| YEAR 2 REPORT

The Hologic Global Women's Health Index

Pathways to a Healthy Future for Women

Global Women's Health Index
HEALTH

HOLOGIC®

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Critical data for global, regional and national development policymaking is still lacking. Many governments still do not have access to adequate data on their entire populations. This is particularly true for the poorest and most marginalized...[1]

UNITED NATIONS

1   United Nations. (n.d.). *Big Data for Sustainable Development.* https://www.un.org/en/global-issues/big-data-for-sustainable-development

A Letter From Hologic's CEO

The world needs healthy and vibrant women. They are critically important to our shared success and future, but you might not know that by looking at how women's health is prioritized across the world.

With our passion for championing women, we at Hologic noticed a troubling lack of reliable information about the state of women's health globally. As science-based innovators, we know that only what gets measured gets improved. So we partnered with Gallup in 2019 to develop a groundbreaking study that would create foundational benchmarks, heighten awareness and guide actions that increase the life expectancy and quality of life for women everywhere.

Our collaboration led to the Hologic Global Women's Health Index, the world's most comprehensive study of women's health. Now in its second year, the study provides new data-driven insights from 122 countries and territories, representing the experiences of 94% of the world's women and girls aged 15 and older.

Reflecting on this year's findings, I worry that women's health is moving backward. The data show that more than 1 billion women didn't go to a healthcare professional in the past year. We also learned that more than 1.5 billion women weren't tested for high blood pressure, diabetes, cancer or STDs/STIs — all conditions that harm or kill tens of millions of women each year.

Women's health has taken a back seat to nearly everything else going on in the world. No matter what pandemics, wars or other crises roil our societies, we must commit ourselves to improving the health of women, because they form the backbone of our families, communities and societies.

We also see with greater clarity that healthcare disparities impact women in every country. The growing divides between women in high-income and low-income economies, and in urban and rural communities, are preventing all women from achieving better health. We must work together to narrow these equity gaps.

Over the past year, several important aspects of women's well-being have lost ground in many ways. Fewer women feel safe walking alone at night. More are struggling to provide food and shelter. And they are even less satisfied with the healthcare options available to them. We must all do more to improve access to these essentials.

The Hologic Global Women's Health Index creates a framework for breakthrough solutions by identifying insights and offering comparative analysis. We're encouraged by the dozens of heads of state, policymakers, scholars and other health influencers worldwide who have met with us in the past year to see how this unprecedented resource will benefit their work. We're committed to expanding this engagement to help drive change.

Ultimately, we can improve women's health if we act together. I ask anyone reading this letter to take action by scheduling routine visits with a healthcare professional — and encourage the women in your life to do the same.

Women are telling us what they need. It's imperative that we act on this knowledge.

Stephen P. MacMillan
Chairman, President and
Chief Executive Officer of Hologic

Introduction

Hologic launched the Hologic Global Women's Health Index — a multiyear, comprehensive global survey about women's health — to help fill a critical gap in what the world knows about the health and well-being of the world's women and girls.

The findings from the first year of the survey, based on Hologic and Gallup's interviews with nearly 120,000 women and men in 116 countries and territories in 2020, provided a sobering baseline account of the state of women's health worldwide.

The data showed that every country in the world — high-income and low-income alike — fell short when it came to women's health and creating policies that support it.

Millions of women worldwide were in crisis. Too few were being tested for deadly diseases. Their emotional health was suffering. They couldn't meet basic needs and they didn't feel safe.

But the findings also revealed a data framework that provides a pathway through this crisis.

Hologic and Gallup researchers discovered that five dimensions of health explain more than 80% of the variance in women's life expectancy at birth: Preventive Care, Emotional Health, Opinions of Health and Safety, Basic Needs, and Individual Health.

Further, the researchers discovered that improvements in even one of these dimensions could potentially help women live healthier, longer lives.

The results from the 2021 Hologic Global Women's Health Index, this time conducted with nearly 127,000 women and men in 122 countries and territories, show that leaders need this framework more than ever.

Health situations for women and girls worldwide did not get better in 2021. The divide between women in high-income and low-income economies grew even larger than the year before.

The findings in this year's report provide a crucial update on the state of women's health worldwide in the second year of the COVID-19 pandemic, as women around the world lived through an uneven economic recovery and a "hurricane of humanitarian crises." [2,3]

This year's report answers key questions about women's knowledge, attitudes and behaviors regarding healthcare and, most importantly, whether women are getting preventive care and using health services.

Hologic and Gallup also share discoveries from the data collected in 2021, including new insights into how the five dimensions of health and going to a healthcare professional relate to women's life expectancy at birth.

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2   Miranda, C., Blanco, F., & Nenova, T. (2021, May 7). *An uneven global economic recovery in 2021 promises to invert a longstanding principle of success and failure*. World Bank Blogs. https://blogs.worldbank.org/developmenttalk/uneven-global-economic-recovery-2021-promises-invert-longstanding-principle-success

3   United Nations. (2021, July 16). *UN deputy chief warns of 'hurricane of humanitarian crises'*. UN News. https://news.un.org/en/story/2021/07/1096022

Key Findings From the Year 2 Hologic Global Women's Health Index

The gap in Index scores between women in high-income and low-income economies *nearly doubled* between 2020 and 2021.

In 2021, 22 points separated women in high-income economies — whose score remained unchanged at 61 — and women in low-income economies, whose score dropped from 49 to 39.

Women's ability to meet their basic needs — such as affording food — fell, while men's ability to do so did not change.

Women were slightly more likely than men to say there were times in the past year when they did not have enough money to afford needed food (37% of women vs. 33% of men). This gap was wider in 2021 than it was in 2020 — as women lost ground while men largely remained steady.

Women in 2021 were more stressed, worried, angry and sad than they were in 2020 — or at any point *in the past decade*.[4]

Stress, worry and anger each increased by three percentage points within the span of a year, while sadness notably rose by six points. More than four in 10 women in 2021 said they experienced worry (43%) and stress (41%) during a lot of the day before the survey, nearly one in three experienced sadness (32%), and more than one in four experienced anger (26%) — all at record levels.

In nearly 50 countries and territories, *less than 10% of women* said they had been tested for cancer in the previous year.

Worldwide, just 12% of women in 2021 were tested for any type of cancer in the past 12 months, which means more than 2 billion of the world's women went untested.

Belief in the value of going to a healthcare professional declined among women with an elementary education or less.

While belief in the value of going to a healthcare professional remained relatively stable among women with four years of education beyond high school or a college degree (92%), it dropped seven points among those with an elementary education or less — from 87% to 80% — leading to a 12-point gap between the two groups.

Annual visits to healthcare professionals correspond with *two additional years* in a woman's life expectancy.

Even after accounting for gross domestic product (GDP) per capita, life expectancy for women who said they had been to a healthcare professional in the past year was 78, compared to 76 for women who said they hadn't been.

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4   Based on Gallup World Poll data from 2011-2021.

The Hologic Global Women's Health Index

What is the Hologic Global Women's Health Index?

Launched in 2020, the Hologic Global Women's Health Index is a global, multiyear survey of women and men that annually tracks multiple health factors. It provides data that global leaders and policymakers can use to craft policies that improve the health, quality of life and life expectancy of the world's women and girls.

Each year, Hologic and Gallup ask questions in five dimensions that, taken together, account for more than 80% of the variance in a woman's average life expectancy at birth: Preventive Care, Emotional Health, Opinions of Health and Safety, Basic Needs, and Individual Health.

Based only on women's answers to these questions, Gallup and Hologic calculate global and country-level scores for each of the individual dimensions, as well as a single-number indicator that summarizes the host of complex factors that contribute to women's health — the Hologic Global Women's Health Index. Scores on the individual dimensions and overall Index can be compared over time and across countries and territories.

Global and country-level results on the overall Index, as well as the five individual dimensions, are discussed in further detail throughout this report. A detailed explanation of how the Index was constructed and how the Index and its dimensions are scored is available in Appendix 1.

What do the scores mean?

The overall Index and the five individual dimensions are scored from 0 to 100. A higher score on the overall Index means more women are having positive experiences in the five dimensions. Higher scores on the individual dimensions mean more women are having positive experiences in each of these respective areas.

How can we tell whether women's health situations are getting better or worse from year to year?

At the country level and demographic level (age, education, or urban or rural status, for example), increases or decreases need to be at least five points to be considered meaningful change. For more detail on interpreting meaningful change, please see Appendix 2.

What does the Hologic Global Women's Health Index measure?

The Gallup and Hologic research team has identified a set of 15 questions that provide a comprehensive view of women's health. Each of the questions falls into one of five dimensions: Preventive Care, Emotional Health, Opinions of Health and Safety, Basic Needs, and Individual Health.

Dimension of Women's Health	Survey Item
Preventive Care	*To the best of your knowledge, were you tested for any of the following in the past 12 months?* • *High blood pressure* • *Cancer* • *Diabetes* • *Sexually transmitted diseases or infections*
Emotional Health	*Did you experience the following feelings during a lot of the day yesterday?* • *How about worry?* • *How about sadness?* • *How about stress?* • *How about anger?*
Opinions of Health and Safety	• *In the city or area where you live, are you satisfied or dissatisfied with the availability of quality healthcare?* • *Do you think most pregnant women in the city or area where you live receive high-quality healthcare during their pregnancies, or not?* • *Do you feel safe walking alone at night in the city or area where you live?*
Basic Needs	• *Have there been times in the past 12 months when you did not have enough money to buy food that you or your family needed?* • *Have there been times in the past 12 months when you did not have enough money to provide adequate shelter or housing for you and your family?*
Individual Health	• *Do you have any health problems that prevent you from doing any of the things people your age normally can do?* • *Did you experience the following feelings during a lot of the day yesterday? How about physical pain?*

From these items, Gallup calculates individual dimension scores by first creating a simple average of the responses to the questions included in each dimension and then creating a weighted average for each dimension score. Each dimension is given a different weight depending on how much the dimension accounts for the variance in the overall Index. For example, the Preventive Care dimension explains more of the variance in the overall Index than the other dimensions, so it is given more weight. The overall Index score is the weighted sum of each dimension score.

This approach provides the foundation for the calculation of country averages and allows for a granular understanding of how different groups of women score differently based on health determinants such as age, education, income, urban or rural status, and age at first pregnancy.

For more information on how Hologic and Gallup developed the Index, please see Appendix 1.

# Why is the Hologic Global Women's Health Index important?

The study's second year findings reaffirm those of the inaugural study that improvements in any of the five dimensions of health are related to longer life expectancy.

From the inaugural study in 2020, Hologic and Gallup discovered that the Hologic Global Women's Health Index was strongly related to women's average life expectancy at birth — one of the most frequently used health indicators around the world.

Positive improvements on any one of the five dimensions could help women live healthier, longer lives. In 2021, Gallup researchers found these dimensions continue to account for more than 80% of the variance in why some women live longer than others, providing a framework for changing women's lives through improvements to their health and safety.[5]

CHART 1:

Female Life Expectancy at Birth by Hologic Global Women's Health Index 2021

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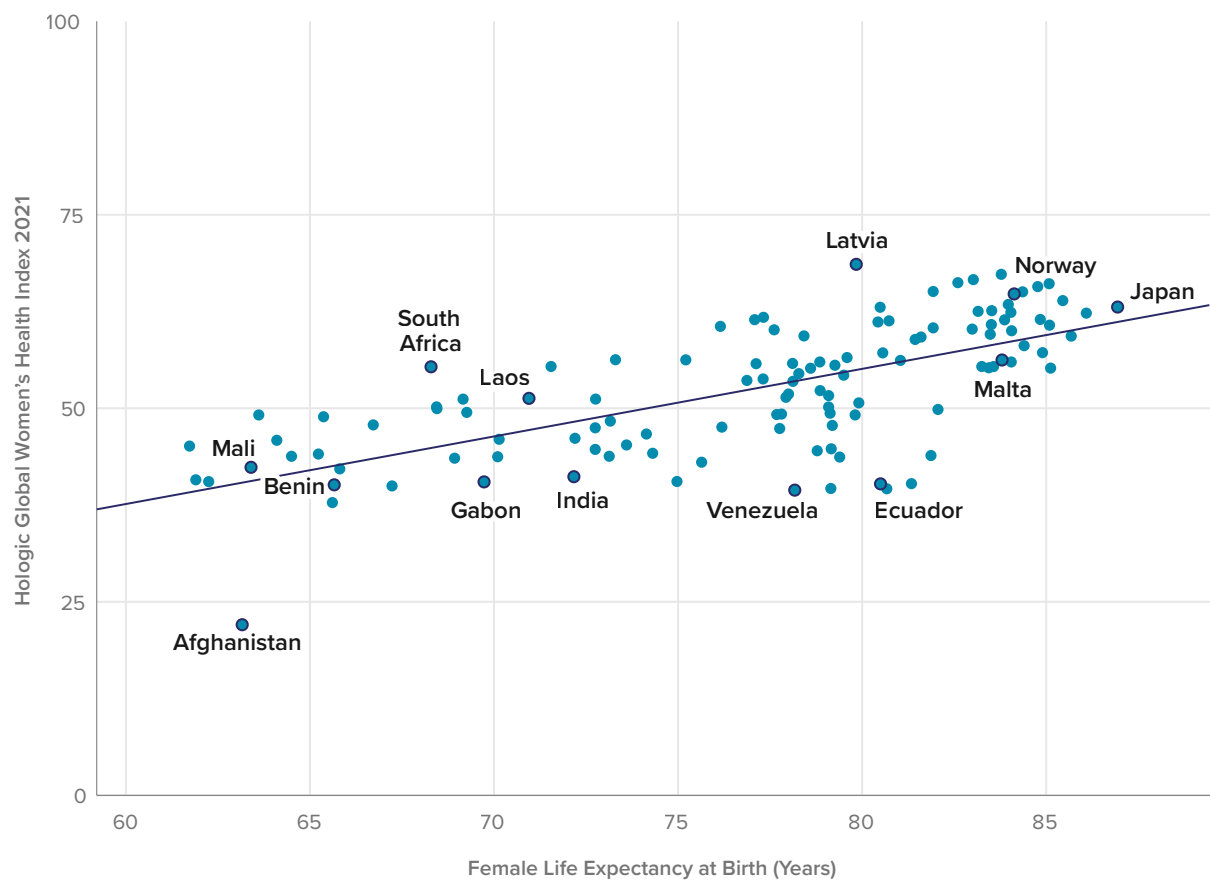
5   For more information on this analysis, please see Appendix 1.

These five dimensions also track closely with key global health and well-being indicators the world has prioritized as part of the United Nations' Sustainable Development Goals (SDGs).

UN SDGs are priorities and targets, agreed to by more than 178 nations, which offer a blueprint for peace and prosperity for people and the planet, now and into the future.[6] Unfortunately, despite the global consensus on the importance of these priorities, data on progress toward these goals is insufficient. On average, between 2015 and 2019, countries reported just one or more data points on only about half of the SDG targets.[7] All countries can benefit from access to more robust, timely data they can use to track their progress toward these goals.

Supplementary data sources such as the Hologic Global Women's Health Index, which is uniquely based on women's experiences and perceptions, have correlations to several UN SDGs and offer free, widely available and timely metrics that gauge a country's or territory's progress.

Data from the World Health Organization (WHO) are recognized as official indicators for progress against many of these SDGs. There are strong correlations between the Hologic Global Women's Health Index and several of these indicators.[8]

SDG 3.4: By 2030, reduce by one-third premature mortality from noncommunicable diseases.

The Index explains 81% of the variance of the WHO probability of dying between ages 30 and 70 from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases.

CHART 2:

Probability of Dying Between Ages 30 and 70 From Cardiovascular Diseases, Cancer, Diabetes or Chronic Respiratory Diseases by Hologic Global Women's Health Index 2021
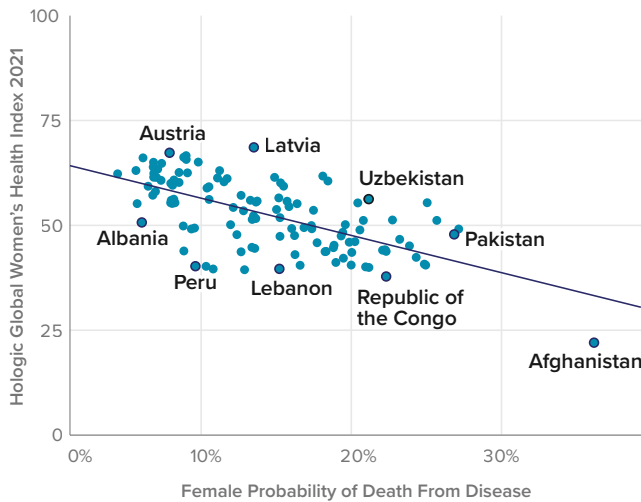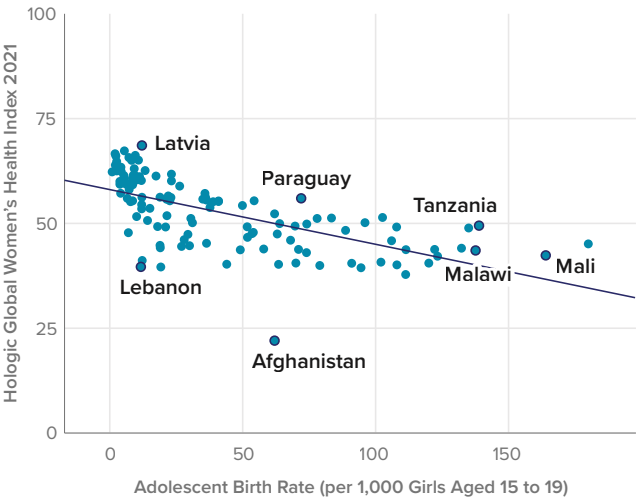

SDG 3.7: By 2030, ensure universal access to sexual and reproductive healthcare services.

The Index explains 63% of the variance in the WHO adolescent birth rate (per 1,000 girls aged 15 to 19).

CHART 3:

Adolescent Birth Rate (per 1,000 Girls Aged 15 to 19) by Hologic Global Women's Health Index 2021

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6   United Nations. (n.d.). *The 17 Goals.* Department of Economic and Social Affairs. https://sdgs.un.org/goals

7   Kitzmueller, L., Stacy, B., & Mahler, D. G. (2021, August 10). *Are we there yet? Many countries don't report progress on all SDGs according to the World Bank's new Statistical Performance Indicators.* World Bank Blogs. https://blogs.worldbank.org/opendata/are-we-there-yet-many-countries-dont-report-progress-all-sdgs-according-world-banks-new

8   For more information on this analysis, as well as relationships to other SDGs, please see Appendix 1.
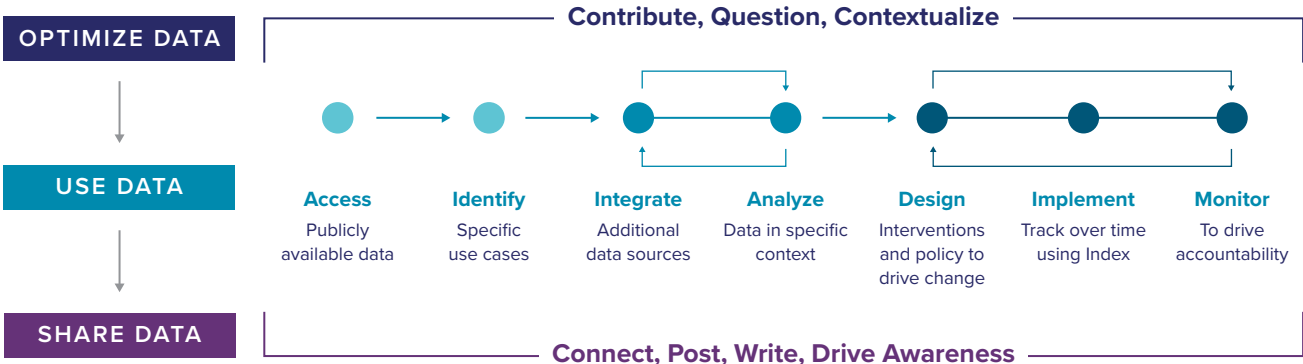
What can leaders and policymakers do with these scores?

> The Hologic Global Women's Health Index provides leaders with an actionable framework to help prioritize and focus efforts to improve women's lives, as well as increase their future longevity and quality of life.

Leaders can use the Index to see where their countries stand relative to the rest of the world and understand which health dimension contributes to the greatest differences in women's health scores.

They can also use the Index to identify areas of strength and opportunities for improvement in their countries, as well as use those insights to direct their policies more effectively.

Hologic is currently working with leading researchers and policymakers worldwide to analyze the data for insights that advance women's health. Hologic's partnerships with these organizations are built on the goal of working with the global health community to optimize, use and share Index data.

OPTIMIZE DATA

USE DATA

SHARE DATA

Contribute, Question, Contextualize

Access	Identify	Integrate	Analyze	Design	Implement	Monitor
Publicly available data	Specific use cases	Additional data sources	Data in specific context	Interventions and policy to drive change	Track over time using Index	To drive accountability

Connect, Post, Write, Drive Awareness

Ongoing dialogue with the global health community helps Hologic **optimize** the data by contextualizing them to specific situations and shifting dynamics. Hologic's desire is for these organizations to **use** these data, in conjunction with complementary data sources, to evaluate progress and design more effective solutions and interventions over time.

As lessons are learned and the data supports decision-making, Hologic hopes organizations **share** these experiences in forums ranging from social media to academic publications to conferences. Through this partnership model, the reach, awareness and impact of these data will grow.

Global Results

The world has much more work to do to improve women's health.

With an overall score of just 53 out of 100 in 2021 on the Hologic Global Women's Health Index — one point lower than the score in 2020 — the health of the world's women and girls did not improve last year.

The bigger story is the growing divide in women's health and the millions of women whose lives were worse in 2021 than in 2020. Women in countries and demographics already at a disadvantage when it comes to their health fell even further behind in 2021, while women in countries and demographics doing relatively well saw only small improvements, if any at all.

Even the countries that showed signs of improvement have work to do. The second year of the Index shows *every country or territory* still has room for improvement in women's health. Not one country or territory scored higher than 70 out of 100 on the Index.

> **Scores in 2021 ranged from a high of 70 in Taiwan to a low of 22 in Afghanistan.**

CHART 4:

Women's Health Around the World in 2021

Hologic Global Women's Health Index
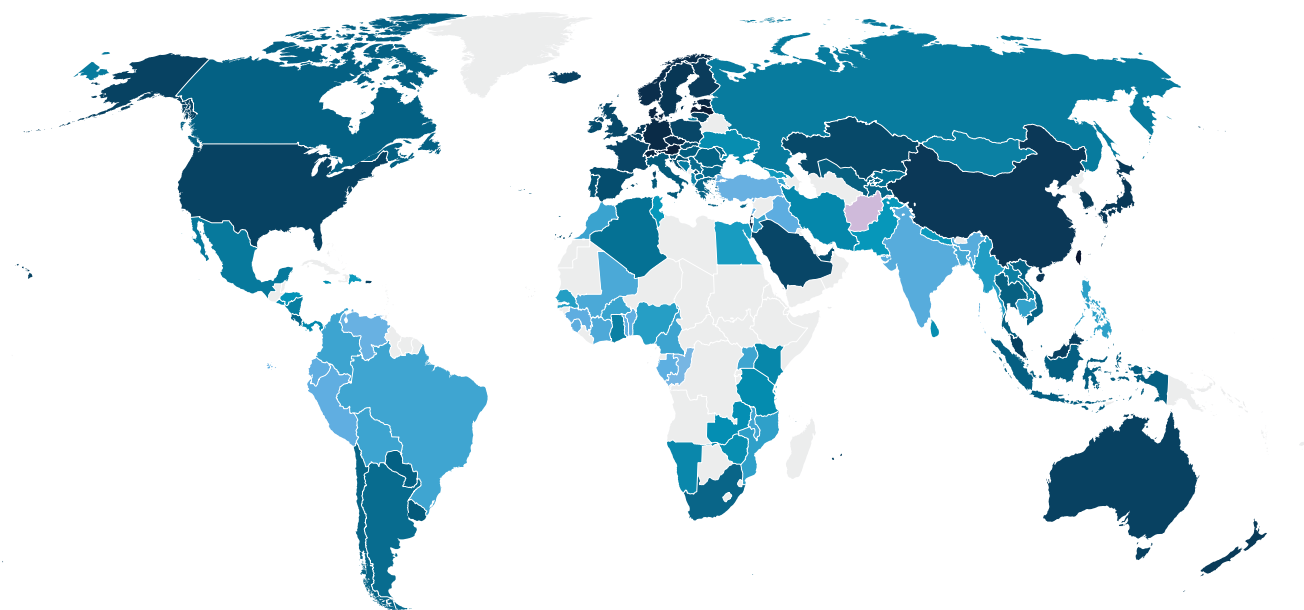
Most of the countries and territories with the highest scores on the overall Hologic Global Women's Health Index in 2021 are high-income economies, but a country's GDP per capita does not tell the whole story.

Most of the high-income countries and territories with the highest scores on the Index appeared at the top of the rankings in 2020 as well. This includes the Czech Republic, which gained six points in the Preventive Care dimension over the span of a year.

However, a country's income only tells part of the story. The Czech Republic's score of 34 in the Preventive Care dimension is notably higher than scores in countries with much higher GDP per capita, including Norway (26), Denmark (27) and Switzerland (21).

The increase in the Czech Republic's spending on healthcare during the COVID-19 pandemic may have helped boost its scores in the Preventive Care dimension. In 2020, the country had one of the highest ratios of expenditure to GDP in the EU.[9] But even before the pandemic, the Czech Republic already had one of the lowest levels in the EU for unmet medical needs due to financial reasons, distance or waiting times.[10]

Female friends walking on Charles Bridge.

Prague, Czech Republic

9   Eurostat. (2022, March 11). *How much did governments spend on health in 2020?* https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20220311-1
10   OECD/European Observatory on Health Systems and Policies. (2021). *Czech Republic: Country Health Profile 2021.* State of Health in the EU: Country Health Profiles. https://www.oecd.org/czech/czech-republic-country-health-profile-2021-8b341a5e-en.htm

Women living in countries and territories that scored the highest on the overall Hologic Global Women's Health Index in 2021 almost all scored better than the global average in all five dimensions of health, but their scores clearly show women's health still requires urgent action.

