fitness apps that offer rewards.

Gamification and rewards can motivate people to stay active.

2

Creating public spaces in urban environments for exercise.

By creating parks, cycle paths and pavements in urban environments, families and individuals find it easier to do exercise together.

3

Organizing family-oriented fitness clubs and events, like fun runs.

Communities can organize local family-oriented fitness clubs and events. Encouraging families and friends to exercise together means that they are more likely to stay active in the long-run.

4

Encouraging local shops to stock wholegrain or brown rice, instead of white rice.

White rice constitutes up to 60% of the glycaemic load among the Chinese population, and is associated with an increased risk of diabetes. By providing shoppers with healthier options, including whole grain and brown rice, families and individuals will be able to reduce their sugar intake.

5

Putting limits on the levels of added salt in pre-packaged, processed and fast foods.

The mean intake of salt per day in South-east Asia varies from 8 g to 13 g/day, much higher than recommended. Providing low salt alternatives to pre-packaged, processed and fast foods makes it easier for individuals and families to cut down on their salt intake.

At a government-level, this can mean putting limits on the levels of added salt to pre-packaged, processed and fast foods. At a community-level, supporting local markets, restaurants and purveyors of healthy foods, provides healthier options for families and individuals.



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