▲ Top Countries/Territories on the 2021 Hologic Global Women's Health Index

Countries with an absolute increase ↑ or decrease ↓ greater than 5

		Female Life Expectancy (WHO)	Overall Index Score 2021	Index Score YoY Change	DIMENSION SCORE YEAR OVER YEAR (YOY) CHANGE				
					Preventive Care	Emotional Health	Opinions of Health and Safety	Basic Needs	Individual Health
	GLOBAL AVERAGE	75	53	-1	0	-4	-4	-2	-4
1	Taiwan, Province of China	N/A	70	1	-3	-1	3	1	3
2	Latvia	80	69	4	2	3	3	6 ↑	3
3	Austria	84	67	0	3	-3	-4	-1	2
4	Denmark	83	67	3	3	1	1	0	8 ↑
5	Estonia	83	66	2	5 ↑	2	-4	4	-4
6	Switzerland	85	66	2	2	4	1	0	-1
7	Germany	85	66	1	3	0	1	-4	3
8	Czech Republic	82	65	3	6 ↑	3	0	4	-3
9	Israel	84	65	3	0	7 ↑	-4	6 ↑	2
10	Norway	84	65	0	3	-3	-4	3	-2

Note: Higher scores indicate more women are having positive health and health experiences. WHO estimated life expectancy not available for Taiwan.

Source: Hologic Global Women's Health Index, Year 2 (Released 2022)

Countries and territories that spend more per capita on healthcare tend to earn higher scores on the overall Hologic Global Women's Health Index, except for the United States.

In many countries and territories around the world, particularly the higher-income ones, higher healthcare expenditures per capita usually translate into better healthcare outcomes, including longer life expectancy for women. The U.S., however, continues to be a well-documented exception. The country spends nearly twice as much as an average Organisation for Economic Co-operation and Development (OECD) country does on healthcare, but it has a lower life expectancy.[11]

Countries and territories that spend more per capita on healthcare tend to earn higher scores on the overall Index — except for the U.S., which spends the most and scores a 61. Most of the countries that lead the world on the Index also lead the world in how much of their wealth they funnel back into their health system, including places such as Austria (67), Switzerland (66) and Norway (65). The inverse is true for countries and territories that spend the least on healthcare — such as the lowest-ranking country, Afghanistan (22).

CHART 5:

Healthcare Spending per Capita by Hologic Global Women's Health Index
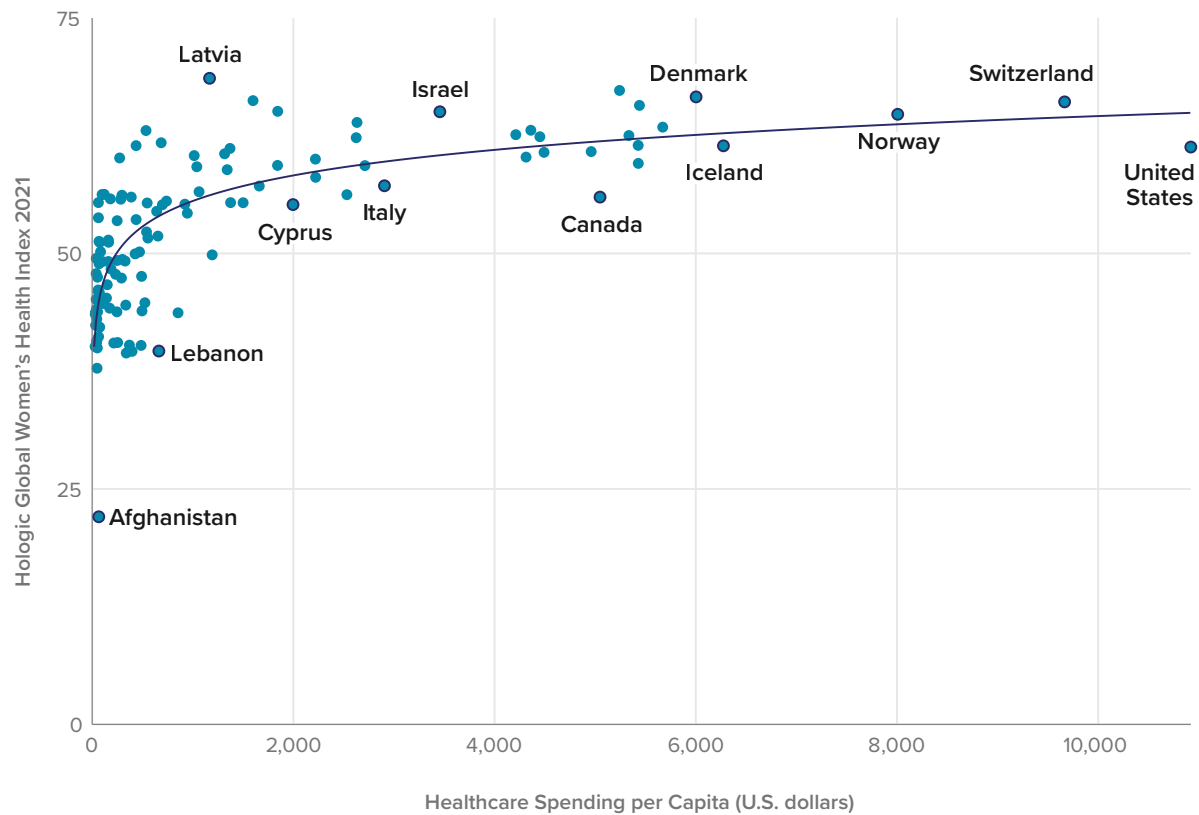
Possible index scores range from 0 to 100.

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11   OECD. (n.d.). *Health Spending*. OECD Data. https://data.oecd.org/healthres/health-spending.htm

[The United States]
spends nearly twice as much
as an average Organisation for
Economic Co-operation and
Development (OECD) country
does on healthcare, but it
has a lower life expectancy.

Many of the countries and territories with the lowest scores on the overall Hologic Global Women's Health Index in 2021 also scored among the lowest in 2020; they all have weak or destabilized infrastructure for healthcare.

Most of the countries that score lowest on the Index have scores below the global average on Preventive Care — the dimension where the world has the most work to do. None of the lowest-scoring countries improved in this dimension in 2021. Lebanon's score dropped significantly from 16 to 11, which is about half the global average score of 19.

Afghanistan debuted on the Index in 2021 with the lowest overall score in the world. The country was surveyed amid turmoil as the Taliban took control and the U.S. withdrew its troops.

Afghanistan scored lower than any other country in all dimensions except Preventive Care and Individual Health. The country scored in the bottom 20 countries on Preventive Care and bottom 10 on Individual Health.

An Afghan woman sits outside a shop in central Kabul.

Kabul, Afghanistan

Women living in these countries have a worse quality of life and are likely to die younger than women elsewhere, and the lack of improvement in their scores means they are at higher risk today than in 2020.

▼ **Bottom Countries/Territories on the 2021 Hologic Global Women's Health Index**

Countries with an absolute increase ↑ or decrease ↓ greater than 5

DIMENSION SCORE YOY CHANGE

	Female Life Expectancy (WHO)	Overall Index Score 2021	Index Score YoY Change	Preventive Care	Emotional Health	Opinions of Health and Safety	Basic Needs	Individual Health
GLOBAL AVERAGE	75	53	-1	0	-4	-4	-2	-4
113 Gabon	70	40	2	-4	5 ↑	0	8 ↑	2
114 Peru	81	40	4	-1	11 ↑	4	4	2
115 Ecuador	81	40	0	3	0	-7 ↓	3	-5 ↓
116 Benin	66	40	-6 ↓	-4	-12 ↓	-4	2	-14 ↓
117 Togo	67	40	NS	NS	NS	NS	NS	NS
118 Lebanon	79	40	-1	-5 ↓	3	-20 ↓	6 ↑	7 ↑
119 Türkiye	81	40	-4	5 ↑	-5 ↓	-9 ↓	-12 ↓	-11 ↓
120 Venezuela	78	39	2	2	5 ↑	-8 ↓	3	1
121 Republic of the Congo	66	38	0	-2	1	0	-4	-4
122 Afghanistan	63	22	NS	NS	NS	NS	NS	NS

Note: Higher scores indicate more women are having positive health and health experiences. "NS" indicates the country or territory was not surveyed the prior year.

Source: Hologic Global Women's Health Index, Year 2 (Released 2022)

The fastest-improving countries show signs of progress.

The fastest-improving countries — those where overall Hologic Global Women's Health Index scores increased by at least five points in one year — typically saw substantial improvements in their Emotional Health and Basic Needs dimensions, which are highly related to one another.

The Basic Needs dimension has the strongest relationship with each of the other dimensions, which means that if these needs aren't met, it's less likely that women's other health needs will be.

+ Fastest-Improving Countries/Territories in 2021

Countries with an absolute increase ↑
or decrease ↓ greater than 5

	Overall Index Score 2021	Index Score YoY Change	DIMENSION SCORE YOY CHANGE				
			Preventive Care	Emotional Health	Opinions of Health and Safety	Basic Needs	Individual Health
GLOBAL AVERAGE	53	-1	0	-4	-4	-2	-4
Tajikistan	55	7 ↑	-3	15 ↑	3	10 ↑	16 ↑
Zimbabwe	49	6 ↑	-4	14 ↑	6 ↑	6 ↑	3
Tunisia	48	6 ↑	-6 ↓	14 ↑	6 ↑	16 ↑	3
Costa Rica	55	5 ↑	5 ↑	9 ↑	-1	6 ↑	7 ↑
Indonesia	56	5 ↑	0	9 ↑	3	12 ↑	4
Mexico	52	5 ↑	12 ↑	3	4	0	1
Malaysia	61	5 ↑	-4	14 ↑	2	11 ↑	-3
Poland	60	5 ↑	6 ↑	8 ↑	2	-1	4
El Salvador	49	5 ↑	2	7 ↑	-6 ↓	13 ↑	5 ↑
Uzbekistan	56	5 ↑	2	3	0	14 ↑	5 ↑
North Macedonia	54	5 ↑	4	6 ↑	1	7 ↑	4
Iran	50	5 ↑	4	7 ↑	4	1	4
Kosovo	60	5 ↑	-5 ↓	11 ↑	-2	13 ↑	5 ↑

Source: Hologic Global Women's Health Index, Year 2 (Released 2022)

But some countries are falling behind — quickly — on women's health.

The countries with the biggest year-over-year declines — those where overall Hologic Global Women's Health Index scores fell by at least five points in one year — typically saw substantial declines in their Opinions of Health and Safety and Individual Health dimensions.

> In India, where scores declined more than in any other country, scores dropped sharply in every dimension of women's health except Preventive Care.

However, India was already one of the worst-performing countries on Preventive Care in 2020, with a score of 10.

Read more about India's tumultuous changes in women's emotional health in the Country Spotlight at the end of the report.

▬ Fastest-Declining Countries/Territories in 2021

Countries with an absolute increase ↑ or decrease ↓ greater than 5

	Overall Index Score 2021	Index Score YoY Change	DIMENSION SCORE YOY CHANGE				
			Preventive Care	Emotional Health	Opinions of Health and Safety	Basic Needs	Individual Health
GLOBAL AVERAGE	**53**	**-1**	**0**	**-4**	**-4**	**-2**	**-4**
India	41	**-14 ↓**	-1	**-26 ↓**	**-20 ↓**	**-12 ↓**	**-22 ↓**
Bangladesh	43	**-9 ↓**	-4	**-14 ↓**	4	**-25 ↓**	**-12 ↓**
Jamaica	49	**-8 ↓**	**-11 ↓**	-3	**-17 ↓**	0	**-13 ↓**
Cambodia	45	**-7 ↓**	**-16 ↓**	1	-2	**-11 ↓**	**-5 ↓**
Benin	40	**-6 ↓**	-4	**-12 ↓**	-4	2	**-14 ↓**

Source: Hologic Global Women's Health Index, Year 2 (Released 2022)

The Growing Divides in Women's Health

Socioeconomic status and income are determinants of health that are linked to how long people live, how they live and their disease risk, with people from low socioeconomic status generally at the highest risk.[12]

> In 2021, Hologic and Gallup found that across nearly all these determinants, the divides were growing — with the gulfs becoming wider between women in high-income and low-income economies, those living in urban and rural settings, and across educational levels.

The gap between women in high-income and low-income economies nearly doubled between 2020 and 2021.

- The overall Hologic Global Women's Health Index score for women in high-income economies, who also scored highest on the Index in 2020, remained unchanged at 61. In low-income economies, women's scores dropped 10 points to 39.
- The gap between women's scores in high-income economies and low-income economies widened from 12 points in 2020 to 22 points in 2021.
- Index scores dropped among women in lower-middle and low-income countries, while they improved or stayed the same for women in upper-middle and high-income countries.

CHART 6:

Country Income Level by Hologic Global Women's Health Index
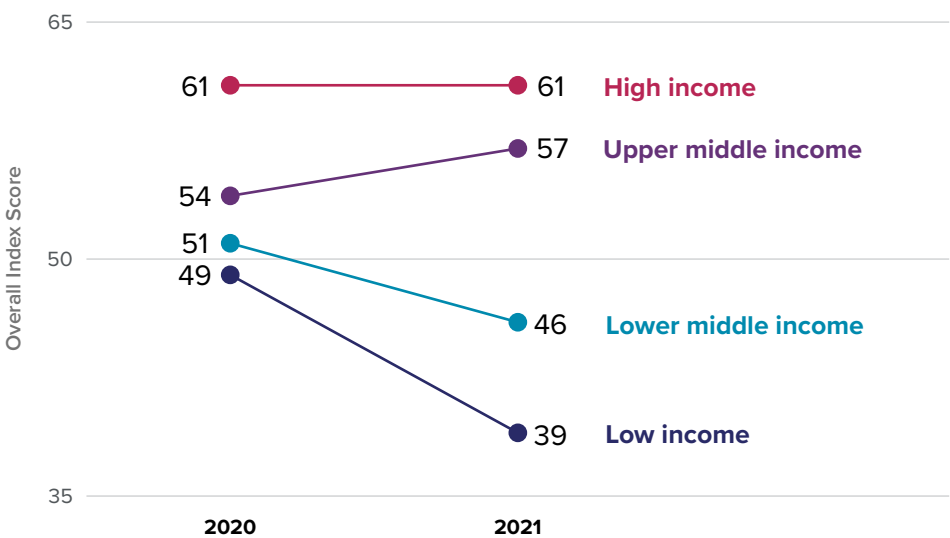
Possible index scores range from 0 to 100.

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12 WHO. (2019, May 30). *Social determinants of health.* World Health Organization. https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1

Hologic Global Women's Health Index

Overall Index Scores by Demographic

■ 2020 Index score   ■ 2021 Index score
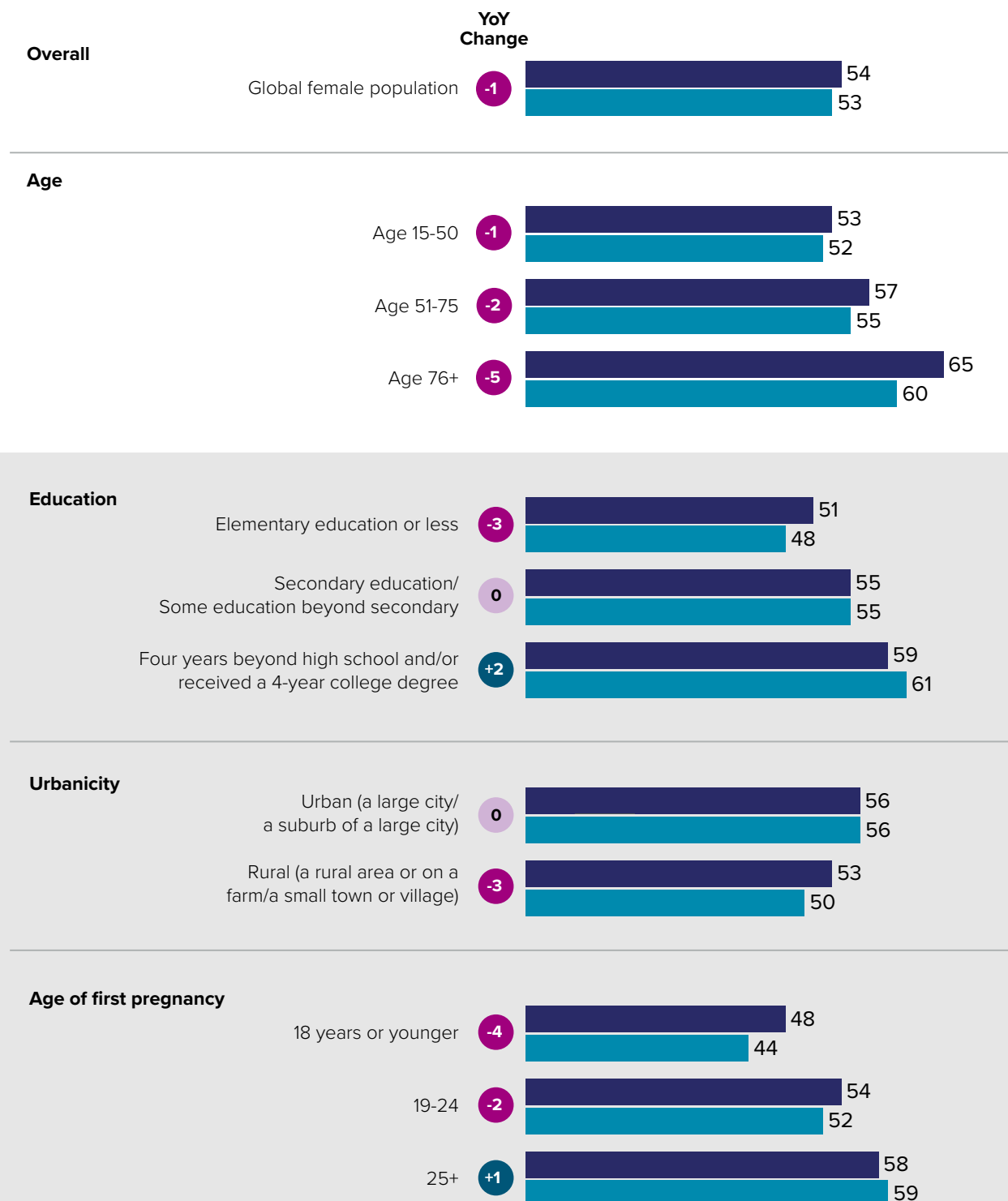
YoY Change

Overall

Global female population (-1) | 54 | 53

Age

Age 15-50 (-1) | 53 | 52

Age 51-75 (-2) | 57 | 55

Age 76+ (-5) | 65 | 60

Education

Elementary education or less (-3) | 51 | 48

Secondary education/
Some education beyond secondary (0) | 55 | 55

Four years beyond high school and/or
received a 4-year college degree (+2) | 59 | 61

Urbanicity

Urban (a large city/
a suburb of a large city) (0) | 56 | 56

Rural (a rural area or on a
farm/a small town or village) (-3) | 53 | 50

Age of first pregnancy

18 years or younger (-4) | 48 | 44

19-24 (-2) | 54 | 52

25+ (+1) | 58 | 59

A woman talks about her health experiences with the team from the Hologic Global Women's Health Index video project.

Istanbul, Türkiye

Less-educated women fell further behind, while more-educated women had slightly improved health outcomes.

- The existing gap in health outcomes between women with an elementary education versus those with four years or more beyond high school expanded from eight points in 2020 to 13 points in 2021.

- Women with an elementary education or less lost ground, with their scores on the overall Hologic Global Women's Health Index dropping from 51 to 48. The health situation for women with the highest level of education improved slightly, with their overall Index scores rising from 59 to 61.

The gap between health outcomes among women in urban and rural areas was twice as wide in 2021 as it was the previous year.

- Urban women's scores on the overall Index stayed level at 56 in 2021, while rural women's scores fell three points to 50.

Women who became pregnant before age 19 continued to score worse in every one of the five dimensions than those who became pregnant later.

- The overall Index scores declined among women who experienced their first pregnancy before age 19 — from 48 in 2020 to 44 in 2021. The gap in the scores between those who became pregnant before 19 and those who became pregnant after 25 widened from 10 points in 2020 to 15 points in 2021.

The Building Blocks for Improving Women's Health

Together, the five dimensions of the Hologic Global Women's Health Index — Preventive Care, Emotional Health, Opinions of Health and Safety, Basic Needs, and Individual Health — are strongly related to women's life expectancy at birth, a globally important and widely used metric.

These five dimensions account for more than 80% of the variance in a woman's life expectancy at birth.[13]

Preventive Care

Emotional Health

HEALTH

Individual Health

Basic Needs

Opinions of Health and Safety

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13   For more detail on the life expectancy calculation, please see Appendix 1.

Inequities Became Worse in 2021

Preventive care aims to help people avoid illnesses and detect medical problems early, ideally before the onset of symptoms. The right test, screening or immunization at the right time can save someone's life, help them stay healthy and even live longer.

Because screening or testing are essential first steps toward better health, the Hologic Global Women's Health Index asks women whether they have been tested[14] in the past 12 months for four of the most frequent, fast-growing, and/or deadly diseases and conditions for women globally: high blood pressure, cancer, diabetes, or sexually transmitted diseases and infections (STDs/STIs).

Testing or screening recommendations for these diseases vary based on a person's age, gender and the healthcare resources available to them in their community. The 12-month period in the survey question is not a globally agreed-upon cadence, but because the Index has been conducted for two years in a row, it captures testing that may be recommended in a two-year period.[15]

The future will be better for women when as many women as possible can say they have been screened or tested for high blood pressure, cancer, diabetes and STDs/STIs in the past year.

But at present, preventive care remains inaccessible to many women. Changing this dynamic requires a robust healthcare system with public communication that incorporates the needs of the patient population, provider and patient communication, technical training, and equipment to test and screen large numbers of women.

> **For the second consecutive year, the Hologic Global Women's Health Index shows the majority of women worldwide were not screened or tested for high blood pressure, cancer, diabetes and STDs/STIs.**

14   The survey questionnaire asked people whether they had been "tested" for these four conditions rather than "screened," the clinical term typically used to refer to scheduled preventive tests. This wording choice was made to help ensure the questions were easily comprehensible to all respondents.

15   Please see Appendix 1 for information on testing recommendations.

Women were not tested for deadly diseases in the second year of the COVID-19 pandemic any more than they were in the first.

60%

of women in 2021 reported they were **not tested for any of the four diseases** or conditions asked about in the survey.

The percentage is similar to the 61% of women who said they were not tested in 2020 — meaning more than 1.5 billion women missed out on these tests each year. Studies suggest this may already be affecting women's health, with women receiving late diagnoses that decrease survival and are more difficult and expensive to treat.[16]

Inequities in preventive care are large — and getting bigger.

Women in higher-income economies showed some signs of recovery in the second year of the pandemic. Screening and testing rates improved from 2020, or at least remained stable, for women in high-income and upper-middle-income groups — many of whom had ready access to testing, vaccines and treatments for COVID-19.[17] But overall, screening and testing rates for preventable diseases still remained lower than recommended.[18]

Meanwhile, reported screening and testing rates for women in low-income groups dropped even lower in 2021. These lower screening rates mean more women in low-income groups are at higher risk of dying because they may not be getting treatment at earlier stages of diseases.

CHART 8:

Preventive Care Testing by Country Income Group

To the best of your knowledge, were you tested for any of the following in the past 12 months?
(% Yes)

■ 2020 ■ 2021 ▬ Decrease + Increase

	High blood pressure	Cancer	Diabetes	STDs/STIs	
Low income	2020: 32 / 2021: 24	2020: 14 / 2021: 8	2020: 21 / 2021: 11	2020: 26 / 2021: 21	−
Lower middle income	2020: 29 / 2021: 29	2020: 5 / 2021: 4	2020: 15 / 2021: 12	2020: 9 / 2021: 6	−
Upper middle income	2020: 31 / 2021: 33	2020: 15 / 2021: 15	2020: 21 / 2021: 22	2020: 12 / 2021: 14	+
High income	2020: 45 / 2021: 48	2020: 20 / 2021: 23	2020: 25 / 2021: 30	2020: 11 / 2021: 13	+
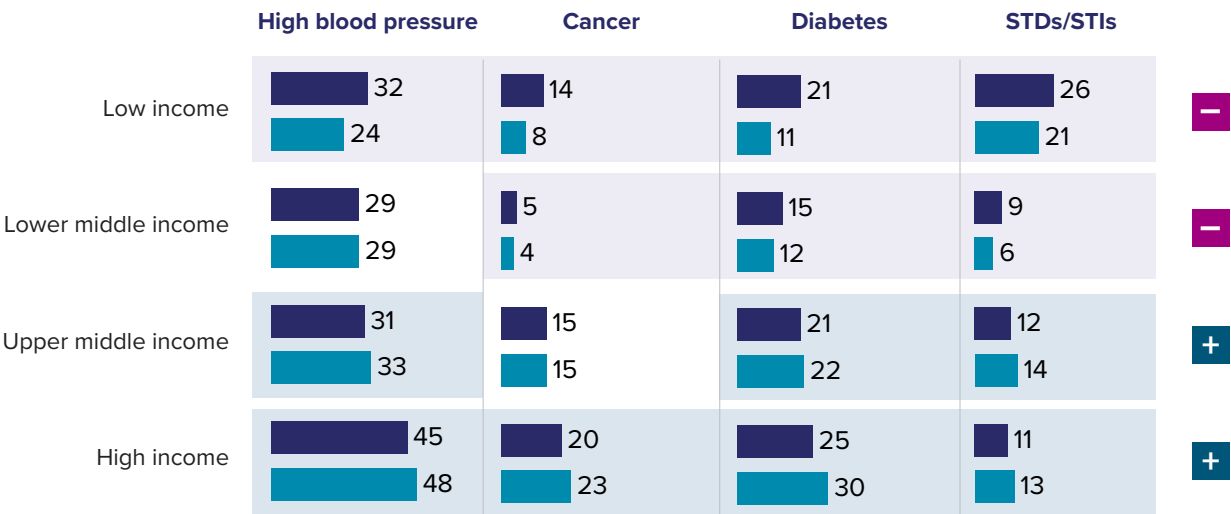
16   Zhou, J. Z., Kane, S., Ramsey, C., Akhondzadeh, M., Banerjee, A., Shatsky, R., & Gold, K. A. (2022). Comparison of Early- and Late-Stage Breast and Colorectal Cancer Diagnoses During vs Before the COVID-19 Pandemic. *JAMA Network Open, 5*(2). https://doi.org/10.1001/jamanetworkopen.2021.48581

17   Oxfam International. (2022, May 25). *Rich countries have received more vaccines in run-up to Christmas than African countries have all year.* Oxfam. https://www.oxfam.org/en/press-releases/rich-countries-have-received-more-vaccines-run-christmas-african-countries-have-all

18   Please see Appendix 1 for information on testing recommendations.

High Blood Pressure Testing

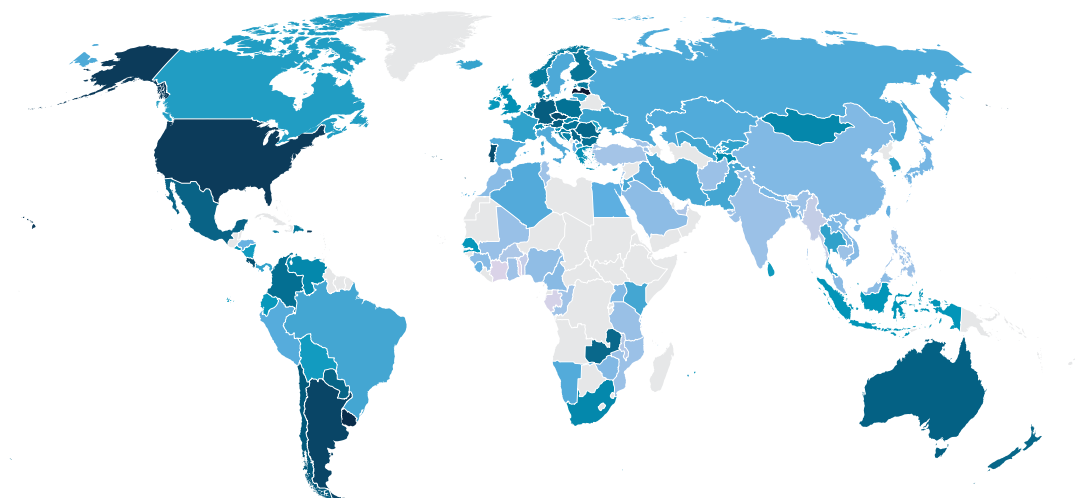*To the best of your knowledge, were you tested for any of the following in the past 12 months?*
(% Yes, high blood pressure)

Testing rates for high blood pressure varied from a low of 8% in Togo to a high of **74%** in Latvia.

Blood pressure screening is one of the least expensive and technically simple screening procedures.[19] On average, only one in three women in 2021 were screened for high blood pressure in the previous 12 months — even though heart disease remains the leading cause of death globally.[20]

- The 34% of women who said in 2021 that they had been tested for high blood pressure is essentially unchanged from the 33% who said so in 2020, meaning **approximately 1.7 billion women were not screened for high blood pressure in each of these years**.

- Only one age group of women — those older than 75, who are at the highest risk of any age group for stroke and other cardiovascular complications from hypertension[21] — reported being screened in greater numbers in 2021. The majority of women in this age group (65%) reported in 2021 that they had been tested for high blood pressure, compared with the 54% who said they were the year before.

- Screening rates for high blood pressure varied across the globe in 2021, from a low of 8% in Togo to a high of 74% in Latvia — which also had the highest percentage of reported screenings in the world in 2020 (at a similar 76%). However, even with three in four women in Latvia saying they had been screened, like most countries where heart disease is a leading cause of death, there is still room for Latvia to improve.[22]

19   WHO. (2019, June 20). *Hypertension.* World Health Organization. https://www.who.int/health-topics/hypertension#tab=tab_1

20   WHO. (2020, December 9). *The top 10 causes of death.* World Health Organization. https://www.who.int/news-room/fact-sheets/detail/the-top-10-causes-of-death

21   Rodgers, J. L., Jones, J., Bolleddu, S. I., Vanthenapalli, S., Rodgers, L. E., Shah, K., Karia, K., & Panguluri, S. K. (2019). Cardiovascular Risks Associated with Gender and Aging. *Journal of Cardiovascular Development and Disease, 6*(2). https://doi.org/10.3390/jcdd6020019
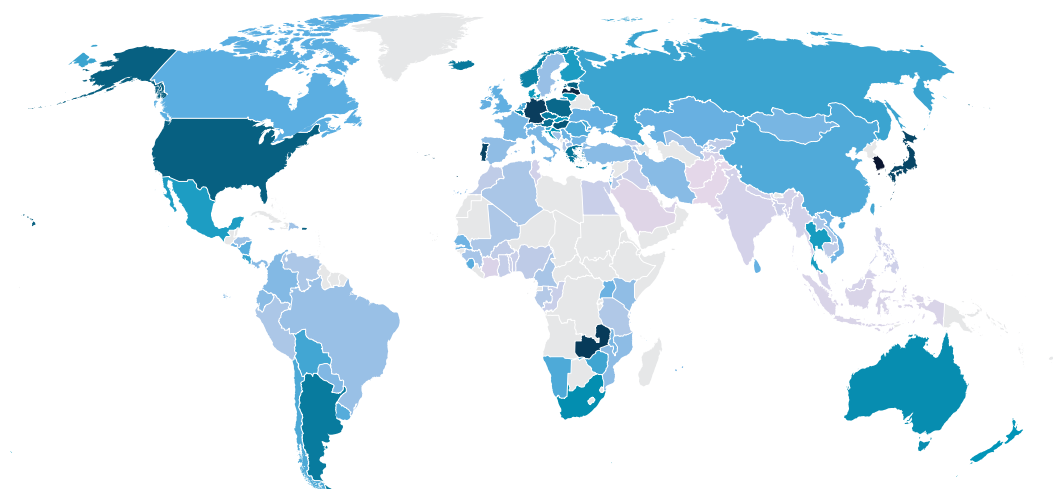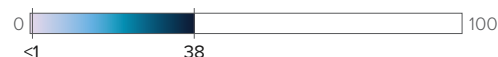
22   OECD/European Observatory on Health Systems and Policies (2021), *Latvia: Country Health Profile 2021*, State of Health in the EU, OECD Publishing, Paris, https://doi.org/10.1787/919f55f0-en.

Cancer Testing

To the best of your knowledge, were you tested for any of the following in the past 12 months?
(% Yes, cancer)

Testing for cancer varied from a low of less than 1% in Pakistan and Afghanistan to a high of 38% in South Korea.

Between 30% and 50% of all cancer deaths are preventable, according to the WHO, with early detection playing an important role in reducing the cancer burden.[23] However, worldwide, just 12% of women in 2021 were tested for any type of cancer in the past 12 months.

- The 12% of women who said they had been tested for any type of cancer (skin, cervical, breast, ovarian or lung, for example) remains unchanged from 2020, which means **more than 2 billion of the world's women went untested in each of these years**.

- The data do yield some positive news for women over age 75 — who, because of their advancing age, are more at risk than younger women of developing cancer.[24] Women older than 75 were the most likely of any age group to say they had been tested for cancer, and they were the only age group more likely to have been tested in the past year than the year prior (27% in 2021 vs. 18% in 2020).

- In nearly 50 countries and territories, less than 10% of women said they had been tested for cancer in the previous year.

- Testing rates for Pakistani women remained unchanged from 2020 to 2021, highlighting the need for better reporting and awareness in a country where breast cancer rates are thought to be the highest in Asia.[25] But in neighboring Afghanistan, notably, no women — zero female respondents — said they were tested for any type of cancer.

- South Korea led the world in reported cancer screening in both 2020 and 2021. The country's relatively high rate of testing (38% in both years) may reflect the availability of cancer screening through its National Cancer Screening Program, which has provided low-cost and free cancer screening for decades.[26]

23 WHO. (2019, July 12). *Cancer*. World Health Organization. https://www.who.int/health-topics/cancer#tab=tab_2

24 NIH. (2021, March 5). *Risk Factors: Age*. National Cancer Institute. https://www.cancer.gov/about-cancer/causes-prevention/risk/age

25 Khan, N. H., Duan, S. F., Wu, D. D., & Ji, X. Y. (2021). Better Reporting and Awareness Campaigns Needed for Breast Cancer in Pakistani Women. *Cancer Management and Research, Volume 13,* 2125–2129. https://doi.org/10.2147/cmar.s270671
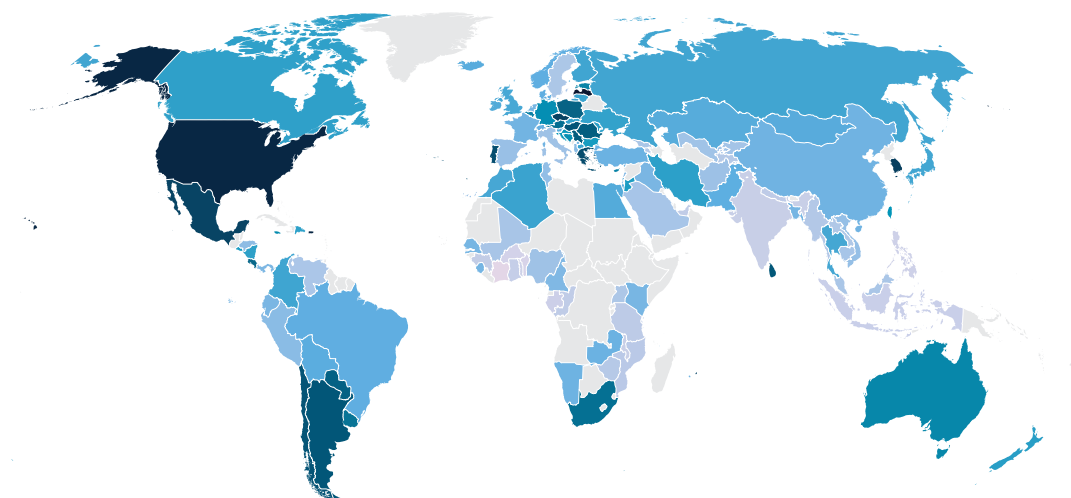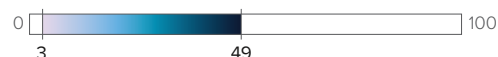
26 *National Cancer Screening Program*. (n.d.). National Cancer Center. https://ncc.re.kr/main.ncc?uri=english/sub04_ControlPrograms03

Diabetes Testing

To the best of your knowledge, were you tested for any of the following in the past 12 months?
(% Yes, diabetes)

> Testing for diabetes varied from a low of 3% in Ivory Coast to a high of 49% in Latvia.

Although diabetes is a leading cause of death for women — and one of the fastest-growing chronic diseases in the world — fewer than one in five women (19%) in 2021 said they were tested for diabetes in the past 12 months.[27, 28]

- The 19% of women who said they had been tested for diabetes remains unchanged from 2020 and, when projected to the entire population of the world's women and girls, means **approximately 2 billion women went untested in each of these years**.

- Type 1 and Type 2 diabetes are different diseases and tend to affect different age groups. Women over the age of 50, who are more at risk than younger women of developing Type 2 diabetes, were more likely than younger women to report being tested for diabetes in the past 12 months.[29] About one in three women over the age of 50 were tested, compared to about one in seven women younger than 50.

- Testing for diabetes varied across the globe, from a low of 3% in Ivory Coast — where diabetes is the ninth leading cause of death and disability — to a high of 49% in Latvia, where the disease accounted for 2% of deaths in 2018.[30, 31]

- An estimated 80% of people who are living with diabetes today are living in low-income and lower-middle-income countries.[32] Low testing rates in many of these countries, including Ivory Coast, illustrate the need for cost-effective screening tools and approaches to identify individuals at risk of developing diabetes.

27 WHO. (2020, December 9). *The top 10 causes of death.* World Health Organization. https://www.who.int/news-room/fact-sheets/detail/the-top-10-causes-of-death

28 Sørensen, H. T. (2022). Prevention of diabetes mortality at ages younger than 25 years: access to medications and high-quality health care. *The Lancet Diabetes & Endocrinology, 10*(3), 151–152. https://doi.org/10.1016/s2213-8587(22)00009-2

29 Mayo Clinic. (2021, January 20). *Type 2 diabetes - Symptoms and causes.* https://www.mayoclinic.org/diseases-conditions/type-2-diabetes/symptoms-causes/syc-20351193

30 IHME. (2017, September 18). *Cote d'Ivoire.* Institute for Health Metrics and Evaluation. https://www.healthdata.org/cote-divoire

31 Flood, D., Seiglie, J. A., Dunn, M., Tschida, S., Theilmann, M., Marcus, M. E., Brian, G., Norov, B., Mayige, M. T., Gurung, M. S., Aryal, K. K., Labadarios, D., Dorobantu, M., Silver, B. K., Bovet, P., Jorgensen, J. M. A., Guwatudde, D., Houehanou, C., Andall-Brereton, G., . . . Manne-Goehler, J. (2021). The state of diabetes treatment coverage in 55 low-income and middle-income countries: a cross-sectional study of nationally representative, individual-level data in 680 102 adults. *The Lancet Healthy Longevity, 2*(6), e340–e351. https://doi.org/10.1016/s2666-7568(21)00089-1
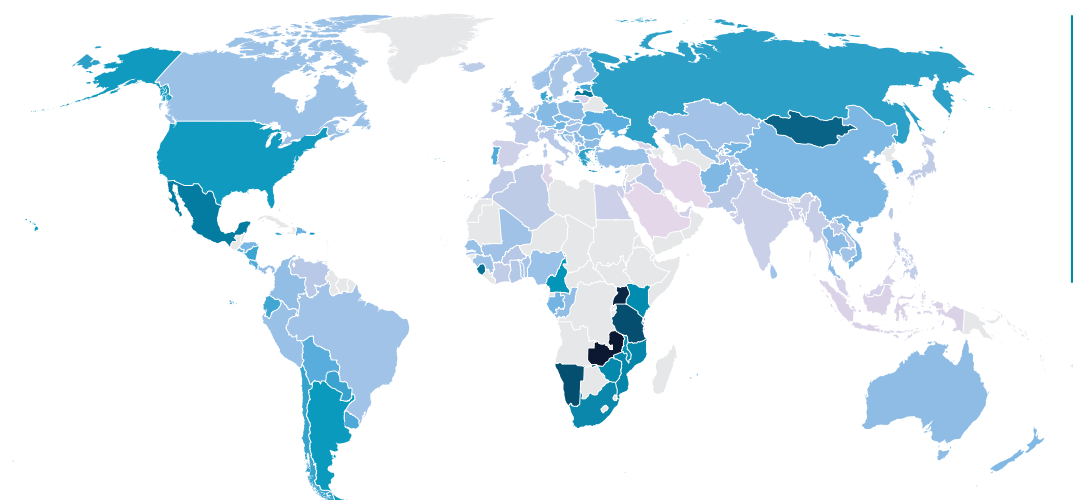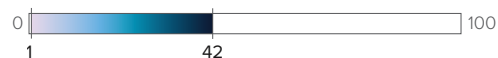
32 WHO. (2019, May 13). *Diabetes.* World Health Organization. https://www.who.int/health-topics/diabetes#tab=tab_3

STD/STI Testing

To the best of your knowledge, were you tested for any of the following in the past 12 months?
(% Yes, sexually transmitted diseases or infections)

Testing for STDs/STIs varied from a high of 42% in Zambia to a low of 1% in countries such as Tunisia, Lebanon and Indonesia.

Note: Item not asked in Iran or Saudi Arabia.

Worldwide, testing for STDs/STIs in 2021 was just as infrequent as it was in 2020.

- STDs/STIs can have serious long-term health consequences — particularly for women — including fertility problems, contracting HIV and an increased risk of cervical cancer.[33] However, only about one in nine women (11%) said they had been tested in the past 12 months. This percentage remains unchanged from 2020, meaning **more than 2 billion women went untested again in the past year**.

- Women younger than 50, who are at high risk of contracting STDs/STIs,[34] were the most likely of any age group to report being tested in the past year, at 11%. This percentage was statistically unchanged from 12% in 2020.

- Testing rates for STDs/STIs varied worldwide. In Zambia, which also led other countries in reported testing in 2020, a high of 42% of women said they had been tested in the past 12 months. The country's relatively high rate may reflect the availability of testing for HIV and other STDs, particularly during prenatal care.[35]

- On the other end of the spectrum, as few as 1% of women in countries such as Tunisia, Lebanon and Indonesia — which is facing one of the fastest-growing HIV epidemics in the world — said they had been tested in the past 12 months.[36]

33 WHO. (2022, February 22). *Cervical cancer.* World Health Organization. https://www.who.int/news-room/fact-sheets/detail/cervical-cancer

34 Ibid.

35 UNAIDS. (n.d.). *Country Progress Report - Zambia.* Global AIDS Monitoring 2020. https://www.unaids.org/sites/default/files/country/documents/ZMB_2020_countryreport.pdf

36 Gedela, K., Wirawan, D. N., Wignall, F. S., Luis, H., Merati, T. P., Sukmaningrum, E., & Irwanto, I. (2021). Getting Indonesia's HIV epidemic to zero? One size does not fit all. *International Journal of STD & AIDS, 32*(3), 290–299. https://doi.org/10.1177/0956462420966838

Measuring Preventive Care

The Hologic Global Women's Health Index's Preventive Care dimension measures whether women in the past year have been tested for any of these serious health conditions by asking:

To the best of your knowledge, were you tested for any of the following in the past 12 months?

- *High blood pressure*
- *Cancer*
- *Diabetes*
- *Sexually transmitted diseases or infections*

Scores on this dimension are calculated at the individual level. To get a score, individuals need to answer at least three of the four questions. The resulting score is a simple mean of the positive answers. Higher scores on the Preventive Care dimension mean more women are getting tested for these health factors.

Preventive Care Dimension

Higher scores on the Preventive Care dimension of the Index mean more women are getting tested for these health factors. Worldwide, countries and territories do not perform well on this dimension of the Index, with a global score of 19 — unchanged from 2020.

Country-level scores on the Preventive Care dimension range from a low of 5 in Ivory Coast to a high of 46 in Latvia — the same countries with the top and bottom scores in 2020.

- Among the countries and territories with the highest scores on this dimension, the United States and Argentina made significant progress between 2020 and 2021. The U.S. now ranks second in the world on this dimension. Argentina's No. 5 rank in Preventive Care significantly overperforms its 60th rank on the Index overall.

- Among the countries with the lowest scores, only the United Arab Emirates dropped substantially between 2020 and 2021. Despite a relatively strong ranking of 35 on the overall Index, the U.A.E. ranks 119th on the Preventive Care dimension.

▲ Top Countries/Territories for Preventive Care in 2021

Countries with an absolute **increase** ↑ or **decrease** ↓ greater than 5

Preventive Care Rank	Overall Rank	Country/Territory	Preventive Care Score	Overall Index Score	Preventive Care YoY Score Change
1	2	Latvia	46	69	2
2	23	United States	40	61	**8 ↑**
3	82	Zambia	37	49	-3
4	39	Portugal	37	58	**-5 ↓**
5	60	Argentina	36	54	**8 ↑**

▼ Bottom Countries/Territories for Preventive Care in 2021

Preventive Care Rank	Overall Rank	Country/Territory	Preventive Care Score	Overall Index Score	Preventive Care YoY Score Change
118	90	Myanmar	8	46	-1
119	35	United Arab Emirates	8	59	**-7 ↓**
120	116	Benin	8	40	-4
121	117	Togo	7	40	NS
122	108	Ivory Coast	5	42	-3

Note: "NS" indicates the country/territory was not surveyed the prior year.

Source: Hologic Global Women's Health Index, Year 2 (Released 2022)

A woman talks about her health experiences with the team from the Hologic Global Women's Health Index video project.

Cape Town, South Africa

Preventive Care: Fastest-Improving and Fastest-Declining Countries and Territories

In 2021, more women in Mexico reported being tested for high blood pressure, diabetes and STDs/STIs than in 2020 — making Mexico the fastest-improving country in Preventive Care in 2021. The country's 12-point increase in this dimension vaulted Mexico to the No. 6 spot for Preventive Care, although the country's position on the overall Hologic Global Women's Health Index is much lower.

From 2020 to 2021, the percentage of Mexican women who reported being tested for high blood pressure jumped from 40% to 54%, diabetes testing rates increased from 27% to 40% and STD/STI testing rates more than doubled from 11% to 26%. Cancer testing was the only area that did not increase substantially: 19% of Mexican women reported being tested for cancer in 2021, similar to the 16% who said so in 2020.

Although it is not factored into the Preventive Care dimension score, the percentage of Mexican women who went to a healthcare professional also rose — from 57% to 73% in the span of a year — which further suggests that after the disruption in health services in 2020 due to the pandemic, women may have been playing catch-up.

By some estimates, as many as 8.74 million patient visits were lost in Mexico in 2020, including cancer screenings and female contraceptive services.[37]

Surges in COVID-19 cases and deaths in 2021 in a number of countries may help explain some of the big declines in Preventive Care scores between 2020 and 2021. In Cambodia, for example, surging COVID-19 cases — and an accompanying lockdown in April and May — likely shifted attention away from more routine health tests.[38]

> The percentage of women in Cambodia who said they were tested for cancer dropped from 24% to 5% in the span of a year. Testing for diabetes and STDs/STIs followed suit.

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37 Doubova, S. V., Leslie, H. H., Kruk, M. E., Pérez-Cuevas, R., & Arsenault, C. (2021). Disruption in essential health services in Mexico during COVID-19: an interrupted time series analysis of health information system data. *BMJ global health, 6*(9), e006204. https://doi.org/10.1136/bmjgh-2021-006204

38 Chorn, A., & Stromseth, J. (2021, May 19). *Covid-19 comes to Cambodia.* Brookings. https://www.brookings.edu/blog/order-from-chaos/2021/05/19/covid-19-comes-to-cambodia/

+ Fastest-Improving Countries/Territories for Preventive Care in 2021

Countries with an absolute **increase** ↑ or **decrease** ↓ greater than 5

Preventive Care Rank	Overall Rank	Country/Territory	Preventive Care Score	Overall Index Score	Preventive Care YoY Score Change
6	64	Mexico	35	52	12 ↑
32	80	Sri Lanka	26	49	9 ↑
20	26	Belgium	30	61	8 ↑
5	60	Argentina	36	54	8 ↑
2	23	United States	40	61	8 ↑

− Fastest-Declining Countries/Territories for Preventive Care in 2021

Preventive Care Rank	Overall Rank	Country/Territory	Preventive Care Score	Overall Index Score	Preventive Care YoY Score Change
104	96	Cambodia	12	45	-16 ↓
81	49	Vietnam	17	56	-15 ↓
75	76	Tanzania	18	49	-12 ↓
16	55	South Africa	31	55	-12 ↓
91	89	Egypt	16	47	-11 ↓

Source: Hologic Global Women's Health Index, Year 2 (Released 2022)

Annual Visits to a Healthcare Professional Could Add Years to Women's Life Expectancy

Just as the right test, screening or immunization at the right time can save a person's life and help them stay healthy, annual visits with a healthcare professional can detect potential health issues at a time when treatment may be more successful and lower in cost.[39] How often people should make these visits is the subject of debate, but annual visits with a healthcare professional are often recommended for many adults, particularly for those who are over age 65 or those who may have other health risk factors.[40] It is important to note that cultural, demographic, geographical and other situational factors may also be barriers that prevent or discourage women from visiting healthcare professionals.

Hologic and Gallup asked women about the value of routine checkups and whether they went to a healthcare professional in the past 12 months, though their responses are not factored into the overall Hologic Global Women's Health Index score.[41] However, women's likelihood of having been to a healthcare professional in the past 12 months provides insight into the low numbers of women being tested for high blood pressure, cancer, diabetes and STDs/STIs.

Asking these questions also makes it possible to investigate how routine visits and going to healthcare professionals may help women live longer, quality lives, and what factors might increase their likelihood of getting annual checkups.

Annual visits to healthcare professionals correspond with two additional years in a woman's life expectancy.

Overall, women were not any more likely to have been to a healthcare professional in 2021 than they were the year before. Fifty-nine percent of women reported going to a healthcare professional in the past 12 months, while 41% did not. Although the women who did go to a healthcare professional may not have thought about it at the time, doing so may have added years to their lives.

Even after accounting for differences by GDP per capita — because women who live longer tend to live in wealthier countries with better access to healthcare — Hologic and Gallup found the life expectancy for women who said they had been to a healthcare professional was about 78 years, compared with 76 years for women who said they hadn't been.

39   Liss, D. T., Uchida, T., Wilkes, C. L., Radakrishnan, A., & Linder, J. A. (2021, June 8). *General Health Checks in Adult Primary Care: A Review*. JAMA. https://jamanetwork.com/journals/jama/article-abstract/2780614

40   Jin, J., MD. (2022, April 12). *Routine Checkups for Adults*. JAMA Network. https://jamanetwork.com/journals/jama/fullarticle/2790936

41   For more information on which questions are included in the Index and why, please see Appendix 1.

Women Who Went to a Healthcare Professional by Female Life Expectancy at Birth
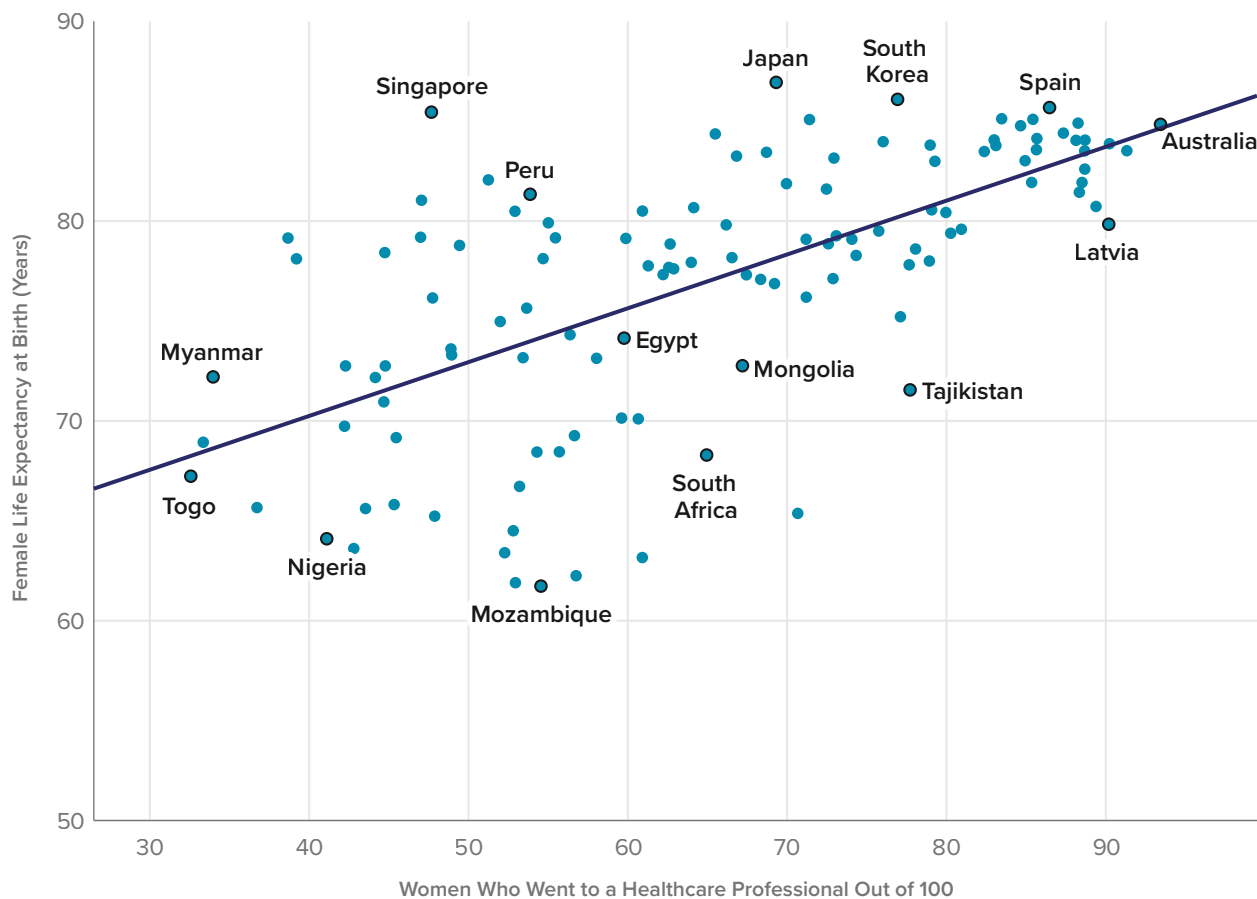
Source: Hologic Global Women's Health Index, Year 2 (Released 2022)

Belief in the value of going to a healthcare professional declined substantially in 2021 among women with an elementary education or less.

- Most women (85%) in 2021 continued to believe that checkups help improve health, but fewer (59%) reported going to a healthcare professional in the past 12 months.

- While belief in the value of going to a healthcare professional remained relatively stable among women with four years of education beyond high school or a college degree (92%), it dropped seven points among those with an elementary education or less — from 87% to 80% — leading to a 12-point gap between the two groups.

Women over age 75 returned to healthcare professionals in 2021, while women younger than 75 did not.

- Women over the age of 75 were more likely to say they went to a healthcare professional in 2021 (82%) than in 2020 (74%), while women younger than 75 were just as likely to have been to a healthcare professional in both years. Fewer than six in 10 women aged 50 and younger (56%) went to a healthcare professional in 2021, compared with 82% of those over 75. This difference may reflect the higher health risks associated with aging, though preventive care is also highly effective among younger women.

Trust — and a need for healthcare — may help more women get back to a healthcare professional.

- Women who believe their communities provide high-quality healthcare to pregnant women are 48% more likely to say they went to a healthcare professional in the past 12 months than those who do not report that high-quality care is available.

- Women who said they have health problems that keep them from normal activities are 24% more likely than those without such problems to have been to a healthcare professional in the past 12 months. This is likely based on the need for care when a chronic health issue is present and limits activities.

- Women who said they experienced physical pain the day before the survey were 23% more likely than those who didn't experience pain to have been to a healthcare professional in the past 12 months. This may be related to the need for treatments for underlying health conditions leading to pain and the pain itself.

2021 Set New Records for Negative Emotions

Stress, worry, sadness, anger and other emotions are all a normal part of life. But when these feelings become chronic, they can be overwhelming and interfere with a person's ability to carry out everyday tasks.

Negative emotions can become unhealthy and signal more serious conditions, such as anxiety and depressive disorders or other mental health diagnoses. Moreover, there is a growing body of evidence that emotional health can positively or negatively affect cardiovascular health and other physical health risk factors.[42, 43, 44]

The future will be better for women when as many women as possible do not experience worry, sadness, stress or anger a lot in a typical day.

At present, these figures are at new highs, and reducing the incidence of these negative feelings is more of a challenge today than it was in 2020. A global commitment to doing so is more imperative than ever — because it may lead to better health outcomes for women. Women's experiences with health problems and pain (Individual Health) and their ability to afford food (Basic Needs) are related to a higher incidence of feeling negative emotions.

42 Mayo Clinic. (2018, February 3). *Depression (major depressive disorder) - Symptoms and causes.* https://www.mayoclinic.org/diseases-conditions/depression/symptoms-causes/syc-20356007

43 Levine, G. N., Cohen, B. E., Commodore-Mensah, Y., Fleury, J., Huffman, J. C., Khalid, U., Labarthe, D. R., Lavretsky, H., Michos, E. D., Spatz, E. S., & Kubzansky, L. D. (2021). Psychological Health, Well-Being, and the Mind-Heart-Body Connection: A Scientific Statement From the American Heart Association. *Circulation, 143*(10). https://doi.org/10.1161/cir.0000000000000947

44 NIMH. (n.d.). *Chronic Illness and Mental Health: Recognizing and Treating Depression.* National Institute of Mental Health. https://www.nimh.nih.gov/health/publications/chronic-illness-mental-health

Women in 2021 were more stressed, worried, angry and sad than they were in 2020 — or at any point in the past decade based on Gallup's long-term trends of asking these questions.[45]

More than four in 10 women in 2021 said they experienced worry (43%) and stress (41%) during a lot of the day before the survey, nearly one in three experienced sadness (32%), and more than one in four experienced anger (26%) — all record levels. Stress, worry and anger each increased by three percentage points within the span of a year, while sadness notably rose by six points.

CHART 14:

Negative Emotions Among Women

Did you experience the following feelings during a lot of the day yesterday?

(% Yes)

■ 2020 ■ 2021
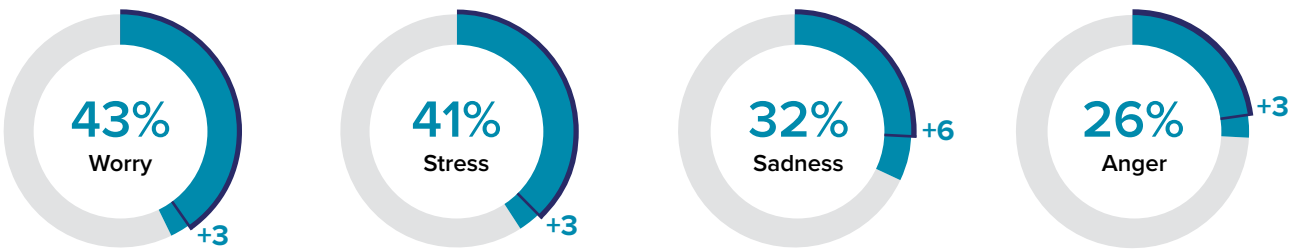
Women weren't alone in how they felt, but the gap between men and women increased on all emotions between 2020 and 2021, with at least five points separating them on anger and sadness. These gender gaps aren't new. Previous studies show that women are substantially more likely than men to suffer from severe stress and anxiety.[46] However, understanding how women are feeling — and how it differs from men — is crucial to tailoring strategies for improving women's emotional wellness.

CHART 15:

Negative Emotions in 2021 by Gender

■ % Women ■ % Men
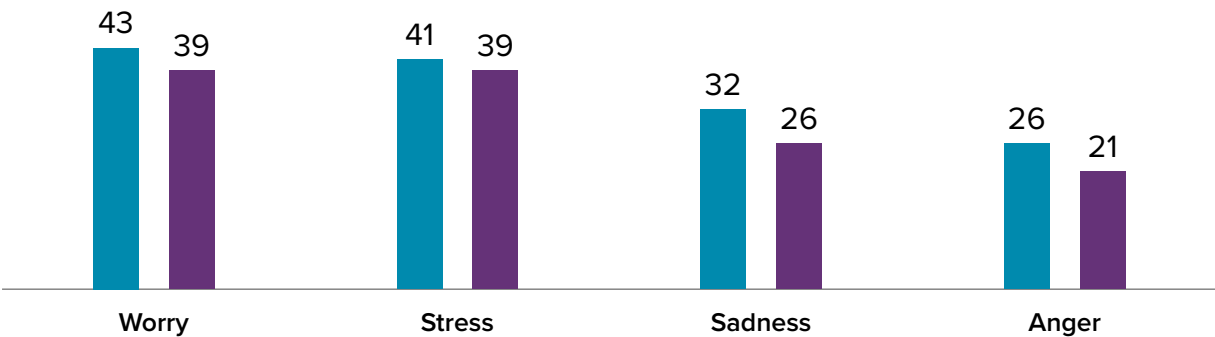
	Worry	Stress	Sadness	Anger
% Women	43	41	32	26
% Men	39	39	26	21

45 Ray, J. (2022, July 16). *World Unhappier, More Stressed Out Than Ever.* Gallup.com. https://news.gallup.com/poll/394025/world-unhappier-stressed-ever.aspx

46 Remes, O., Brayne, C., van der Linde, R., & Lafortune, L. (2016). A systematic review of reviews on the prevalence of anxiety disorders in adult populations. *Brain and Behavior, 6*(7), e00497. https://doi.org/10.1002/brb3.497

Measuring Emotional Health

Feelings and emotions are life's intangibles that "hard data" like GDP or mortality rates were not designed to capture. The Emotional Health dimension of the Hologic Global Women's Health Index gauges women's daily experiences of negative feelings with four questions that have been asked as part of Gallup's World Poll for more than a decade:

- *Did you experience the following feelings during a lot of the day yesterday? How about worry?*
- *Did you experience the following feelings during a lot of the day yesterday? How about sadness?*
- *Did you experience the following feelings during a lot of the day yesterday? How about stress?*
- *Did you experience the following feelings during a lot of the day yesterday? How about anger?*

Scores on this component are calculated at the individual level. To get a score, individuals need to answer at least three of the four questions. The resulting score is a simple mean of the positive answers. Higher scores on the Emotional Health dimension mean fewer women are experiencing negative feelings on a given day.

Emotional Health Dimension

Higher scores on the Emotional Health dimension of the Index mean fewer women are experiencing negative feelings on a given day.

Overall, women worldwide scored a 64 on the Emotional Health dimension in 2021 — down from 68 in 2020.

Women in countries facing uncertainty experienced the most negative feelings.

Many of the countries where women posted the lowest scores on the Emotional Health dimension reflected the political or economic strife that engulfed them in 2021. In Lebanon, for example, Gallup World Poll data show quality of life has deteriorated so much during the country's economic collapse that a record-high 63% of adults last year said they would leave the country if they could.[47] This number included 59% of all women in Lebanon, but the percentage of women who said they wanted to leave was higher among those experiencing stress, worry or sadness.

With a score of 22 in this dimension, women's emotional health in Afghanistan — where surveys coincided with the Taliban's takeover and the chaotic exit of U.S. troops — was the worst in the world.[48] As women faced an uncertain fate under the Taliban's rule, the percentage of women who said women were treated with respect in their country dropped to a record-low 31%.[49]

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47 Loschky, J. (2022, July 16). *Leaving Lebanon: Crisis has most people looking for exit.* Gallup.com. https://news.gallup.com/poll/357743/leaving-lebanon-crisis-people-looking-exit.aspx

48 See Appendix 2 for the dates of survey fieldwork.

49 Nusratty, K., & Ray, J. (2022, April 4). *Afghan women and men see women treated worse after Taliban.* Gallup.com. https://news.gallup.com/poll/391403/afghan-women-men-women-treated-worse-taliban.aspx

Women in Taiwan and Kazakhstan scored highest on the Emotional Health dimension for the second consecutive year.

The two countries or territories with the highest scores on Emotional Health — Taiwan and Kazakhstan — also had the highest scores in this dimension in 2020. Unlike the rest of the world, which is getting more negative with each passing year,[50] levels of stress, anger, worry and sadness have remained relatively low and stable in Taiwan and Kazakhstan for more than a decade.[51]

Even in Taiwan, where women's anger, worry and stress increased slightly from single digits in 2020, the numbers in 2021 were still within the general range of where they have been in the past.

▲ **Top Countries/Territories for Emotional Health in 2021**

Countries with an absolute **increase** ↑ or **decrease** ↓ greater than 5

Emotional Health Rank	Overall Rank	Country/Territory	Emotional Health Score	Overall Index Score	Emotional Health YoY Score Change
1	1	Taiwan, Province of China	**88**	70	-1
2	31	Kazakhstan	**88**	60	2
3	21	Malaysia	**85**	61	**14 ↑**
4	33	Kosovo	**84**	60	**11 ↑**
5	19	Mauritius	**83**	62	-1

▼ **Bottom Countries/Territories for Emotional Health in 2021**

Emotional Health Rank	Overall Rank	Country/Territory	Emotional Health Score	Overall Index Score	Emotional Health YoY Score Change
118	115	Ecuador	**49**	40	0
119	118	Lebanon	**48**	40	3
120	97	Jordan	**48**	45	NS
121	119	Türkiye	**46**	40	**-5 ↓**
122	122	Afghanistan	**22**	22	NS

Note: "NS" indicates the country/territory was not surveyed the prior year.

Source: Hologic Global Women's Health Index, Year 2 (Released 2022)

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50 Ray, J. (2022, July 16). *World Unhappier, More Stressed Out Than Ever.* Gallup.com. https://news.gallup.com/poll/394025/world-unhappier-stressed-ever.aspx

51 Based on Gallup World Poll data.

Emotional Health: Fastest-Improving and Fastest-Declining Countries

Tajikistan saw the most improvement in women's emotional health, with their scores in this dimension rising from 55 to 70 between 2020 and 2021. Tajikistani women's stress, sadness, worry and anger all hit record highs in 2020 as their social and economic well-being suffered in the first year of the COVID-19 pandemic. The country recovered quickly in 2021, with the gains reflected in women's emotional state.[52]

Between 2020 and 2021, Indian women's emotional health deteriorated at nearly twice the rate of any other country in the Hologic Global Women's Health Index — dropping a staggering 26 points overall. Likely affected by the pandemic, negative emotions rose dramatically across India, with large increases in all four: sadness (up 34 points), worry (29 points), stress (21 points) and anger (20 points).

+ Fastest-Improving Countries/Territories for Emotional Health in 2021

Countries with an absolute **increase** ↑ or **decrease** ↓ greater than 5

Emotional Health Rank	Overall Rank	Country/Territory	Emotional Health Score	Overall Index Score	Emotional Health YoY Score Change
49	52	Tajikistan	70	55	15 ↑
3	21	Malaysia	85	61	14 ↑
86	85	Tunisia	62	48	14 ↑
14	81	Zimbabwe	77	49	14 ↑
4	33	Kosovo	84	60	11 ↑

− Fastest-Declining Countries/Territories for Emotional Health in 2021

Emotional Health Rank	Overall Rank	Country/Territory	Emotional Health Score	Overall Index Score	Emotional Health YoY Score Change
112	109	India	53	41	-26 ↓
114	106	Bangladesh	51	43	-14 ↓
101	116	Benin	58	40	-12 ↓
99	112	Guinea	58	41	-9 ↓
56	30	United Kingdom	68	60	-8 ↓

Source: Hologic Global Women's Health Index, Year 2 (Released 2022)

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52 World Bank. (2021, September 10). *Tajikistan Economic Update — Summer 2021.* World Bank Group. https://www.worldbank.org/en/country/tajikistan/publication/economic-update-summer-2021.

The Hologic Global Women's Health Index | Global Report

Women Feel Less Safe, Less Satisfied With Healthcare Options

Women's satisfaction with the availability of quality healthcare where they live and their perceptions of the quality of prenatal care women receive in their communities are largely missing from standard global health statistics. But including them could help save lives: According to the WHO, "most maternal deaths are preventable with timely management by a skilled health professional working in a supportive environment." [53]

Finding out how safe women feel in their communities is also a critical social determinant of their health. Safety and other important healthcare metrics are closely linked. In environments where women feel personally safe, adolescent pregnancy rates and maternal mortality rates are lower and health expenditures per capita are higher. [54]

The future will be better for women when as many women as possible report high-quality prenatal and health care in the city or area where they live and feel safe walking alone at night. Together, these contribute to women living longer, healthier lives.

At present, many women worldwide can answer these questions affirmatively, but there is an increasing number who cannot. As of 2021, **this includes nearly 1 billion women who do not feel safe walking alone at night where they live.**

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53 WHO. (n.d.). *Maternal health*. World Health Organization. https://www.who.int/health-topics/maternal-health#tab=tab_1
54 Gallup World Poll Methodology 2021

The majority of women are satisfied with the availability of quality healthcare where they live and think most pregnant women in their communities receive high-quality maternal care. But fewer women felt this way in 2021 than in 2020.

- While most women are satisfied with the availability of quality healthcare (65%) and think most pregnant women receive high-quality care (65%), both percentages are down slightly, from 68% and 69% respectively, in 2020.

- Satisfaction with the availability of quality healthcare dropped most among women in countries in the lower-middle and low-income groups. Women with the highest level of education felt more favorably about the availability of quality healthcare, while women with primary education or less felt less favorably.

- Women continued to evaluate the quality of pregnancy care higher than men did, yet that's largely because many men said they do not know whether pregnant women get high-quality care. Based on the data, more than one in eight men (11%) said they do not know or could not say, but these percentages are more substantial in some countries, and rose to the majority level in a few countries, such as Latvia (53%) and Lithuania (51%).

  While cross-sectional data are not available, individual country studies show men's involvement in perinatal care has benefits, including reduced preterm childbirth and better child development.[55]

Women felt less safe walking alone at night in 2021 than they did in 2020. More than one in three do not feel safe walking alone in their neighborhoods, which translates into nearly 1 billion women who feel unsafe.

- More than one in three women (37%) in 2021 said they do not feel safe walking alone at night where they live, up from 32% the year before. However, these percentages continued to be much higher in a host of countries in Latin America and sub-Saharan Africa that have some of the world's highest rates of female intentional homicide.[56] In Venezuela, for example, 81% of women said in 2021 that they do not feel safe walking alone at night, and in South Africa, 76% said they do not feel safe.

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55 Nasiri, S., Waseghi, F., Moravveji, S., & Karimian, Z. (2021). Attitude and participation of men regarding prenatal care, Childbirth, and postpartum care in Kashan City, Iran. *Iranian Journal of Nursing and Midwifery Research, 26*(4). https://doi.org/10.4103/ijnmr.ijnmr_140_20

56 World Bank. (n.d.). *Intentional homicides, female (per 100,000 female)*. The World Bank Data. https://data.worldbank.org/indicator/VC.IHR.PSRC.FE.P5?most_recent_value_desc=true

The Opinions of Health and Safety dimension of the Hologic Global Women's Health Index gauges women's satisfaction with access to quality healthcare in general, whether they think pregnant women receive high-quality care and whether they feel safe walking alone at night. Three questions make up this dimension:

- *Do you think most pregnant women in the city or area where you live receive high-quality healthcare during their pregnancies, or not?*
- *In the city or area where you live, are you satisfied or dissatisfied with the availability of quality healthcare?*
- *Do you feel safe walking alone at night in the city or area where you live?*

Scores on this dimension are calculated at the individual level. To get a score, individuals need to answer at least two of the three questions. The resulting score is a simple mean of the positive answers. Higher scores on the Opinions of Health and Safety dimension mean more women feel safe and satisfied with the quality and availability of healthcare where they live.

Opinions of Health and Safety Dimension

Higher scores on the Opinions of Health and Safety dimension mean more women feel safe and are satisfied with the quality and availability of healthcare where they live. Overall, women worldwide scored a 66 on the Opinions of Health and Safety dimension, down from 70 in 2020.

At the country level, women's scores range widely, from a high of 97 in Singapore to a low of 11 in Afghanistan.

Singapore debuted in the top spot on the Opinions of Health and Safety dimension, Afghanistan at the bottom.

The top country for Opinions of Health and Safety, Singapore, is new to the Index in 2021, as is the bottom country, Afghanistan. Neither country was polled in 2020 because of the pandemic, but Gallup has surveyed both countries regularly as part of its World Poll for well over a decade.

Women's life expectancy in Singapore is among the highest in the world (86) and the country has a relatively low maternal mortality rate (eight women per 100,000 live births in 2017).[57, 58] The country's high debut score on the Index — 97 — largely reflects the conditions that make high life expectancies and low mortality rates possible. Almost all women in the city-state feel safe walking alone at night where they live (98%) and are satisfied with the availability of quality healthcare (96%). Nearly nine in 10 (87%) are satisfied with the quality of prenatal care where they live.

In Afghanistan, where women on average can expect to live 20 fewer years than their counterparts in Singapore, and where they are 80 times more likely to die in childbirth,[59, 60] the Index score of 11 reflects the increasingly dire circumstances that Afghan women found themselves in in 2021. Few Afghan women — just 8% — said they felt safe walking alone at night where they live, and just 14% were satisfied with the availability of quality healthcare. Ten percent said they thought pregnant women received high-quality care.

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57 World Bank. (2022, January 1). *Life expectancy at birth, female (years)*. The World Bank Data. https://data.worldbank.org/indicator/SP.DYN.LE00.FE.IN

58 World Bank. (2022, January 1). *Maternal mortality ratio (modeled estimate, per 100,000 live births)*. The World Bank Data. https://data.worldbank.org/indicator/SH.STA.MMRT

59 Ibid.

60 Ibid.

▲ Top Countries/Territories for Opinions of Health and Safety in 2021

Countries with an absolute **increase** ↑ or **decrease** ↓ greater than 5

Opinions Health & Safety Rank	Overall Rank	Country/Territory	Opinions Health & Safety Score	Overall Index Score	Opinions Health & Safety YoY Score Change
1	11	Singapore	**97**	64	NS
2	6	Switzerland	**91**	66	1
3	35	United Arab Emirates	**91**	59	-4
4	52	Tajikistan	**89**	55	3
5	10	Norway	**89**	65	-4

▼ Bottom Countries/Territories for Opinions of Health and Safety in 2021

Opinions Health & Safety Rank	Overall Rank	Country/Territory	Opinions Health & Safety Score	Overall Index Score	Opinions Health & Safety YoY Score Change
118	69	Mongolia	**35**	51	**-12 ↓**
119	113	Gabon	**33**	40	0
120	118	Lebanon	**28**	40	**-20 ↓**
121	120	Venezuela	**19**	39	**-8 ↓**
122	122	Afghanistan	**11**	22	NS

Note: "NS" indicates the country/territory was not surveyed the prior year.

Source: Hologic Global Women's Health Index, Year 2 (Released 2022)

Opinions of Health and Safety: Fastest-Improving and Fastest-Declining Countries and Territories

Nicaragua's dramatic improvement of 15 points on the Opinions of Health and Safety dimension in 2021 may be a return to pre-pandemic levels after a tough year for women in 2020, and may at least partly reflect a shift from telephone to face-to-face interviewing in 2021. For example, the 55% of Nicaraguan women who said they felt safe walking alone at night in 2021 is the same as the 55% who said so when Gallup asked this question in its World Poll in 2019.[61] Both of these figures are much higher than the 40% of Nicaraguan women who said they felt safe in 2020.

However, women's attitudes bear watching in coming years as the political environment continues to shift in Nicaragua. President Daniel Ortega began shuttering hundreds of non-government agencies in 2021 — including those that assist women — throughout the country.[62]

Myanmar's staggering decline in Opinions of Health and Safety — 23 points in the span of a year — likely reflects the ongoing deadly violence in the country after the military seized power in 2021, and the crippling effect the civil war has had on the country's healthcare system.[63]

Women discuss their health experiences with the team from the Hologic Global Women's Health Index video project.

New Delhi, India

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61   Please see Appendix 2 for more discussion of mode changes from year to year.

62   BBC. (2022, May 5). *Nicaragua shuts down 50 non-profits in new crackdown*. BBC News. https://www.bbc.com/news/world-latin-america-61333797

63   Win, S., Aung, K. K., & Stylianou, N. (2022, February 1). *The deadly battles that tipped Myanmar into civil war.* BBC News. https://www.bbc.com/news/world-asia-60144957

+ Fastest-Improving Countries/Territories for Opinions of Health and Safety in 2021

Countries with an absolute **increase** ↑ or **decrease** ↓ greater than 5

Opinions Health & Safety Rank	Overall Rank	Country/Territory	Opinions Health & Safety Score	Overall Index Score	Opinions Health & Safety YoY Score Change
39	67	Nicaragua	**70**	51	**15 ↑**
93	47	Paraguay	**50**	56	**9 ↑**
89	81	Zimbabwe	**50**	49	**6 ↑**
22	68	Laos	**78**	51	**6 ↑**
80	112	Guinea	**53**	41	**6 ↑**

− Fastest-Declining Countries/Territories for Opinions of Health and Safety in 2021

Opinions Health & Safety Rank	Overall Rank	Country/Territory	Opinions Health & Safety Score	Overall Index Score	Opinions Health & Safety YoY Score Change
78	90	Myanmar	**54**	46	**-23 ↓**
64	109	India	**59**	41	**-20 ↓**
120	118	Lebanon	**28**	40	**-20 ↓**
97	79	Jamaica	**48**	49	**-17 ↓**
87	42	Hungary	**50**	57	**-14 ↓**

Source: Hologic Global Women's Health Index, Year 2 (Released 2022)

Shadow Pandemic: Women, Men See Domestic Violence as a Problem

Domestic violence was a major public health and safety problem before the COVID-19 pandemic, but in the shadow of it, gender-based violence has increased and placed additional pressure on women and health resources. According to UN estimates, 47,000 women and girls were killed in 2020 by an intimate partner or family member, which translated into one woman or girl every 11 minutes.[64]

Because of the problem's lack of global visibility, Hologic and Gallup asked women and men in 2020 and 2021 about the scope of domestic violence in their countries. Due to the sensitivity of the topic, the survey question frames the issue indirectly, allowing women and men to express their views without having to discuss their own victimization or that of loved ones.

"Domestic violence can be physical, psychological, or involve sexual acts done to someone against their will by a person they live with. In your opinion, is domestic violence a widespread problem in [country name], or not?"

Testing in 2020 and 2021 revealed the results were not highly related to any of the dimensions of health and the question was not factored into the overall Hologic Global Women's Health Index. However, because the issue is so important to women's quality of life and longevity on its own, Hologic and Gallup will continue to ask this question in future surveys and monitor the trends.

The findings show domestic violence is perceived as just as big of a problem in 2021 as it was in 2020. In 2021, two in three women worldwide (65%) — representing roughly 1.7 billion women — said domestic violence is a widespread problem in their country. Nearly six in 10 men (56%) agreed.

- While both women and men in many countries see domestic violence as an issue, the gender gap shows country leaders and policymakers may need to tailor their messaging for efforts related to awareness, response and prevention.

- In most of the countries studied, women were more likely than men to consider domestic violence a widespread issue. In 44 of the 122 countries surveyed, there was a gap of more than 10 percentage points separating women and men.

- Worldwide, the percentage of women who said domestic violence is widespread continued to range widely, from a low of 14% in the United Arab Emirates to a high of 95% in Albania.

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64 United Nations. (2021, November 25). *UNODC Research: 2020 saw a woman or girl being killed by someone in their family every 11 minutes.* Office on Drugs and Crime. https://www.unodc.org/unodc/frontpage/2021/November/unodc-research_-2020-saw-every-11-minutes-a-woman-or-girl-being-killed-by-someone-in-their-family.html

Difference in Perception of Domestic Violence by Gender

Domestic violence can be physical, psychological, or involve sexual acts done to someone against their will by a person they live with. In your opinion, is domestic violence a widespread problem in [country name], or not?
(% Yes)

Percentage point gap between women and men who said domestic violence is a widespread problem, with men's scores subtracted from women's scores

■ -10 or larger   ■ 0 to -9   ■ +1 to +9   ■ +10 to +19   ■ +20 or larger
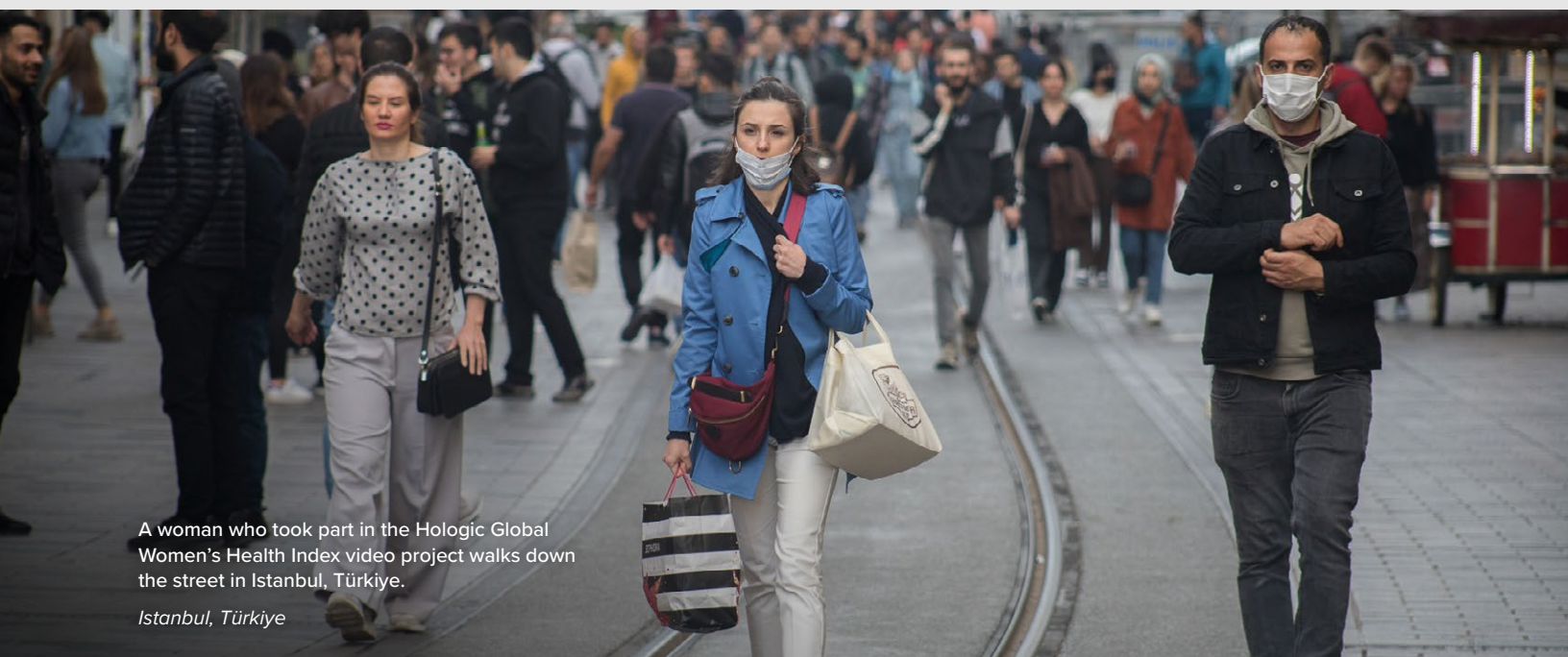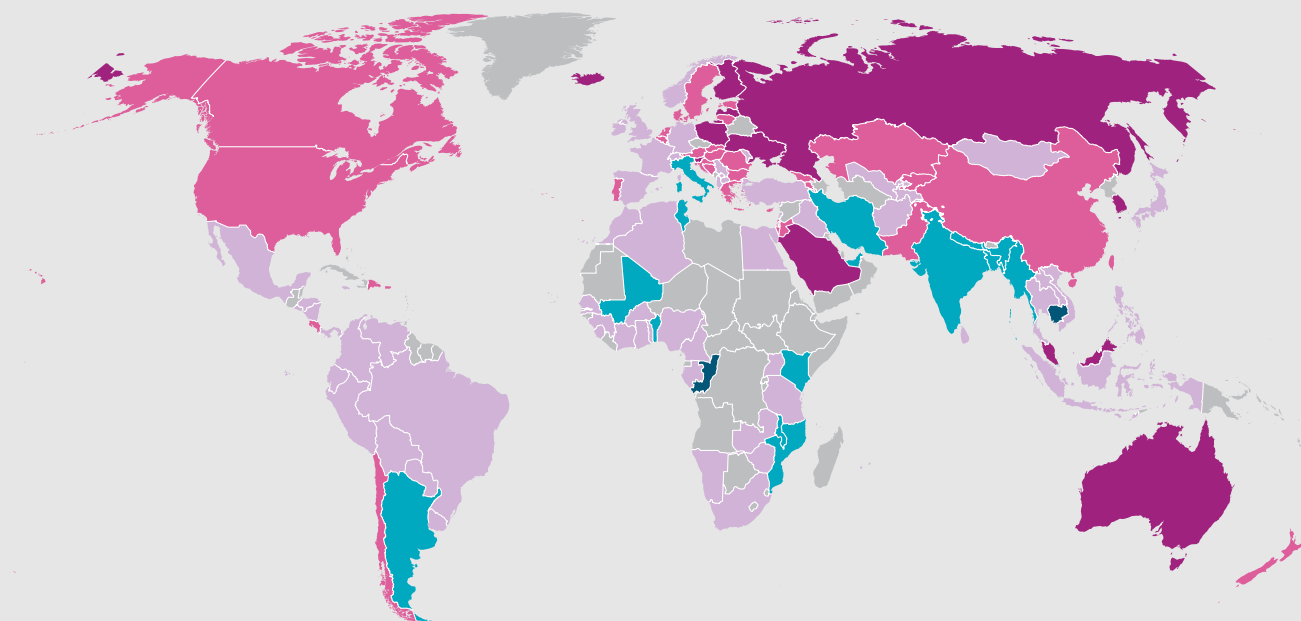
A woman who took part in the Hologic Global Women's Health Index video project walks down the street in Istanbul, Türkiye.

Istanbul, Türkiye

Women Struggled More to Afford Food, Shelter in 2021

Having enough resources to meet daily needs, such as having enough food to eat and finding safe, affordable housing, are all basic needs for healthy living.

Of the social determinants of health, food insecurity likely has one of the most extensive influences: Adults who are food insecure — meaning they lack regular access to enough safe and nutritious food — are disproportionately at risk of obesity and chronic diseases, including hypertension, diabetes, cancer and heart disease.[65, 66]

Monitoring how many women are struggling to afford food in the years to come is critical. COVID-19-related disruptions that pushed hundreds of millions of the most vulnerable populations — including women — into acute food insecurity in 2020 continued throughout 2021. The United Nations estimates that nearly 50 million more people were undernourished in 2021 than the previous year.[67] The Russia-Ukraine war, which is driving up food prices around the world, could push millions more into hunger in 2022 and 2023.[68]

The future will be better for women when as many women as possible say they are not having trouble affording the food or shelter they or their families need. When women can meet their basic needs, their life expectancies go up, emotional health improves, and mortality rates of mothers and children go down.[69]

At present, hundreds of millions of women worldwide cannot afford the food and shelter they or their families need, and it is getting tougher each year. Current efforts to fight hunger won't be enough in the face of uncertainty with war, rising inflation and concerns about recession. Governments must rethink how they allocate their spending to stave off the growing global hunger crisis.

65 Coleman-Jensen, A., & Gregory, C. (2017). *Food Insecurity, Chronic Disease, and Health Among Working-Age Adults.* USDA. https://www.ers.usda.gov/publications/pub-details/?pubid=84466

66 FAO. (n.d.). *Hunger.* Food and Agriculture Organization of the United Nations. http://www.fao.org/hunger/en/

67 FAO. (2022, July 22). *The State of Food Security and Nutrition in the World 2022.* Food and Agriculture Organization of the United States. https://www.fao.org/documents/card/en/c/cc0639en

68 Ibid.

69 Gallup Worldwide Research and Methodology Codebook (2022)

More women struggled to afford the basics — food and shelter — in 2021 than they did the previous year. More than one in three, representing nearly 1 billion women, said they did not have enough money to buy the food they needed.

- Overall, the percentage of women who at times could not afford needed food rose from 34% to 37%, with the growth in food insecurity most acute among women over age 50 (increasing from 29% to 35% in the 51 to 75 age group and 11% to 18% in the 76 and older age group).

- Women in rural areas also experienced more hardship than their urban counterparts: The gap between them widened to more than 15 points in 2021. Forty-four percent of women in rural areas struggled to afford food at times, compared with 28% of those living in urban areas.

Slightly fewer women — though still in the hundreds of millions — didn't have enough money for shelter. Like food, without shelter, healthcare is often deprioritized.

- Three in 10 women (30%) — representing nearly 800 million — said there were times in the past year when they were unable to afford adequate shelter or housing for themselves or their families. This is similar to the 29% who reported being unable to afford shelter at times in 2020.

- Women younger than age 50 and those with the least education continue to be the most vulnerable: Women younger than 50 were nearly twice as likely as those over 75 (31% vs. 16%) to struggle with affording shelter. Nearly four in 10 women (38%) with primary education or less could not afford shelter at times, compared with 15% of those with more than four years of education beyond high school or a college degree.

While women's ability to meet their basic needs fell, men's situations didn't change.

- While men and women similarly could not afford shelter, women were slightly more likely than men to say there were times when they did not have enough money to afford needed food (37% of women vs. 33% of men). This gap was wider in 2021 than it was in 2020 — women lost ground while men largely remained steady — which corresponds with the rising food insecurity among women that the United Nations found in 2021.[70]

- This gap has important implications for families, as women are culturally the primary caregivers and typically eat last and least in countries facing conflict, famine and hunger.[71]

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70 FAO. (2022, July 22). *The State of Food Security and Nutrition in the World 2022.* Food and Agriculture Organization of the United States. https://www.fao.org/documents/card/en/c/cc0639en

71 WFP. (2022). *Women are Hungrier.* World Food Program USA. https://www.wfpusa.org/women-are-hungrier-infographic/

Basic Needs Dimension

Higher scores on the Basic Needs dimension of the Index mean fewer women report struggling to afford the food and shelter they need. Women worldwide scored a 66 on this dimension of the Index, down from 68 in 2020.

At the country level, women's scores on the Basic Needs dimension range from a low of 25 in Afghanistan to a high of 97 in Singapore and Sweden.

Women in sub-Saharan Africa and Asia scored the lowest on Basic Needs.

Afghanistan debuted on the Index in 2021 with the lowest scores in the world on several dimensions of health, including Basic Needs — with a score of 25. Previous Gallup research in Afghanistan[72] shows women were struggling to afford much needed food and shelter long before the Taliban seized control and the U.S. withdrew in 2021, but their struggles became even more acute in the past year: A record-high 86% of Afghan women in 2021 said they could not afford food at times and a record 64% said they could not afford shelter.

As high as these numbers are, they may be even higher now. After the Taliban came to power, governments cut off aid. As food prices soared, the number of Afghans needing aid reached nearly 20 million — many of them women.[73]

With the war between Ukraine and Russia making the world's hunger crisis even tougher to fight — driving food prices up for those who can least afford it — Afghan women, as well as women in other countries who are struggling to afford the basics, face even more risks in the days and years ahead.

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72 Ray, J. & Nusratty, K. (2022, April 4). *Afghan Women and Men See Women Treated Worse After Taliban.* Gallup.com. https://news.gallup.com/poll/391403/afghan-women-men-women-treated-worse-taliban.aspx

73 IPC. (n.d.). *Afghanistan: Acute Food Insecurity Situation for March - May 2022 and projection for June - November 2022.* IPC Portal. https://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1155595/?iso3=AFG

Women in many high-income countries almost universally have their basic needs met.

Countries where women have the highest scores on the Basic Needs component are mostly high-income economies with social safety nets. Worries about food and shelter are relatively nonexistent. In Sweden and Singapore, for example, the "yes" responses on both questions in 2021 were in the low single digits, which means few women were struggling with either.

However, even though high-income economies dominate the top of the list, many women in a number of high-income countries are still struggling in this dimension. The United States, which spends more on healthcare than any other country in the world, is one example.[74] Nearly one in four women (23%) in the U.S. said they could not afford food at times in the past year.[75]

▲ **Top Countries/Territories for Basic Needs in 2021**

Countries with an absolute **increase** ↑ or **decrease** ↓ greater than 5

Basic Needs Rank	Overall Rank	Country/Territory	Basic Needs Score	Overall Index Score	Basic Needs YoY Score Change
1	11	Singapore	97	64	NS
2	12	Sweden	97	63	4
3	10	Norway	96	65	3
4	9	Israel	95	65	**6 ↑**
5	1	Taiwan, Province of China	94	70	1

▼ **Bottom Countries/Territories for Basic Needs in 2021**

Basic Needs Rank	Overall Rank	Country/Territory	Basic Needs Score	Overall Index Score	Basic Needs YoY Score Change
118	82	Zambia	35	49	1
119	93	Philippines	35	45	-4
120	110	Sierra Leone	34	41	NS
121	96	Cambodia	32	45	**-11 ↓**
122	122	Afghanistan	25	22	NS

Note: "NS" indicates the country/territory was not surveyed the prior year.

Source: Hologic Global Women's Health Index, Year 2 (Released 2022)

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74   Statista. (2022, July 27). *Per capita health expenditure by country 2020.* https://www.statista.com/statistics/236541/per-capita-health-expenditure-by-country/#:~:text=health%20care%20services.-,Health%20Expenditure%20in%20the%20U.S.,U.S.%20exceeded%20four%20trillion%20dollars.

75   OECD. (2021). *Health spending.* OECD Data. https://data.oecd.org/healthres/health-spending.htm

Basic Needs: Fastest-Improving and Fastest-Declining Countries and Territories

Tunisia's sharp economic contraction in 2020, followed by a moderate rebound the following year, may at least partly explain the country's 16-point surge in women's scores on the Basic Needs dimension between 2020 and 2021.

However, a World Bank study suggests that Tunisians were also coping with higher food prices by drawing from their savings or changing their consumption habits.[76] Slightly more than one in five Tunisian women (22%) in 2021 said they were unable to afford food at times in the past year — almost half of the 40% who said so in 2020.

Although Bangladesh's food security had improved in recent years, the sharp decline in the country's score on the Basic Needs dimension — 25 points — likely reflects record prices for staple goods in March 2022 (when fieldwork took place) after the start of the Russia-Ukraine war.[77] The percentage of Bangladeshi women who said they could not afford food at times in the past year surged from 37% in 2020 to 61% in 2021.

Women talk about their health experiences with the team from the Hologic Global Women's Health Index video project.

New Delhi, India

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76   World Bank. (n.d.). *The World Bank in Tunisia.* https://www.worldbank.org/en/country/tunisia/overview#1

77   Mamun, A., Glauber, J., & Laborde, D. (2022, April 20). *How the war in Ukraine threatens Bangladesh's food security.* IFPRI Blog. https://www.ifpri.org/blog/how-war-ukraine-threatens-bangladeshs-food-security

+ Fastest-Improving Countries/Territories for Basic Needs in 2021

Countries with an absolute **increase** ↑ or **decrease** ↓ greater than 5

Basic Needs Rank	Overall Rank	Country/Territory	Basic Needs Score	Overall Index Score	Basic Needs YoY Score Change
46	85	Tunisia	**81**	48	**16 ↑**
64	44	Uzbekistan	**64**	56	**14 ↑**
104	74	Namibia	**43**	50	**14 ↑**
88	77	El Salvador	**48**	49	**13 ↑**
43	63	Algeria	**82**	53	**13 ↑**

− Fastest-Declining Countries/Territories for Basic Needs in 2021

Basic Needs Rank	Overall Rank	Country/Territory	Basic Needs Score	Overall Index Score	Basic Needs YoY Score Change
96	106	Bangladesh	**46**	43	**-25 ↓**
89	109	India	**48**	41	**-12 ↓**
98	119	Türkiye	**45**	40	**-12 ↓**
121	96	Cambodia	**32**	45	**-11 ↓**
83	98	Morocco	**51**	44	**-9 ↓**

Source: Hologic Global Women's Health Index, Year 2 (Released 2022)

More Women Experiencing Pain and Health Problems

Health-related statistics, such as life expectancy, infant mortality and disease rates, provide a great deal of insight into a country's overall health.

However, these statistics shed little light on women's experiences and how individuals see health problems affecting their quality of life and keeping them from doing the things that people their age normally do.

The future will be better for women when as few women as possible experience daily physical pain and suffer health problems that prevent them from doing things that women their age normally do.

At present, this will be no small task. Worldwide, **more than half a billion women experience physical pain and health problems that limit their activities on any given day.**

A street vendor woman in Vietnam makes a call on her cellphone.

Hoi An, Vietnam

Nearly a billion women worldwide spent a lot of yesterday in pain.

- Three in 10 women (34%) — which represents nearly 900 million women worldwide — reported experiencing physical pain during a lot of the previous day in 2021, up from 30% in 2020.

More than half a billion women have health problems that keep them from normal activities.

- In 2021, one in four women (25%) — which represents nearly 650 million women globally — said they have health problems that prevent them from doing things people their age normally do, up from 20% in 2020.

- Women over age 75 experienced the only increase across any age group, with a five-point bump in experiencing health problems that prevent them from doing things others their age can do. While this is an aging population and one would anticipate some limitations, this increase merits monitoring.

- Women with elementary education or less disproportionately reported these experiences, with the gap between these women and those with secondary education nearly doubling in the experience of daily pain and health problems.

- The individual health experiences of rural women were also staggering. Rural women's dimension scores in 2020 were near parity with those of urban women (76 for urban women vs. 74 for rural women), but this gap widened to 11 points in 2021 (77 for urban women vs. 66 for rural women). The introduction of several low-income, highly rural countries in 2021 may at least partly explain the difference, but it bears continued observation.

Measuring Individual Health

The Individual Health dimension of the Hologic Global Women's Health Index gauges women's daily experiences of pain and health problems with two questions that have been asked as part of Gallup's World Poll for more than a decade:

- *Did you experience the following feelings during a lot of the day yesterday? How about physical pain?*
- *Do you have any health problems that prevent you from doing any of the things people your age normally can do?*

Scores on this dimension are calculated at the individual level. To get a score, individuals need to answer both questions. The resulting score is a simple mean of the positive answers. Higher scores on the Individual Health dimension mean fewer women are experiencing health problems and pain on a given day.

Individual Health Dimension

Higher scores on the Individual Health dimension of the Index mean fewer women are experiencing health problems and pain on a given day. Women worldwide scored a 71 on the Individual Health dimension of the Index in 2021, down from 75 in 2020. Out of the five dimensions of health, Individual Health has the third-highest correlation with GDP, after Basic Needs and Opinions of Health and Safety.

At the country level, scores on the Individual Health dimension range from a low of 50 in Iraq to a high of 88 in Taiwan.

Individual Health scores are highest in Asian countries.

While countries at the top of the Individual Health dimension in 2020 represented a mix of regions, the top five countries and territories for Individual Health in 2021 were all geographically in Asia. Taiwan, Israel and Vietnam also made the top of the list in 2020.

The appearance of so many Asian countries on this list in both years suggests how different cultures view pain may play a role in admission of this pain to others, which is an important part of effective pain management.[78] Women in most of the countries with the highest scores on the Individual Health dimension are also among the least likely to say they experienced a lot of pain the previous day.

78   Chen, L.-M., Miaskowski, C., Dodd, M., & Pantilat, S. (2008). Concepts within the Chinese culture that influence the cancer pain experience. *Cancer Nursing, 31*(2). https://doi.org/10.1097/01.ncc.0000305702.07035.4d

▲ Top Countries/Territories for Individual Health in 2021

Countries with an absolute **increase** ↑ or **decrease** ↓ greater than 5

Individual Health Rank	Overall Rank	Country/Territory	Individual Health Score	Overall Index Score	Individual Health YoY Score Change
1	1	Taiwan, Province of China	88	70	3
2	49	Vietnam	85	56	2
3	14	China	85	63	5 ↑
4	9	Israel	84	65	2
5	43	Indonesia	83	56	4

▼ Bottom Countries/Territories for Individual Health in 2021

Individual Health Rank	Overall Rank	Country/Territory	Individual Health Score	Overall Index Score	Individual Health YoY Score Change
118	116	Benin	55	40	-14 ↓
119	112	Guinea	52	41	-10 ↓
120	91	Senegal	52	46	1
121	121	Republic of the Congo	51	38	-4
122	111	Iraq	50	41	-3

Source: Hologic Global Women's Health Index, Year 2 (Released 2022)

Individual Health: Fastest-Improving and Fastest-Declining Countries and Territories

The Year 2 Hologic Global Women's Health Index was conducted on the heels of India's second deadly COVID-19 wave in 2021, after Indian states started to emerge from another round of lockdowns.

The results suggest the second year of the pandemic exacted a toll on Indian women's physical and mental health, as is evident in the 22-point drop in their Individual Health score.

+ Fastest-Improving Countries/Territories for Individual Health in 2021

Countries with an absolute increase ↑ or decrease ↓ greater than 5

Individual Health Rank	Overall Rank	Country/Territory	Individual Health Score	Overall Index Score	Individual Health YoY Score Change
54	52	Tajikistan	**71**	55	**16 ↑**
24	4	Denmark	**75**	67	**8 ↑**
19	55	South Africa	**77**	55	**8 ↑**
113	89	Egypt	**56**	47	**8 ↑**
98	118	Lebanon	**61**	40	**7 ↑**

− Fastest-Declining Countries/Territories for Individual Health in 2021

Individual Health Rank	Overall Rank	Country/Territory	Individual Health Score	Overall Index Score	Individual Health YoY Score Change
109	109	India	**57**	41	**-22 ↓**
118	116	Benin	**55**	40	**-14 ↓**
99	82	Zambia	**61**	49	**-14 ↓**
70	79	Jamaica	**68**	49	**-13 ↓**
102	39	Portugal	**60**	58	**-12 ↓**

Source: Hologic Global Women's Health Index, Year 2 (Released 2022)

COUNTRIES IN CRISIS SPOTLIGHT

> "
>
> # Today, we are witnessing the attempt to steadily erase women and girls from public life in Afghanistan...[79]
>
> ## INDEPENDENT UN HUMAN RIGHTS EXPERTS

79 United Nations. (2022, January 17). *Afghanistan: Taliban attempting to steadily erase women and girls from public life – UN experts.* OHCHR. https://www.ohchr.org/en/press-releases/2022/01/afghanistan-taliban-attempting-steadily-erase-women-and-girls-public-life-un

Afghanistan

Life was already extremely difficult for Afghan women and girls before the Taliban returned to power in late 2021. Gallup surveys in the years leading up to this showed women were struggling to afford food and shelter, few felt safe, and most saw their lives getting worse with every passing year.

While the pandemic prevented Hologic and Gallup from surveying in Afghanistan in 2020, male and female Afghan interviewers returned to the field to conduct in-person polls in August and September 2021 — as the Taliban retook control and the U.S. withdrew.[80] The interviewers found unprecedented misery.[81]

> A record-high 96% of Afghan women evaluated their lives so poorly — rating their current and future lives less than a 4 on a scale of zero to 10 — that they could be considered suffering on the Life Evaluation Index.[82]

Many men found themselves in a similar situation, with 92% in the suffering category. However, 2021 marked the first time that more women than men were classified this way, which bears close watching in the years to come.

Preventive Care: Testing rates are low to nonexistent among Afghan women.

At the time of the survey, Afghanistan's healthcare system was on the verge of collapse and essential health facilities, medications and vaccinations were scarce. In the first half of 2021, the Taliban's attacks on healthcare facilities left 26 damaged and 12 health workers dead.[83]

Relatively few Afghan women reported getting tested for high blood pressure, diabetes, cancer or STDs/STIs in the 12 months prior, which helps explain why the country's score of 13 on the Preventive Care dimension is so far below the global average of 19.

CHART 17:

Preventive Care Testing for Afghan Women in 2021

23% High blood pressure

0% Cancer

14% Diabetes

13% STDs/STIs

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80 Teams of husbands and wives and brothers and sisters traveled together to satisfy the Taliban rule that banned women from traveling more than 48 miles without a mahram or male guardian. Female interviewers surveyed female respondents and male interviewers surveyed male respondents.

81 Reinhart, R. J. (2022, July 16). *Suffering Reaches Unprecedented Levels in Afghanistan.* Gallup.com. https://news.gallup.com/poll/391406/suffering-reaches-unprecedented-levels-afghanistan.aspx

82 Gallup, Inc. (2021, April 8). *Understanding How Gallup Uses the Cantril Scale*. Gallup.com. https://news.gallup.com/poll/122453/Understanding-Gallup-Uses-Cantril-Scale.aspx

83 Awan, Usman & Malik, Wasif & Afzal, Muhammad & Ahmed, Haroon & Zahoor, Sarmad. (2022). War-torn Afghanistan and cancer care: where to focus?. *The Lancet Oncology.* 23. 562-563. 10.1016/S1470-2045(22)00192-9

Notably, no Afghan women — zero respondents — said they had been tested for any type of cancer in the past year.

But even if women had been tested for cancer, cancer treatment is not readily available in most of the country. Just one hospital in Kabul bears the treatment burden for the entire country, which had a population of more than 39 million in 2021.[84, 85]

However, the fact that women in Afghanistan were not getting medical tests does not mean that women do not value annual care visits with healthcare professionals.

Seventy-one percent of Afghan women said they believe in the value of checkups with a healthcare professional and 61% said they went to a healthcare professional in the past 12 months.

Access to these professionals will remain a challenge: In 2020, roughly one in three Afghans had no access to a functional health center within two hours of their home, according to the UN Office for the Coordination of Humanitarian Affairs.[86] With travel restrictions imposed by the Taliban on women traveling more than 48 miles without a male guardian, women may feel discouraged from seeking care.[87]

Emotional Health: Negative emotions hit a record high.

Although 2021 was the first year Hologic and Gallup could conduct the Hologic Global Women's Health Index in Afghanistan, Gallup has been tracking Afghans' emotions since 2008. Worry, stress, anger and sadness unsurprisingly soared to record levels among women and men in Afghanistan in 2021.

Like men, overwhelming numbers of Afghan women reported feeling worried (85%), stressed (83%), sad (78%) and angry (62%) the day before the survey. However, women reported these emotions much more than men — particularly in regard to anger and sadness.

CHART 18:

Negative Emotions in Afghanistan by Gender

■ % Women   ■ % Men   — Gender gap (pct. pts.)

	Worry	Stress	Sadness	Anger
Gap	-7	-9	-17	-16
% Women	85	83	78	62
% Men	78	74	61	46
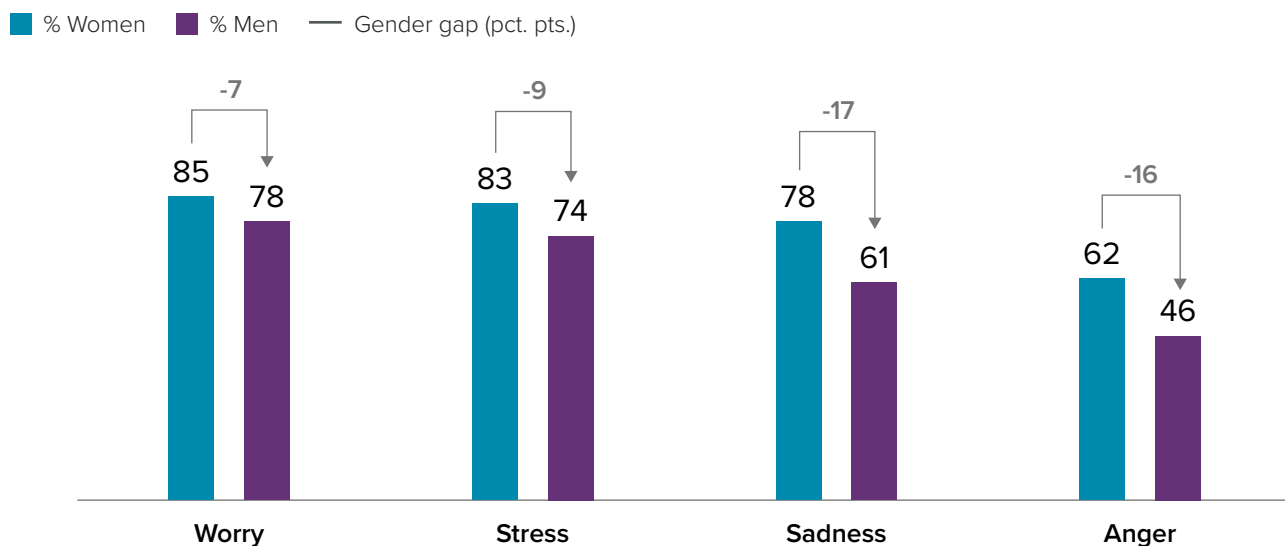
84   Awan, Usman & Malik, Wasif & Afzal, Muhammad & Ahmed, Haroon & Zahoor, Sarmad. (2022). War-torn Afghanistan and cancer care: where to focus?. *The Lancet Oncology.* 23. 562-563. 10.1016/S1470-2045(22)00192-9

85   World Bank. (2022.). *Population, total - Afghanistan.* The World Bank Data. https://data.worldbank.org/indicator/SP.POP.TOTL?locations=AF

86   Devi, S. (2020). Access to health care under threat in Afghanistan. *The Lancet, 395*(10242). https://doi.org/10.1016/s0140-6736(20)31447-1

87   France 24. (2021, December 26). *Taliban bans women from travelling longer distances unless with male relative.* France 24. https://www.france24.com/en/asia-pacific/20211226-taliban-say-no-trips-for-afghan-women-unless-escorted-by-male-relative

Basic Needs: Record numbers of Afghan women are struggling to afford food and shelter.

The Taliban's takeover in late 2021 made an existing problem in Afghanistan — the ability to afford food — even worse.

> By March 2022, an estimated 95% of Afghans did not have enough to eat or enough money for food.[88]

Gallup surveys before the Taliban regained control showed Afghans had been struggling for years to afford food — and women more so than men since 2017. At the time of the survey in 2021, a record-high 86% of women and 76% of men said there were times when they could not afford food that they or their families needed. Women also disproportionately struggled more than men to afford shelter.

CHART 19:

Basic Needs in Afghanistan by Gender

■ % Women   ■ % Men   — Gender gap (pct. pts.)

-10

86   76

Not enough money for food

-8

64   56

Not enough money for shelter

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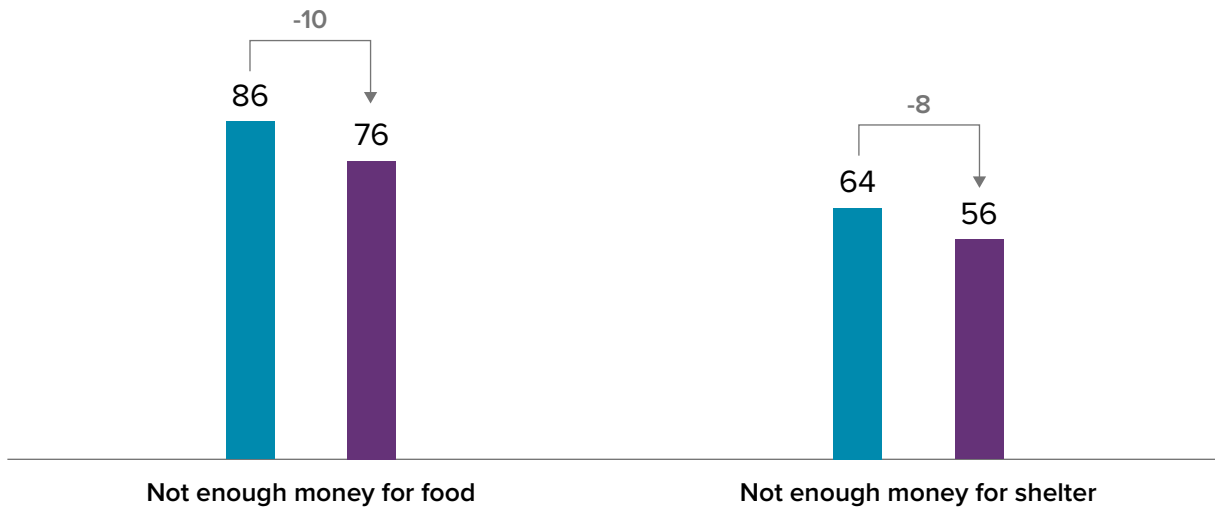
88   United Nations. (2022, March 18). *Afghanistan: Food insecurity and malnutrition threaten 'an entire generation'*. UN News. https://news.un.org/en/story/2022/03/1113982?

🇮🇳 India

India's second wave of COVID-19 overwhelmed the country's health system. In several cities and states, hospitals turned patients away and crematoriums ran out of space.[89] While hundreds of millions of Indians suffered, marginalized groups, including women and girls, were at higher risk because of their socioeconomic status, cultural norms, and because they were often on the front lines as caregivers at home and in the health and service sectors.[90]

The Year 2 Hologic Global Women's Health Index was conducted on the heels of India's second deadly COVID-19 wave in 2021, after Indian states started to emerge from another round of lockdowns.

The results suggest the second year of the pandemic exacted a toll on Indian women's physical and mental health.[91]

> Indian women's score on the overall Index declined 14 points to 44 — the biggest drop for any country in the world. India showed sharp declines in every dimension except Preventive Care — which was already one of the lowest in the world.

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89 Samarasekera, U. (2021). India grapples with second wave of COVID-19. *The Lancet Microbe, 2*(6). https://doi.org/10.1016/s2666-5247(21)00123-3

90 *UN Women.* (2021, July 27). *Your questions answered: Women and COVID-19 in India.* https://www.unwomen.org/en/news/stories/2021/7/faq-women-and-covid-19-in-india

91 Switching from telephone to in-person surveys in India between 2020 and 2021 may account for some of this effect, but given the extent of the changes from year to year, it does not account for all of the effect.

A woman talks about her health experiences with the team from the Hologic Global Women's Health Index video project.

New Delhi, India

Emotional Health: Negative emotions flare in India.

Indian women suffered the biggest decline in Emotional Health of any country that Hologic and Gallup surveyed in 2021, with the score dropping from 79 to 53 in the span of a year.

Negative emotions soared in India between 2020 and 2021, with double-digit increases in all four negative emotions: worry, anger, sadness and stress. Majorities of Indian women said they felt sadness and worry during much of the previous day.

Women carried more of the emotional burden in 2021 compared with the previous year, when they were less likely than men to report feeling stress and worry.

CHART 20:

Negative Emotions in India

■ % 2020   ■ % 2021   — Change from 2020 to 2021 (pct. pts.)

Worry: 30 (2020), 59 (2021), +29
Stress: 13 (2020), 34 (2021), +21
Sadness: 19 (2020), 53 (2021), +34
Anger: 22 (2020), 42 (2021), +20
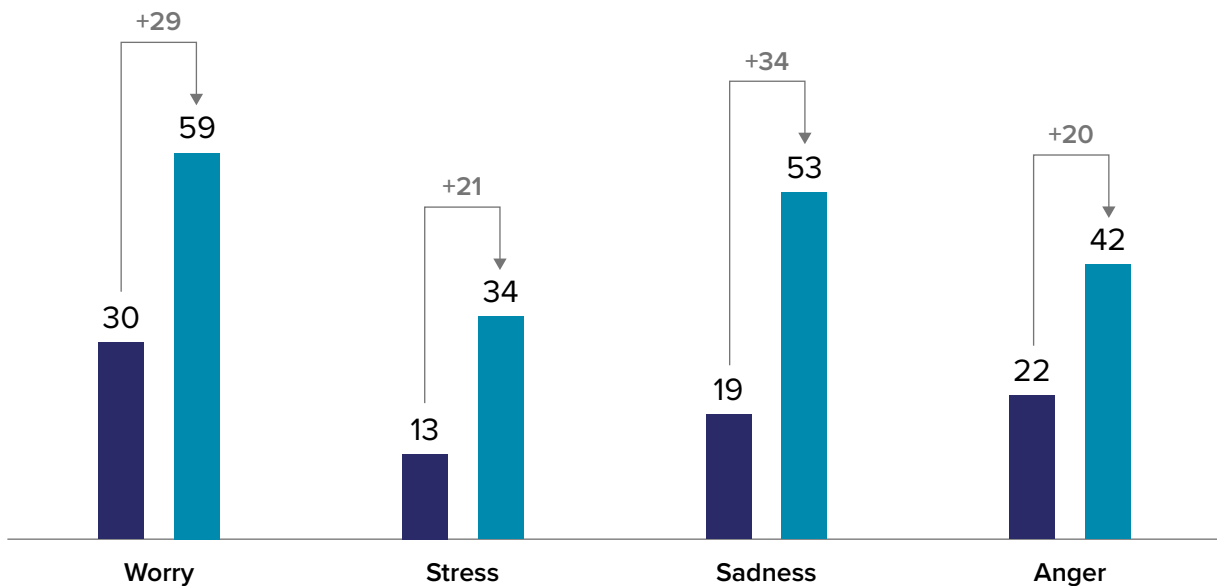
Conclusions From the Year 2 Hologic Global Women's Health Index

> While the results from the Inaugural Hologic Global Women's Health Index offered a sobering account of the state of women's health worldwide, the results from the Year 2 Index sound an alarm.

Despite hopes that the COVID-19 pandemic would be over in 2021, disruptions to essential health services would end, and women's health situations would start to improve, the findings from the 2021 Index suggest the situation may be even more urgent now than it was during the first year of the pandemic.

Globally, the Index shows most women's health situations did not improve in 2021 and the health situations for many women who were already vulnerable worsened. The gap in the overall Index score between women in high-income and low-income economies nearly doubled in the span of a year, while the gap between women in urban and rural areas stretched twice as wide. Less-educated women fell further behind, while higher-educated women had slightly better health outcomes in 2021.

Worldwide, women also lost ground in four out of the five dimensions of their health as they struggled more to afford the basics, they felt less safe, their emotional health suffered and they experienced more pain than in the previous year. Preventive care continued to remain the weakest of all dimensions. Women were not screened or tested for deadly diseases any more in the second year of the pandemic than they were in the first.

With so much of the world in crisis and headed in the wrong direction on women's health, frameworks like the Index become even more critical tools for policymakers and leaders as they seek pathways to a healthier future for women. Women are the cornerstones of families, societies and economies. To help the world correct its course — and move forward — Hologic and Gallup will be monitoring the world's progress on women's health for at least the next six years. Hologic looks forward to working with and engaging global partners in the pursuit of better health for women.

Index Scores by Country and Territory

Rank	Country/Territory	Hologic Global Women's Health Index
1	Taiwan, Province of China	70
2	Latvia	69
3	Austria	67
4	Denmark	67
5	Estonia	66
6	Switzerland	66
7	Germany	66
8	Czech Republic	65
9	Israel	65
10	Norway	65
11	Singapore	64
12	Sweden	63
13	Japan	63
14	China	63
15	New Zealand	63
16	Netherlands	63
17	Finland	62
18	South Korea	62
19	Mauritius	62
20	Australia	61
21	Malaysia	61
22	Iceland	61
23	United States of America	61
24	Lithuania	61
25	Hong Kong, S.A.R. of China	61
26	Belgium	61
27	France	61
28	Saudi Arabia	61
29	Poland	60
30	United Kingdom of Great Britain and Northern Ireland	60

Index Scores by Country and Territory

(CONTINUED)

Rank	Country/Territory	Hologic Global Women's Health Index
31	Kazakhstan	60
32	Slovenia	60
33	Kosovo	60
34	Ireland	60
35	United Arab Emirates	59
36	Spain	59
37	Croatia	59
38	Slovakia	59
39	Portugal	58
40	Italy	57
41	Uruguay	57
42	Hungary	57
43	Indonesia	56
44	Uzbekistan	56
45	Malta	56
46	Thailand	56
47	Paraguay	56
48	Canada	56
49	Vietnam	56
50	Republic of Moldova	56
51	Romania	56
52	Tajikistan	55
53	Chile	55
54	Greece	55
55	South Africa	55
56	Costa Rica	55
57	Cyprus	55
58	Bulgaria	55
59	Serbia	54
60	Argentina	54
61	Kyrgyzstan	54

Index Scores by Country and Territory

(CONTINUED)

Rank	Country/Territory	Hologic Global Women's Health Index
62	North Macedonia	54
63	Algeria	53
64	Mexico	52
65	Russian Federation	52
66	Bosnia and Herzegovina	52
67	Nicaragua	51
68	Lao People's Democratic Republic	51
69	Mongolia	51
70	Ghana	51
71	Albania	51
72	Kenya	50
73	Iran	50
74	Namibia	50
75	Panama	50
76	Tanzania	49
77	El Salvador	49
78	Ukraine	49
79	Jamaica	49
80	Sri Lanka	49
81	Zimbabwe	49
82	Zambia	49
83	Honduras	48
84	Pakistan	48
85	Tunisia	48
86	Dominican Republic	48
87	Nepal	47
88	Georgia	47
89	Egypt	47
90	Myanmar	46
91	Senegal	46
92	Nigeria	46

Index Scores by Country and Territory

(CONTINUED)

Rank	Country/Territory	Hologic Global Women's Health Index
93	Philippines	45
94	Mozambique	45
95	Armenia	45
96	Cambodia	45
97	Jordan	45
98	Morocco	44
99	Burkina Faso	44
100	Colombia	44
101	Bolivia	44
102	Cameroon	44
103	Uganda	44
104	Brazil	44
105	Malawi	44
106	Bangladesh	43
107	Mali	42
108	Ivory Coast	42
109	India	41
110	Sierra Leone	41
111	Iraq	41
112	Guinea	41
113	Gabon	40
114	Peru	40
115	Ecuador	40
116	Benin	40
117	Togo	40
118	Lebanon	40
119	Türkiye	40
120	Venezuela	39
121	Republic of the Congo	38
122	Afghanistan	22

About the Hologic Global Women's Health Index

The goal of the Hologic Global Women's Health Index is to contribute to extending the life expectancy of women around the world and improving their quality of life. The ultimate outcome of the partnership with Gallup is to create a global measure to track progress in key aspects of women's health and well-being that informs change to improve women's health in the future.

The Gallup World Poll has collected data since 2005 in more than 160 countries and territories and over 140 languages. To consistently and accurately collect data on the same indicators from a wide range of respondents in different countries and territories, questions are rigorously tested to ensure clarity and precision so that they are easily translated, well understood and interpreted across cultures.

Why an Index?

An Index provides the opportunity to summarize the multidimensional construct we are measuring — factors contributing to women's health — in an easy-to-interpret way. This produces a tool to assess progress over time and captures the interest of both the public and policymakers. This means that it will be easier to communicate complex ideas and promote accountability.

It is important to clearly communicate what the Index captures to not oversimplify complex issues and topics and to avoid overstating policy conclusions. We are transparent with our methodology and what the Index does and does not measure, including the weighting process used to combine the variables.

Development of the Hologic Global Women's Health Index

1   Theoretical framework development

In consultation with a wide and growing list of experts, Hologic and Gallup set out to understand which key metrics would be most salient to a women-reported Index of health at the national level.

The World Health Organization (WHO) listed the top 10 issues for women's health 20 years after countries signed pledges in the 1995 Beijing Declaration and Platform for Action, adding that women still face many health problems, which we must recommit to address (Bustreo, 2015).

These included:

- cancer
- reproductive health
- maternal health
- HIV
- sexually transmitted diseases (STDs) and sexually transmitted infections (STIs)
- violence against women
- mental health
- noncommunicable diseases
- age-related issues (teenage pregnancies; older women may have fewer pensions and benefits, less access to healthcare and social services, and greater risk of poverty, compounded by the more widespread health challenges associated with old age)

An additional list put forth by the WHO in 2020 indicates top health checks for women, which include: blood pressure, blood glucose tests, body mass index, bone density screening, breast cancer detection, colon cancer detection, dental checkups, lipid profile checks and screening for cervical cancer (Pap smears and HPV testing) (WHO, 2020).

While not all of these issues can accurately be measured in a non-epidemiological social science survey, they convey that women's health is a combination of physical, social, economic and political factors (culture, poverty, discrimination, violence, system of provision of health services, geographical location, etc.).

This process of working with experts and existing knowledge sources identified three key objectives of the survey:

1) Capture knowledge, attitudes and behaviors (KAB model) related to health, which is a common framework for health surveys across many cultures and languages (Bhattacharya et al., 2018; Fan et al., 2018; Mustafa et al., 2008; Okobia et al., 2006; Zhang et al., 2020).

2) Focus on female-specific health issues:

     a. prenatal health, pregnancy and delivery

     b. health consequences of gender-based violence: sexual and physical violence

     c. increasingly common causes of death: heart and lung disease, cervical, lung and breast cancer, and obesity

     d. aging-related and noncommunicable diseases, which are increasing while infectious diseases are decreasing — making preventive care essential

3) Bring attention to actionable areas to increase female longevity:

     a. increasing years of education to improve the life expectancy, independence and earning power of women

     b. reducing domestic violence, sexual assault and femicide

     c. diagnosing conditions early so they are effectively treated and having services to provide care on an ongoing basis

     d. decreasing neonatal and infant mortality, as well as maternal mortality

2   Indicator and data selection

The Gallup World Poll already includes items that cover general health and quality of life, opinions of general health, safety and victimization, food and shelter insecurity, and emotional health and well-being. Because the Gallup World Poll creates nationally representative samples in each country, the survey is intended for both male and female respondents. Accordingly, the survey questions should be as broadly applicable as possible.

Building on these existing items, Gallup and Hologic developed the following module to field starting in 2020. These items were cognitively tested in seven countries: Nigeria (Yoruba and English), Kyrgyzstan (Russian), Vietnam (Vietnamese), United States (English), United Kingdom (English), Peru (Spanish) and Tunisia (Arabic). This process helped refine the final survey questionnaire and ensured that questions are well interpreted and understood across different countries, cultures and languages.

These questions are also discussed in greater detail in the subsequent section.

Hologic Survey Module Included in the Gallup World Poll

Topic	Question	Why It Matters
Value of preventive care	• *Do you think going to a healthcare professional, such as a medical doctor or a nurse, at least once every 12 months for a checkup, can help people improve their health, or not?*	Knowledge and attitudes toward preventive healthcare are the first two dimensions of "knowledge, attitudes and behaviors theory" (KAB). KAB is a health behavior theory of change wherein the change in human behavior is divided into three successive processes, namely, acquisition of the right knowledge, generation of attitudes and adoption of behaviors (or practices) (Bhattacharya et al., 2018; Fan et al., 2018; Mustafa et al., 2008; Okobia et al., 2006; Zhang et al., 2020).
Experience of preventive care	• *In the past 12 months, have you talked to a healthcare professional, such as a medical doctor or nurse, about your own health?*	Knowledge and attitudes need to lead to concrete behaviors, which are shaped by individual and social barriers.
	• *To the best of your knowledge, were you tested for any of the following in the past 12 months? [High blood pressure, cancer, diabetes, STDs/STIs]?*	• Heart disease is the leading cause of death in both men and women (CDC, 2020b). • Men and women are susceptible to different types of cancer, and testing is crucial to early diagnosis and increasing the odds of successful treatment (CDC, 2020a). • Obesity and diabetes-related diseases are a growing concern around the world and are associated with heart disease, as well as increased incidence of certain cancers (CDC, 2021b). • STDs/STIs have an outsized impact on women's reproductive health and fertility (compared to men) (CDC, 2021a).

Topic	Question	Why It Matters
Prenatal care	• *Do you think most pregnant women in the city or area where you live receive high-quality healthcare during their pregnancies, or not?*	Perceptions of the quality of prenatal care are lacking in global statistics — a critical dimension of women's healthcare experiences throughout their lives.
Pregnancy	• *How many children do you, personally, have?* • *How old were you the first time you were pregnant?*	A woman's age of first pregnancy and number of children have a strong relationship with years of education, employability, household income, time available to manage personal health, mental health, etc. (PRB, 2011; UNFPA, 2021; UNICEF, 2021; World Bank, 2021).
Domestic violence	*Now I would like to ask you a question regarding domestic violence. Domestic violence can be physical, psychological, or involve sexual acts done to someone against their will by a person they live with. In your opinion, is domestic violence a widespread problem in [country name], or not?*	Perceptions of widespread domestic violence can vary for different groups (e.g., men vs. women). In addition, the psychological burden of believing domestic violence is widespread could be tied to negative well-being outcomes.

Value of Preventive Care

Do you think going to a healthcare professional, such as a medical doctor or a nurse, at least once every 12 months for a checkup, can help people improve their health, or not?

Rationale

Preventive health screenings and yearly primary care consultations have been found to significantly increase life expectancy, particularly among the 30- to 75-year-old age group, but recommendations vary greatly depending on the disease, level of resources in the community and gender.

The framing of this item specifically addresses people's knowledge and attitudes ("do you think") toward preventive care and provides a specific time frame ("at least once every 12 months") to aid with recall.

The question is also framed neutrally and the final clause "or not" allows respondents to answer based on personal opinions, reducing the chance of social desirability bias as much as possible. This framing may appear odd in English, but Gallup has found it to be highly successful in reducing acquiescence bias, especially in other languages.

Implications

- Inform where preventive care is not occurring systematically.
- Earlier detection of chronic illnesses and deadly diseases helps decrease mortality rates. Many of the top risk factors leading to illness and premature death can be prevented.
- Reduced medical expense through early detection.

Experience of Preventive Care

In the past 12 months, have you talked to a healthcare professional, such as a medical doctor or nurse, about your own health?

Rationale

This item is a follow-up to the previous question about knowledge and attitudes and seeks to uncover whether respondents have taken action to seek annual preventive care (behavior or practice).

The concept of a visit to a healthcare professional is described in simple and broad terms ("have you talked to a healthcare professional [...] about your own health") to capture unscheduled, informal consultations as well as annual health examinations. The question echoes the specific timeframe used in the previous question ("the past 12 months") to aid with recall and yield more precise responses.

The question also defines who is considered a medical professional. In some countries, a nurse may be considered "less than" a doctor and therefore their checkup and medical advice could be given less credence. Specifying who is considered a medical professional also helps eliminate any informal sources of health advice, such as local healers or family members credited with health knowledge, especially in countries with less access to medical infrastructure.

Implications

- Highlight potential differences and service inequities between populations.
- Educate the public regarding personal care behaviors.

Experience of Preventive Care (continued)

To the best of your knowledge, were you tested for any of the following in the past 12 months? [High blood pressure, cancer, diabetes, STDs/STIs]?

Rationale

The framing of this question lets us survey participants on four different issues using a common stem, which makes the overall time involved in asking the questions shorter and allows respondents to move through the battery quickly, reducing the overall cognitive burden of the survey.

The item is being framed as a yes/no question to simplify the process of answering.

In addition, the inclusion of STDs/STIs — a highly sensitive topic — occurs at the end of the list to allow respondents to gain confidence in answering questions about less sensitive diseases before disclosing their answer.

The question provides a specific timeframe to aid with recall and precision in the responses.

The diseases themselves are described in the simplest terms possible and translated into local languages using the commonly used terminology.

Following the question about discussing health with a healthcare professional, the four types of specific screenings were chosen because they include the most frequent, fastest-growing and/or most damaging diseases for women:

- Heart disease is the leading cause of death in both men and women (CDC, 2020b).
- Cancer is the second-leading cause of death globally and was responsible for an estimated 10 million deaths in 2020. Globally, about one in six deaths is due to cancer (CDC, 2020a; WHO, 2021c).
- Obesity and diabetes-related diseases are a growing concern around the world and are associated with heart disease, as well as increased incidence of certain cancers (CDC, 2021b; WHO, 2021b, 2021).
- STDs/STIs have an outsized, potentially devastating impact on women's reproductive health and fertility (compared with men) (CDC, 2021a).

Implications

- Earlier detection of chronic illnesses and deadly diseases helps decrease mortality rates.
- Underscores the importance of understanding the role of annual screenings in improving health and curtailing expenses.
- The COVID-19 pandemic may have an amplifier effect on already worrying trends:
  - Between 2000 and 2016, there was a 5% increase in premature mortality from diabetes (WHO, 2021).
  - Diabetes is one of the fastest-growing health challenges of the 21st century, with the number of adults living with diabetes having more than tripled over the past 20 years (IDF, 2019).

Maternal Care

Do you think most pregnant women in the city or area where you live receive high-quality healthcare during their pregnancies, or not?

Rationale

Perceptions of the quality of maternal care are lacking in global statistics. This item is inviting an opinion of prenatal care based on personal experience and knowledge of local institutions.

The geographical delimitation to the local vicinity ("city or area where you live") helps respondents express an opinion more confidently since they are more likely to know about the situation locally rather than in their region or country.

By asking about "most pregnant women," respondents are encouraged to consider a broad majority of women, regardless of their socioeconomic status and beyond their own social circle.

Implications

- Most maternal deaths are preventable with timely management by a skilled healthcare professional working in a supportive environment (WHO, 2021a).
- Every day in 2017, approximately 810 women died from preventable causes related to pregnancy and childbirth. Ninety-four percent of all maternal deaths occur in low- and lower-middle income countries (WHO, 2019).
- Maternal conditions are the top cause of mortality among girls aged 15 to 19 globally (UNICEF, 2021). Adolescent pregnancy is common and high risk for the neonate and mother.

Pregnancy

How many children do you, personally, have?

How old were you the first time you were pregnant? [Question only asked of female respondents who said they had children in the previous question.]

Rationale

A lot can be learned about a woman and her socioeconomic status through her age at her first pregnancy and her number of children. A woman's age at first pregnancy and number of children can impact her overall health, number of years of education, employability, household income, time available to manage personal health and mental health. (PRB, 2011; UNFPA, 2021; UNICEF, 2021; WHO, 2020; World Bank, 2021).

Notably, the question about the age at first pregnancy is the only question asked only of women in the survey as part of the Hologic survey module.

The questions are extremely simple, allowing respondents to answer accurately and easily.

Implications

- Adolescent mothers (aged 10 to 19 years) face higher risks of eclampsia, puerperal endometritis and systemic infections than women aged 20 to 24 years, and babies of adolescent mothers face higher risks of low birth weight, preterm delivery and severe neonatal conditions (UNFPA, 2021; WHO, 2020).
- Adolescent pregnancy takes an enormous toll on a girl's education and income-earning potential and longevity. Many girls who become pregnant are pressured or forced to drop out of school. Leaving school jeopardizes a girl's future economic prospects and excludes her from other opportunities in life (UNFPA, 2021).

Domestic Violence

Now I would like to ask you a question regarding domestic violence. Domestic violence can be physical, psychological, or involve sexual acts done to someone against their will by a person they live with.

In your opinion, is domestic violence a widespread problem in [country name], or not?

Rationale

Domestic violence has dramatic health and safety consequences for women of all socioeconomic backgrounds around the world. The belief that domestic violence is widespread and thus negatively affects health and safety could potentially lead to the deconstruction of harmful norms, such as victim-blaming, and could optimistically lead to a cultural awakening, as seen during the #MeToo movement. Cultural movements and grassroots initiatives focusing on domestic violence can be strong forces in calling for social and legislative change, putting pressure on leaders to act.

This question allows respondents to express their view on the incidence of domestic violence without having to discuss their own victimization or that of loved ones.

The item intentionally asks how "widespread" the problem is, rather than how "serious" or "important," given that the question of gravity elicited high levels of agreement due to desirability bias during cognitive testing.

Answers to this question framed at the national level may be based on personal contact with domestic abusers and survivors, but also on awareness of the national debate on the issue.

Implications

- Domestic violence against women is a major public health and education problem globally and can damage physical, mental and financial well-being (UNFPA, 2021; UNHCR, 2021; WHO, 2021d; World Bank, 2019).

- Across their lifetime, one in three women — around 736 million — are subjected to physical or sexual violence by an intimate partner or sexual violence from a non-partner, a number that has remained largely unchanged over the past decade (WHO, 2021).

- The WHO lists a series of commitments countries can honor to reduce violence against women and girls:

  - sound gender transformative policies, from policies on childcare to equal pay, and laws that support gender equality

  - a strengthened health system response that ensures access to survivor-centered care and referral to other services as needed

  - school and educational interventions to challenge discriminatory attitudes and beliefs, including comprehensive sexuality education

  - a targeted investment in sustainable and effective evidence-based prevention strategies at local, national, regional and global levels

  - strengthening data collection and investing in high-quality surveys on violence against women and improving measurement of the different forms of violence experienced by women, including those who are most marginalized (WHO, 2021)

- The provision of assistance, including in humanitarian settings and to mitigate secondary impacts of the COVID-19 pandemic, such as food insecurity and gender-based violence (National Security Directive (sec 2. (b)(iii)(B))).

Determining the Dimensions of Health and Calculating the Hologic Global Women's Health Index

Approaching analysis in Year 2 of the Index

In the second year of fielding the Index, researchers replicated the process to test for robustness in the Year 1 analysis and to confirm that the assumptions from Year 1 remained true. We found that assumptions remained valid, and the process of calculating the Index is described in more detail in the following sections.

The Year 2 analysis result shows that:

- All the selected variables used for Index creation cluster in the same way as Year 1. That is, the Year 2 Index is made up of the same five sub-indexes and each sub-index includes the same elements as Year 1.

- The weights associated with each dimension calculated based on Year 2 data are within 2% from their corresponding values of Year 1. The changes are minor, allowing one to directly compare the Index score between Year 1 and Year 2.

Factor analysis

The Gallup and Hologic research team initially hypothesized that 18 items would be usable for the Index.

Items Considered for Inclusion in the Hologic Global Women's Health Index[92]

Topic	Question
Attitudes and behaviors regarding preventive care	• *Do you think going to a healthcare professional, such as a medical doctor or a nurse, at least once every 12 months for a checkup, can help people improve their health, or not?* • *In the past 12 months, have you talked to a healthcare professional, such as a medical doctor or nurse, about your own health?* • *To the best of your knowledge, were you tested for any of the following in the past 12 months? [High blood pressure, cancer, diabetes, STDs/STIs]?*
Domestic violence	• *Now I would like to ask you a question regarding domestic violence. Domestic violence can be physical, psychological, or involve sexual acts done to someone against their will by a person they live with. In your opinion, is domestic violence a widespread problem in [country name], or not?* • *Do you feel safe walking alone at night in the city or area where you live?*
Access to quality maternal care and personal experience of childbirth	• *Do you think most pregnant women in the city or area where you live receive high-quality healthcare during their pregnancies, or not?* • *How many children do you, personally, have?* • *How old were you the first time you were pregnant?*
General quality healthcare access	• *In the city or area where you live, are you satisfied or dissatisfied with the availability of quality healthcare?*

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92 Items marked in blue are from the Hologic World Poll module in 2020. All other items are Gallup historical items collected since 2005.

Topic	Question
Food and shelter accessibility	• *Have there been times in the past 12 months when you did not have enough money to buy food that you or your family needed?* • *Have there been times in the past 12 months when you did not have enough money to provide adequate shelter or housing for you and your family?*
Overall health (quality of life, daily pain levels)	• *Do you have any health problems that prevent you from doing any of the things people your age normally can do?* • *Did you experience the following feelings during a lot of the day yesterday? How about physical pain?*
Emotional well-being issues	• *Did you experience the following feelings during a lot of the day yesterday? How about worry?* • *Did you experience the following feelings during a lot of the day yesterday? How about sadness?* • *Did you experience the following feelings during a lot of the day yesterday? How about stress?* • *Did you experience the following feelings during a lot of the day yesterday? How about anger?* • *Life Evaluation Index (Struggling, Suffering, Thriving)*

In preparation for running a factor analysis of the listed items, the following two tests were used to check correlation and sampling adequacy:

- Bartlett Test: If the p-value is less than 0.05, this shows the significance of the test and indicates a factor analysis may be useful for our dataset.

- Kaiser-Meyer-Olkin Test: If the test score is above 0.8, it indicates the sample is adequate for factor analysis.

Tetrachoric correlation (instead of Pearson's correlation) was used to measure the association between variables since all variables are binary.

- After testing, the following variables were dropped:

  - Two items — the questions about the number of children and age of first pregnancy — were excluded due to scaling and issues with directionality.

  - The question regarding whether going to a healthcare professional improves health was excluded due to low variance (87% of women globally answered in the affirmative).

Researchers then used factor analysis to determine which factors emerged and which items were most highly loaded.

- Factor analysis is limited to female respondents only since we are trying to predict the health and safety status of women, rather than the general population. Female cases without missing values in the selected items were included in the analysis.

- Before running factor analysis, many of the variables were recoded.

- The question regarding domestic violence and the Life Evaluation Index were dropped due to not being highly loaded (with factor loadings above 0.4) on any factor.

A statistically good factor analysis solution was achieved by setting the number of factors to five and using "Varimax" rotation (orthogonal). The eigenvalues of all five factors are greater than one. The eigenvalue is used to measure the amount of variance of variables that a factor explains. The logic is that only factors that explain at least the same amount of variance as a single variable are worth keeping.

- **Factor 1 is about preventive care**, including having been tested for high blood pressure, cancer, diabetes and STDs/STIs.

- **Factor 2 is about emotional issues**, including experiencing worry, sadness, stress and anger for a lot of the day prior (all items reverse scored).

- **Factor 3 is about health and safety**, including receiving high-quality care during pregnancy, satisfaction with quality healthcare in general and feeling safe walking alone at night.

- **Factor 4 is about basic needs**, including having trouble affording food and shelter in the past 12 months (all items reverse scored).

- **Factor 5 is about individual health**, including having health problems and experiencing pain for a lot of the day prior (all items reverse scored).

The extracted five factors explain 61.4% of the total variance of the selected items for Year 1.

3 Missing data

Given the global nature of the Gallup World Poll, all national surveys are subject to the relevant government approvals and restrictions.

The following exclusions apply:

- **Saudi Arabia:** Values are missing for the question regarding testing for STDs/STIs.
- **Iran:** Values are missing for the question regarding testing for STDs/STIs.

To achieve a valid score, a respondent needs to answer "Yes" or "No" to at least three of the four items for factor 1, three of the four items for factor 2, two of the three items for factor 3, two of the three items for factor 4 and two of the two items for factor 5.

4 Rounding

The numbers in the Hologic Global Women's Health Index use many observations and are calculated first to the infinite decimal place. Then, to display the scores, they are rounded to the nearest whole number.

- To calculate a country's rank, Hologic and Gallup researchers use the full score with multiple digits to avoid ties.

  - If two countries have a score of 56 but one is 56.1 and one is 56.4, the country with 56.4 has a higher rank.

- However, to calculate change the standard way, scores are rounded first, then subtracted.

  - If a country has a rounded final score of 54 in 2020 and a score of 52 in 2021, the change will be 54-52, or a decrease of 2.

Differences in Countries Surveyed in 2021

Additionally, in 2021 there were differences in the countries that were surveyed. The differences are listed in the following table.

Year Wave	Global Coverage	Number of Countries	New Countries	Less Countries
2020	93%	116	Baseline	Baseline
2021	94%	122	Afghanistan	Montenegro
			Armenia	Bahrain
			Honduras	Ethiopia
			Malawi	
			Mozambique	
			Panama	
			Sierra Leone	
			Singapore	
			Togo	

Countries Included in the 2021 Hologic Global Women's Health Index
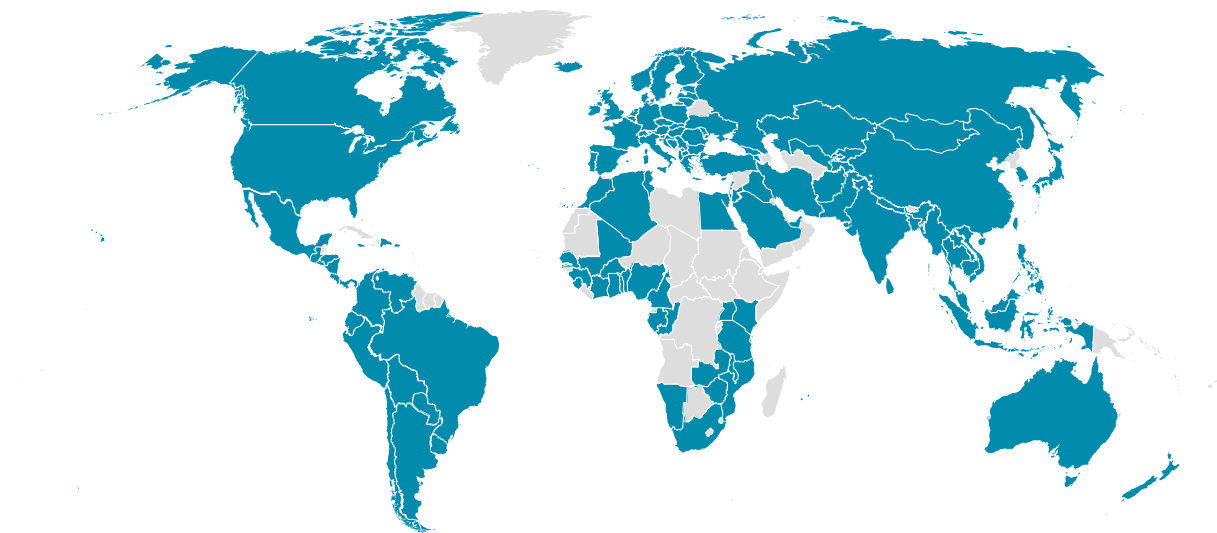
5 Weighting and aggregation approach

Each sub-index score is calculated for each factor by taking the simple average of its corresponding recoded items. The Hologic Global Women's Health Index score is calculated by taking a weighted sum of the five sub-index scores, with weights proportional to each factor's eigenvalue (amount of variance of variables that a factor explains). The weights are shown in Figure 1.

FIGURE 1:

Index Weights Based on Eigenvalues
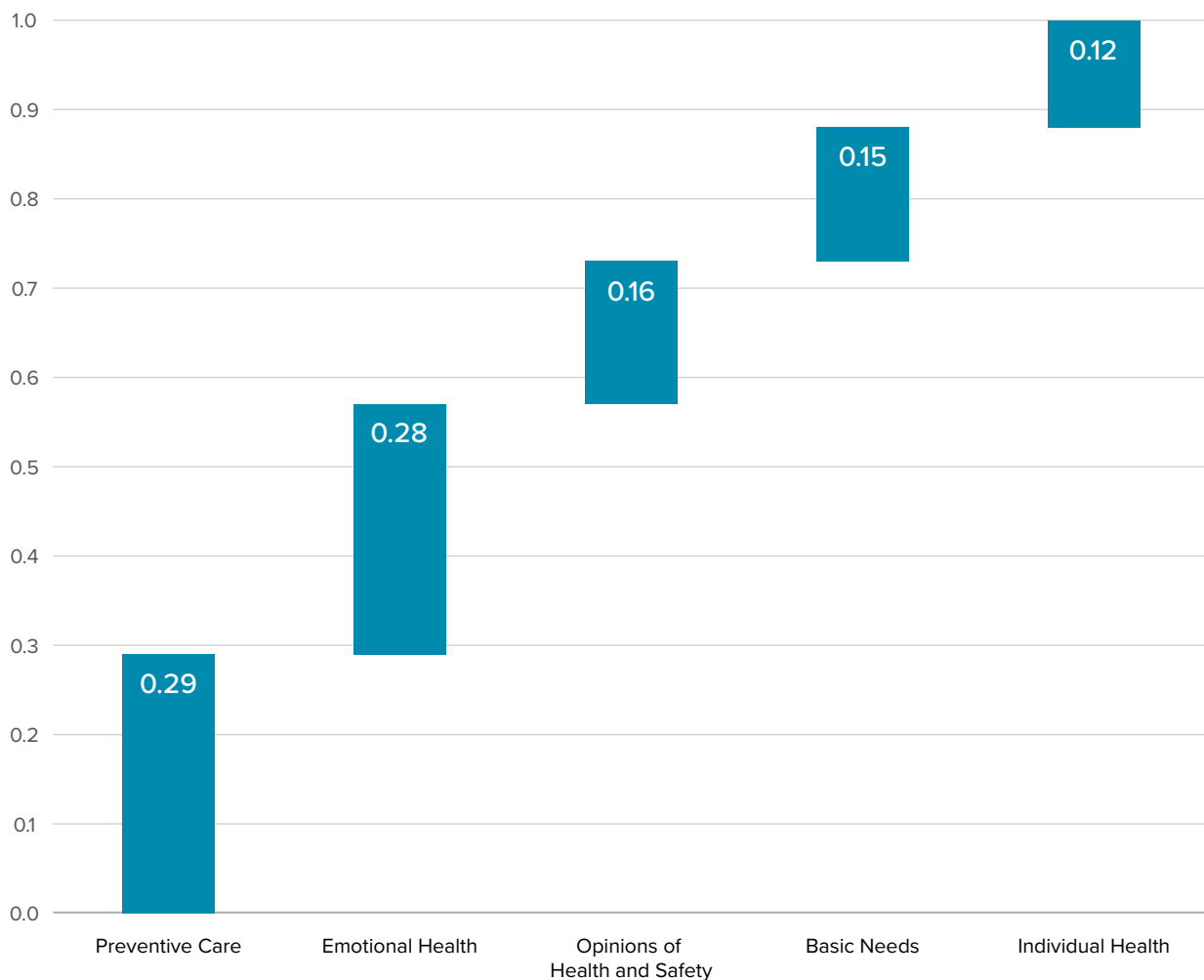
Variables were recoded for inclusion in the Hologic Global Women's Health Index as follows:

For a list of variable codes, please see Section 9: Survey module.

- TEST_FOR_HBP: set to 1 if H4A. = 1, 0 if H4A. = 2 OR H3. = 2, NA for any other value.
- TEST_FOR_CANCER: set to 1 if H4B. = 1, 0 if H4B. = 2 OR H3. = 2, NA for any other value.
- TEST_FOR_DIABETES: set to 1 if H4C. = 1, 0 if H4C. = 2 OR H3. = 2, NA for any other value.
- TEST_FOR_STD: set to 1 if H4D. = 1, 0 if H4D. = 2 OR H3. = 2, NA for any other value.

- WORRY_REVERSE: set to 1 if WP69 = 2, 0 if WP69 = 1, NA for any other value.
- SADNESS_REVERSE: set to 1 if WP70 = 2, 0 if WP70 = 1, NA for any other value.
- STRESS_REVERSE: set to 1 if WP71 = 2, 0 if WP71 = 1, NA for any other value.
- ANGER_REVERSE: set to 1 if WP74 = 2, 0 if WP74 = 1, NA for any other value.

- WELL_RESTED: set to 1 if WP60 = 1, 0 if WP60 = 2, NA for any other value.
- TREATED_WITH_RESPECT: set to 1 if WP61 = 1, 0 if WP61 = 2, NA for any other value.
- SMILE_LAUGH: set to 1 if WP63 = 1, 0 if WP63 = 2, NA for any other value.
- LEARN_SOMETHING: set to 1 if WP65 = 1, 0 if WP65 = 2, NA for any other value.
- ENJOYMENT: set to 1 if WP67 = 1, 0 if WP67 = 2, NA for any other value.

- PREGNANT_HEALTHCARE: set to 1 if H2. = 1, 0 if H2. = 2, NA for any other value.
- QUALITY_HEALTHCARE: set to 1 if WP97 = 1, 0 if WP97 = 2, NA for any other value.
- SAFE_NIGHT_WALKING: set to 1 if WP113 = 1, 0 if WP113 = 2, NA for any other value.

- NO_FOOD_REVERSE: set to 1 if WP40 = 2, 0 if WP40 = 1, NA for any other value.
- NO_SHELTER_REVERSE: set to 1 if WP43 = 2, 0 if WP43 = 1, NA for any other value.

- HEALTH_PROBLEM_REVERSE: set to 1 if WP23 = 2, 0 if WP23 = 1, NA for any other value.
- PHYSICAL_PAIN_REVERSE: set to 1 if WP68 = 2, 0 if WP68 = 1, NA for any other value.

- CHECKUP_IMPROVE_HEALTH: set to 1 if H1. = 1, 0 if H1. = 2, NA for any other value.
- DOMESTIC_VIOLENCE: set to 1 if H7. = 1, 0 if H7. = 2, NA for any other value.
- LIFE_THRIVING: set to 1 if INDEX_LE = "Thriving", 0 if INDEX_LE = "Struggling" or "Suffering", NA for any other value.

To understand the interactions of the individual dimensions and their relationship to health outcomes, the Gallup and Hologic research team ran correlations among the variables and regression analysis using life expectancy as the dependent variable.

Correlations reveal low collinearity between the individual dimensions. In addition, all the dimensions and GDP 2019 are relatively highly correlated with the life expectancy of women.

The regression analysis reveals that the five factors of the Hologic Global Women's Health Index explain 86% of the female life expectancy at birth at the country level.

FIGURE 2:

Correlation Table
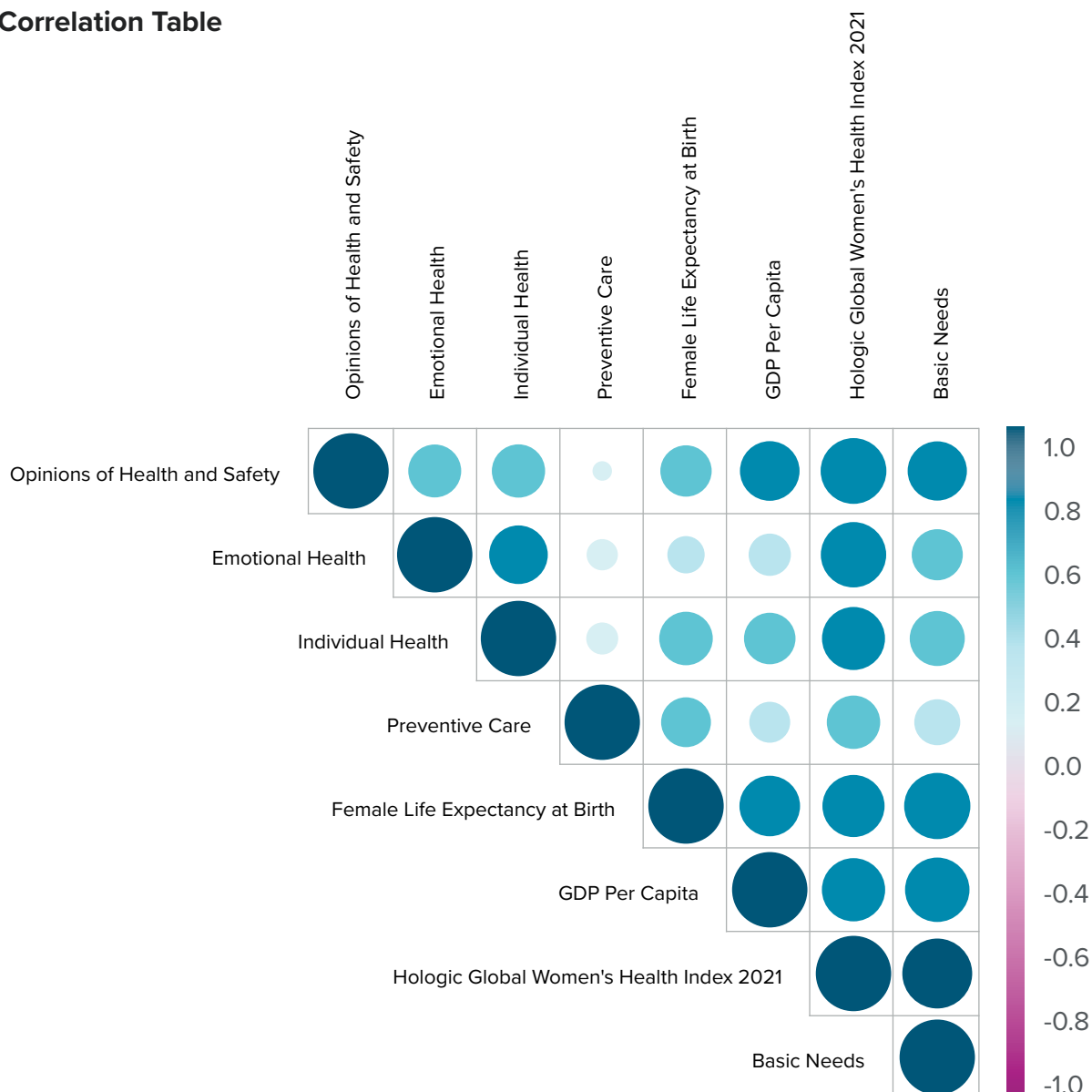
Regression Analysis

Call: lm(formula = Life_expectancy_at_birth_years_Female ~ Preventive Care + Emotional Health + Opinions on Health and Safety + Basic Needs + Individual Health, data = df_sub, weights = df_sub$weight)

Dependent variable: Female life expectancy at birth

Regression output for female life expectancy at birth

Variable	p-value	Coefficient
Preventive Care	(3.843)	13.265***
Emotional Health	(5.671)	-26.255***
Opinions of Health and Safety	(3.095)	0.585
Basic Needs	(2.890)	17.313***
Individual Health	(4.927)	20.681***
Constant	(1.529)	64.134***

Observations = 119
R2 = 0.803
Adjusted R2 = 0.795
Residual Std. Error = 5,697,204.000 (df = 113)
F Statistic = 92.335*** (df = 5; 113)

Note: *p<0.1; **p<0.05; ***p<0.01

8   Relationship with other measures

Adding to the relationships that the Hologic Global Women's Health Index has with a woman's life expectancy at birth, as well as a country's GDP per capita, researchers tested the following Sustainable Development Goals (SDGs):

- **SDG 1.1**
  - population pushed below a relative poverty line by household health expenditures (60% of median daily per capita consumption or income) (%)

- **SDG 2.2**
  - prevalence of anemia in pregnant women (aged 15 to 49) (%)

- **SDG 3.1.1**
  - maternal mortality ratio (MMR) (per 100,000 live births)

- **SDG 3.1.2**
  - births attended by skilled health personnel (%)

- **SDG 3.8.1**
  - universal health service coverage (UHC)

- **SDG 5.2**
  - proportion of ever-partnered women and girls aged 15 to 49 years subjected to physical and/or sexual violence by a current or former intimate partner in the previous 12 months
  - proportion of ever-partnered women and girls aged 15 to 49 years subjected to physical and/or sexual violence by a current or former intimate partner in their lifetime

FIGURE 3:

Pearson Correlation Coefficients

■ Dark Magenta = Strong Negative Relationship (-0.7 to -1)

■ Light Magenta = Negative Relationship (-.3 to -.7)

■ Light Teal = Positive Relationship (.3 to .7)

■ Dark Teal = Strong Positive Relationship (.7 to 1)

	Predicted Relationship With Women's Health	HGWHI 2021	Preventive 2021	Emotional 2021	Opinions 2021	Basic 2021	Individual 2021	Healthcare Professional (12 month)	Domestic Violence	Access to HQ Pregnancy Healthcare
Female Life Expectancy at Birth	**+** High = Good	0.68	0.44	0.24	0.46	0.77	0.50	0.65	0.20	0.41
SDG 1.1 (poverty from health)	**−** High = Bad	-0.23	-0.15	-0.23	-0.18	-0.08	-0.27	-0.17	-0.01	-0.20
SDG 2.2 (anemia in pregnancy)	**−**	-0.64	-0.56	-0.24	-0.32	-0.69	-0.48	-0.69	-0.31	-0.28
SDG 3.1.1 (MMR)	**−**	-0.59	-0.36	-0.30	-0.38	-0.63	-0.41	-0.52	-0.10	-0.28
SDG 3.1.2 (skilled health at birth)	**+**	0.53	0.43	0.25	0.24	0.58	0.38	0.51	0.20	0.17
SDG 3.8.1 (UHC)	**+**	0.72	0.47	0.33	0.46	0.75	0.58	0.67	0.17	0.43
SDG 5.2 (domestic violence past 12 months)	**−**	-0.69	-0.32	-0.41	-0.52	-0.71	-0.47	-0.53	-0.09	-0.45
SDG 5.2 (domestic violence lifetime)	**−**	-0.54	-0.10	-0.42	-0.43	-0.55	-0.40	-0.32	0.05	-0.34

Going to a Healthcare Professional

As a part of the module on attitudes and behaviors regarding preventive care, Hologic and Gallup asked women globally the question:

"In the past 12 months, have you talked to a healthcare professional, such as a medical doctor or nurse, about your own health?"

This question measures whether a woman has seen or spoken to a healthcare professional in the last year.

Annual visits with a healthcare professional are sometimes referred to as physicals, annuals, wellness visits, preventive visits, health evaluations or general medical examinations. Annual visits to a healthcare professional are standard recommendations for individuals over the age of 65 (Jin, 2022). While there is a debate between academics and medical professionals about the recommendation that every individual should go to a healthcare professional annually, most sources agree that people younger than age 65 should go to a healthcare professional every one to three years, and that after age 65 it is best to do so annually (ODPHP, 2021; WHA, 2022; Neumann et al., 2009; Gee, 2012).

As an example, in the United States, the Office of Disease Prevention and Health Promotion (ODPHP) recommends an annual appointment with a healthcare professional. Likewise, Australian health services declare women should schedule routine health checks (Department of Health AUS).

The argument for going to a healthcare professional annually, even when an individual is well, boils down to three categories:

- **Preventive medicine**: Routine medical visits lead to early detection of disease.
  - detection
  - early treatment
  - up to date with vaccines

- **Education**: The value of spending time with a trusted healthcare professional is that it can empower women to maintain a healthy lifestyle.
  - ability — knowing how to live a healthy lifestyle
  - ownership — having enough information to make informed decisions about health

- **Relationship with a healthcare professional**: Building a trusted relationship with a healthcare professional can make it easier for people to share sensitive but important information in the future.
  - trust between patient and healthcare professional
  - healthcare professional's understanding of patient's family history and health background
  - healthcare professional is better equipped to notice changes and monitor health

> **Bottom Line:** The argument for routine general health checks is associated with increased chronic disease recognition and treatment, risk factor control, preventive service uptake, and improved **patient-reported outcomes.**

However, never has there been a globally representative study of the relationship between women going to a healthcare professional and its association with other country economic indicators like GDP per capita and life expectancy at birth, as well as significant predictors of a woman's life, such as her income, her ability to meet her basic needs and her individual health.

Gallup and Hologic tested two hypotheses:

- **Hypothesis 1:** At the country level, when more women (per 100) go to a healthcare professional annually, that country also has better health outcomes measured by life expectancy at birth.

- **Hypothesis 2:** Individual-level indicators of a woman's basic needs (measured by her ability to afford food and shelter), her individual health (measured by experienced health problems and pain), and her access to quality healthcare (measured by high-quality pregnancy care in her area) are also related to the likelihood that she would have been to a healthcare professional in the past 12 months.

PART 1:

Researchers at Gallup and Hologic tested this hypothesis by running a country-level regression:
Going to a healthcare professional is related to a woman's life expectancy at birth.

Call: lm(formula = Female Life Expectancy ~ Go to HCP + GDPpc, data = dataframe)

Residuals:

Min	1Q	Median	3Q	Max
-11.3803	-2.1428	0.4939	2.7190	8.3049

Coefficients:

	Estimate	Std. Error	t value	Pr (>|t|)
(Intercept)	6.363e+01	1.941e+00	32.778	<2e-16 ***
Went to healthcare professional	1.727e+01	3.222e+00	5.361	4.32e-07***
GDP per capita	1.365e-04	2.622e-05	5.207	8.49e-07***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
Residual standard error: 4.577 on 115 degrees of freedom (4 observations deleted due to missingness)
Multiple R-squared: 0.5338,   Adjusted R-squared: 0.5256
F-statistic: 65.83 on 2 and 115 DF, p-value: <2.2e-16

As a note: We are limited by the data publicly available — Gallup researchers used the WHO's most recent estimate, which is from 2019 (over time, the average life expectancy variable is stable and is a slow-moving measure) and does not have country/region estimates for Taiwan, Hong Kong or Kosovo.

To further test this hypothesis, researchers compared the means of the WHO projected life expectancy for women who said they went to a healthcare professional in the past 12 months with women who said they did not go to a healthcare professional. Any answers of "don't know" or "refused" were excluded from the analysis.

In 2021, the weighted average life expectancy at birth for women who answered "yes" to going to a healthcare professional was 77.7 years, while the weighted average for women who answered "no" was 75.6 years. When women are included from both the 2020 and 2021 surveys, the results were very similar: 77.8 vs. 75.8. With an n size of 126,085, this is a significant difference (using a design-based t-test to test the difference in means) with a p-value <0.001.

Design-based t-test

data: WHO_F_LE_At_Birth ~ as.factor (Go_Doc)

t = 31.289, df = 242045, p-value < 2.2e-16

Alternative hypothesis: true difference in mean is not equal to 0

95 percent confidence interval: 1.683989 1.909062

Sample estimates: difference in mean 1.796526

PART 2:

Logistic regression:

Dependent variable: Did a woman go to a healthcare professional in the last 12 months?

Across both years, about two in three women went to a healthcare professional in the past 12 months.

Using two years of data collected in over 120 countries with more than 1 million women, researchers ran a logistic regression to see how a certain factor of having enough money for food and shelter, a woman's opinions of her access to high-quality pregnancy care, as well as her individual experiences of health problems and pain, relate to the likelihood that a woman had been to a healthcare professional in the last 12 months.

Dependent variable: Went to a healthcare professional in the past 12 months

Variable	Odds Ratio	t-value
GDP per capita	1.00	t = 39.002***
Have enough money for food	1.290	t = 15.956***
Have enough money for shelter	1.106	t = 6.104***
High-quality pregnancy care	1.482	t = 27.944***
Have a health problem	1.656	t = 28.697***
Feel pain 'yesterday'	1.238	t = 14.153***
Constant	0.872	t = -8.285***

Observations = 112,313
Log Likelihood = -67,319.720
Akaike Inf. Crit = 134,653.400

Note: *p<0.1; **p<0.05; ***p<0.01

Controlling for the country a woman lives in and GDP per capita, Gallup researchers found there was a significant relationship between our predictor variables and a woman going to a healthcare professional.

The model itself had a good fit — with the Chi-squared probability < 0.001.

Independent variables (odds ratio and their 95% confidence intervals):

- **Access to food** (OR = 1.290, 95% CI [1.25 - 1.33]) (***Controlling for her country's GDP per capita — which had another significant relationship): If a woman has enough money to access food, she is 1.29 times (29%) more likely to have been to a healthcare professional.

- **Access to shelter** (OR = 1.106, 95% CI [1.07 - 1.14]) (***Controlling for her country's GDP per capita — which had another significant relationship): When a woman has enough money to access shelter, she is 1.11 times (11%) more likely to have been to a healthcare professional.

- **Access to high-quality pregnancy care** (OR = 1.482, 95% CI = [1.44 - 1.52]): When a woman believes that she has access to high-quality pregnancy care, she is about 1.48 times (48%) more likely to have been to a healthcare professional in the past 12 months.

- **Pain** (OR = 1.238, 95% CI = [1.20 - 1.28]): When a woman answers that she experienced pain a lot of the day before, she is 1.23 times (23%) more likely to have been to a healthcare professional in the past 12 months.

- **Health problems** (OR = 1.244, CI = [1.60 - 1.71]): When a woman has health problems that prevent her from doing things people her age usually do, she is 1.244 times (24%) more likely to have been to a healthcare professional in the past 12 months.

Analysis Discussion and Implications

The analysis of the relationship between going to a healthcare professional in the past year and country-level life expectancy at birth picks up a bi-directional relationship that reflects the complexities of the health of an individual. Life expectancy at birth is closely related to each individual dimension of health that the Hologic Global Women's Health Index measures and going to a healthcare professional is also related to the dimensions. For example, researchers found within the dimension of Basic Needs, women who are able to afford food for themselves and their families are more likely to have been to a healthcare professional by 29 percentage points. The ability to afford food is also positively associated with longer life expectancy at birth. This analysis does not disentangle these associations.

Additionally, macro-economic factors relate to both a woman's life expectancy at birth and her likelihood of having been to a healthcare professional. Researchers found that women who go to a healthcare professional have the potential for better life expectancy outcomes, even when accounting for country-level GDP per capita. At the same time, we see a significant relationship between going to a healthcare professional annually and a country's GDP per capita. It is important to understand that there are many layers in the analysis that relate to a woman going to a healthcare professional as well as her country's life expectancy at birth. Many of the layers also interact with each of the other dimensions of health. Hologic and Gallup will continue to explore this relationship, both in 2020 and 2021 data and as they collect data in future years.

H1 *Do you think going to a healthcare professional, such as a medical doctor or a nurse, at least once every 12 months for a checkup, can help people improve their health, or not?*

Yes	No	(DK)	(Refused)
1	2	8	9

H2 *Do you think most pregnant women in the city or area where you live receive high-quality healthcare during their pregnancies, or not?*

Yes	No	(DK)	(Refused)
1	2	8	9

H3 *In the past 12 months, have you talked to a healthcare professional, such as a medical doctor or nurse, about your own health?*

Yes	No	(DK)	(Refused)
1	2	8	9

(If code 1 in H3., Continue;
Otherwise, Skip to H5.)

H4 *To the best of your knowledge, were you tested for any of the following in the past 12 months? (Read items)*

	Yes	No	(DK)	(Refused)
H4A. High blood pressure	1	2	8	9
H4B. Cancer	1	2	8	9
H4C. Diabetes	1	2	8	9
H4D. Sexually transmitted diseases or infections	1	2	8	9

H5 *How many children do you, personally, have? (Interviewer: Respondent should include all children even if they are now adults or have died.)*

	Circle One Response
Write in:	_____
None	00
97+	97
(DK)	98
(Refused)	99

(If [respondent is a woman and has children], Continue; Otherwise, Skip to Read before H7.)

H6   *How old were you the first time you were pregnant? (Open-ended and code actual age)*

	Circle One Response
Write in:	_____
96+	96
(Never pregnant/has only adopted children or stepchildren)	97
(DK)	98
(Refused)	99

Now I would like to ask you a question regarding domestic violence. Domestic violence can be physical, psychological, or involve sexual acts done to someone against their will by a person they live with.

H7   *In your opinion, is domestic violence a widespread problem in [Country], or not?*

Yes	**No**	**(DK)**	**(Refused)**
1	2	8	9

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Hologic Global Women's Health Index: Methodology and Data Analysis

Introduction

The Hologic Global Women's Health Index is the world's most comprehensive, globally comparative survey about women's health. This appendix provides key methodological details related to the 2020 and 2021 surveys and further information about the data analysis presented in this report.

Methodology

The Hologic Global Women's Health Index was included as a module within the Gallup World Poll in 2020 and 2021.

Since 2005, the World Poll has regularly surveyed people in more than 160 countries using mixed methods of telephone and face-to-face interviewing. In a typical year, the poll results represent more than 95% of the world's population aged 15 and older, using randomly selected, nationally representative samples.

Data collection in 2020

2020 was far from a typical year. The unprecedented challenges presented by the COVID-19 pandemic forced Gallup to pause its global data collection in March 2020 to thoroughly assess risk and prepare contingency plans for collecting data. By May, the continued prevalence of COVID-19 made it clear there was too much risk of community transmission to conduct face-to-face data collection in 2020.

Nonetheless, Gallup recognized the importance of finding a way to collect representative, high-quality data during this critical period and prepared a contingency methodology. This new methodological approach was driven by several key considerations, including the safety of Gallup World Poll interviewers and respondents and retaining high levels of representativity.

Ultimately, the 2020 Hologic Global Women's Health Index survey was conducted primarily by phone (via computer-assisted telephone interviewing, or CATI) in nearly all of the 116 countries and territories — representing more than 93% of the global aged 15 and older population — with the exception of the Republic of the Congo, Mali, Pakistan and Senegal. As a standard practice, Gallup and its partners complied with all government-issued guidance from local authorities and took this guidance into account throughout the interviewing process, including following social distancing measures for telephone interviews conducted in a call center (however, most CATI data collection was done remotely).

Changing modes in 2021

The Gallup World Poll returned to face-to-face interviewing in many countries in 2021 (see dataset details). The change in mode is reflected in the design effect — thus, larger percentage differences are required for significant change.

Questionnaire Translation

The questionnaire was translated into the major conversational languages of each country and area (autonomous or semi-autonomous regions or territories that are not recognized as sovereign states). The Hologic Global Women's Health Index was originally developed in English. From this starting point, Gallup translators produced several major-language questionnaires in French, Spanish, Portuguese, Russian and Arabic (using one of the two translation methods described below, as deemed appropriate by the Gallup World Poll Regional Directors).

Then, local language translations were performed from the major-language versions. For example, the Russian major-language questionnaire was created first (translation from English to Russian), then translated from Russian into other languages, such as Ukrainian, Kyrgyz and Uzbek. As a key component of quality assurance, one of the following two methods was used in each country as an independent check of every questionnaire translation:

> **Method 1:** Two independent translations are completed. An independent third party with some knowledge of survey research methods adjudicates the differences. A professional translator translates the final version back into the source language.

> **Method 2:** A translator translates into the target language, and an independent translator back-translates into the source language. An independent third party with knowledge of survey methods reviews and revises the translation as necessary.

Professional translators — experienced in translating survey questionnaires and who have typically worked for years with Gallup's local data collection network (local translators) — were selected. All translators received the same set of notes and guidance regarding the meaning of specific items. Interviewers were instructed to follow the interview script and not to deviate from the translated language.

Interviewer Training and Quality Control

As a standard practice, Gallup and its data collection partners were mindful of complying with all government-issued guidance from local authorities and took this guidance into account throughout the interviewing process, including following social distancing measures for telephone interviews. Gallup selects and retains in-country partners based on their experience in nationwide survey research studies in the mode that is typically appropriate for that country, and Gallup continued to use data collection partners when fielding the Hologic Global Women's Health Index.

Gallup conducted all training remotely using available technologies such as e-learning and video conferencing. The changes were largely necessary to address the lack of telephone data collection experience, technical and infrastructural limitations, and compressed timelines.

Gallup provided a standardized training manual to assist the fieldwork team with training and ensure consistency and structure.

Topics covered in training included:

1 **Standards for conducting a quality interview**

- how to ask closed-ended questions
- how to ask open-ended questions
- rotation of survey questions or response options
- how to follow or implement skip patterns
- probing

2 **Respondent selection and disposition coding (i.e., recording the results of each contact)**

- within-household selection for those reached on landline and mobile in countries where telephone coverage is low
- coding practices for each telephone attempt
- sample release and management

3 **Recruitment and retention of interviewers and field quality control**

- characteristics of a successful interviewer/motivation for retention
- requirements for setting up remote data collection
- monitoring sample performance and interviewer productivity

Sampling and Data Collection Methodology

All samples were probability-based — meaning respondents were selected randomly — and nationally representative of the aged 15 and older population. As all eligible landline exchanges and valid mobile service providers were included, coverage area is an entire country, including rural areas. The sampling frame represents adults aged 15 and older with access to a phone (either landline or mobile). Gallup used random digit dialing (RDD) or a nationally representative list of phone numbers.

How the sample generation and selection process works

Gallup uses telephone surveys in countries where telephone coverage represents at least 80% of the population or is the customary survey methodology. In countries where telephone interviewing is employed, Gallup uses RDD or a nationally representative list of phone numbers. Telephone methodology is typical in such areas as the U.S., Canada, Western Europe, Japan and Australia. Gallup purchases telephone samples from various sample providers located in each region, including Sample Answers and Sample Solutions.

In the developing world, including much of Latin America, the former Soviet Union countries, nearly all of Asia, the Middle East and Africa, Gallup uses an area frame design for face-to-face interviewing in randomly selected households.

Face-to-face interviews are approximately one hour, while telephone interviews are about 30 minutes.

With some exceptions, all samples are probability based and nationally representative of the resident population aged 15 and older. The coverage area is the entire country including rural areas, and the sampling frame represents the entire civilian, non-institutionalized adult population of the country. Exceptions include areas where the safety of the interviewing staff is threatened and scarcely populated islands in some countries. Sampling procedures include the following stages:

- 1) **Selecting primary sampling units (PSUs)**: In countries where Gallup conducts face-to-face surveys, the first stage of sampling is the identification of PSUs, consisting of clusters of households. PSUs are stratified by population size and/or geography and clustering is achieved through one or more stages of sampling. Where population information is available, sample selection is based on probabilities proportional to population size; otherwise, Gallup uses simple random sampling. In countries where telephone interviewing is employed, Gallup uses RDD or a nationally representative list of phone numbers. In select countries where cellphone penetration is high, Gallup uses a dual sampling frame. Gallup makes at least three attempts to reach a person in each household.

- 2) **Selecting households**: Gallup uses random-route procedures to select sampled households. Unless an outright refusal occurs, interviewers make up to three attempts to survey the sampled household. To increase the probability of contact and completion, interviewers make attempts at different times of the day and, when possible, on different days. If the interviewer cannot obtain an interview at the initial sampled household, they use a simple substitution method.

- 3) **Selecting respondents**: In face-to-face and telephone methodologies, random respondent selection is achieved by using either the latest birthday or the Kish grid method. In a few Middle Eastern and Asian countries, gender-matched interviewing is required, and probability sampling with quotas is implemented during the final stage of selection. Gallup implements quality control procedures to validate the selection of correct samples and that the interviewer selects the correct person in each household.

Response Rates

As is the case with Gallup World Poll surveys more generally, response rates for the Hologic Global Women's Health Index varied considerably across countries. In general, response rates are lower in countries where interviewing is conducted by telephone than in countries where interviewing is conducted in person. However, in many countries and territories where telephone interviewing is used, response rates are comparable to those of other polling firms. The Gallup World Poll does not publish individual country response rates.

Data Weighting

Data weighting is used to minimize bias in survey estimates and is intended for use in generating nationally representative estimates within a country. The weighting procedure was formulated based on the sample design and performed in multiple stages. Gallup constructed a probability weight factor (base weight) to account for selection of telephone numbers from the respective frames and correct for unequal selection probabilities that result from selecting one adult in landline households and for dual users coming from both the landline and mobile frame. For instance, an individual in a five-person household will have a lower probability selection than someone who lives alone, holding everything else equal. The data weighting process seeks to address this type of imbalance.

Next, the base weights were post-stratified to adjust for nonresponse (where selected respondents are never reached or refuse to participate) and to match the weighted sample totals to known target population totals obtained from country-level census data. Gallup made calibration adjustments for gender, age and, where reliable data were available, education. In many nontraditional telephone countries, weights were also adjusted on an additional set of demographic factors, including employment status (whether employed for an employer/self or not employed), urbanicity, region or some combination of these factors. In general, countries with lower coverage of the target population required a larger set of weighting variables than countries with a minimum amount of coverage error.

Where necessary, Gallup implemented procedures to limit or reduce the number and size of extreme sampling weights. This process was done in both stages of the data weighting process. In any given country, the unweighted demographic profile (including but not limited to characteristics such as gender, age group, educational attainment level, employment status and region) was compared against reliable statistics (typically census data from the national government); Gallup also compared the final weighted sample to these statistics.

Finally, approximate study design effect and margin of error were calculated (calculations are presented in Table 1). The design effect calculation reflects the influence of weighting on sampling variance compared to a simple random sample of the same size.

Sampling Error and Precision of Estimates

When interpreting survey results, all sample surveys are subject to various types of potential errors. For example, errors may occur due to nonresponse (where selected respondents are never reached or refuse to participate), interviewer administration error (where a response can be mistyped or misinterpreted by the interviewer), or incomplete or inaccurate answers from the respondent.

The sampling design employed in this study was used to produce unbiased estimates of the stated target population. An unbiased sample will have the same characteristics and behaviors as those of the total population from which it was drawn. In other words, with a properly drawn sample, we can make statements about the target population within a specific range of certainty. Sampling errors can be estimated, and their measures can help interpret the final data results. The size of such sampling errors depends largely on the number of interviews and the complexity of the sampling design.

The margin of error (MOE), or the level of precision used in estimating the unknown population proportion 'P,' can be derived based on the following formula:

$$MOE = 1.96 * \sqrt{P*(1-P)/n}$$

where 'n' is the sample size (i.e., the number of completed surveys). Under the most conservative assumption (P = 0.5), the MOE for a sample size of 1,000 will be $1.96 * \sqrt{0.25/1000} = 3.1$ percentage points under the assumption of simple random sampling.

Table 1 shows the size of the MOE associated with the 95% confidence interval for various sample sizes under the assumption of simple random sampling. They may be interpreted as indicating the approximate range (plus or minus the figure shown) around the point estimate within which the results of repeated sampling in the same time period could be expected to fall 95% of the time, assuming the same sampling procedures, interviewing process and questionnaire.

For any given sample size, the estimated precision is lowest when P = 0.5 (or 50%). For example, the sample size needed to ensure a sampling error (or half-width of confidence interval) of 0.05 at 95% confidence level is around 400 cases when P = 0.5 (or 50%). A sample size of 300 will produce a sampling error close to 0.057 at 95% level of significance when P = 0.5 (or 50%). With P = 0.4 (or 40%), a sample size of 300 will produce a sampling error of 0.056.

Table 1 shows estimated precision levels for different values of P and sample sizes under the assumption of simple random sampling.

Margin of Error Associated With 95% Confidence Interval for Percentages for Entire Sample or Subgroups, in Percentage Points

Sample Sizes Near	For Percentages Near					
	5/95% ±	10/90% ±	20/80% ±	30/70% ±	40/60% ±	50/50% ±
400	2.1	2.9	3.9	4.5	4.8	4.9
500	1.9	2.6	3.5	4.0	4.3	4.4
600	1.7	2.4	3.2	3.7	3.9	4.0
800	1.5	2.1	2.8	3.2	3.4	3.5
1,000	1.4	1.9	2.5	2.8	3.0	3.1
1,500	1.1	1.5	2.0	2.3	2.5	2.5
2,000	.96	1.3	1.8	2.0	2.1	2.2
2,500	.85	1.2	1.6	1.8	2.0	2.0
3,000	.78	1.1	1.4	1.6	1.8	1.8
4,000	.68	.93	1.2	1.4	1.5	1.5
5,000	.60	.88	1.2	1.3	1.3	1.4

While the above table reflects precision assuming simple random sampling (i.e., respondents within a target population have an equal probability of being selected for the survey), World Poll surveys rely on more complex designs, even for telephone samples (which was the sole mode of data collection in 2020). In addition to design complexities, data are weighted to correct for unequal probabilities of household selection and post-stratification adjustments. This weighting process introduces a design effect that needs to be considered while computing the sampling error (or precision) of the estimates.

The design effect is defined as the ratio of the complex, design-based sample variance to the sample variance obtained from a simple random sample of the same size. To calculate the precision of an estimate using the complex sampling design with a design effect, one must multiply the precision under the assumption of simple random sampling by the square root of the design effect associated with this estimate.

In other words, the precision of an estimate (p) of an unknown population proportion 'P' may be approximated as:

$$\text{Precision (p)} = \{\text{SQRT (Deff)}\} \times \text{SE(p)}$$

where 'Deff' is the design effect associated with the estimate (p)

$$\text{SE(p)} = \text{SQRT}\{p*(1-p)/(n-1)\}$$

n = the unweighted sample size

For purposes of simplicity, an estimate of 'Deff_wt' is provided for each country, taking into consideration only the variability of weights. A design effect of 1 means the effective sample size is the same as the nominal sample size, which is 1,000 for most countries in the World Poll. For proportions close to 50%, a design effect of 2 reduces the effective sample size by 50% or increases margin of error by 41% compared to a simple random sample size of 1,000.

Meaningful Change

Researchers developed a standardized definition of meaningful change in a country's score from one year to the next — a threshold of +/- 5 points. This definition allows researchers to establish best practice when comparing country scores from year to year, while considering a country's sample size and margin of error estimates (defined in Table 1).

A five-point change is the smallest, standard number where researchers can be certain that change cannot be explained by sampling random fluctuations or by measurement error, no matter the percentage or the country's particular design effect. This number is defined as a meaningful change because, while complex survey sampling methods to test for significant change were not individually applied (see example: Cohen, 1988[93]), this is the upper limit of change where researchers can be certain there is a statistically significant difference between the two groups.

Researchers seek to avoid confusion by setting this threshold, so in all instances, a change of +/- 5 or more points is highlighted throughout the report.

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93   Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). L. Erlbaum Associates.

Hologic Global Women's Health Index Country Dataset Details

Country dataset details

Gallup Worldwide Research Data Collected From 2020 and 2021

[a] The design effect calculation reflects the weights and does not incorporate the intraclass correlation coefficients. Design effect calculation: n*(sum of squared weights)/[(sum of weights)*(sum of weights)]

[b] Margin of error is calculated around a proportion at the 95% confidence level. The maximum margin of error was calculated assuming a reported percentage of 50% and takes into account the design effect. Margin of error calculation: $\sqrt{(0.25/N)}*1.96*\sqrt{(DE)}$

*Handheld data collection.

Data Collection Year	Country	Wave	Data Collection Date	Number of Interviews	Design Effect[a]	Margin of Error[b]	Mode of Interviewing	Languages	Exclusions (Samples are nationally representative unless noted otherwise)
2020	Albania	15.1	Sep 7 – Oct 6, 2020	1,000	1.41	3.7	Mobile Telephone	Albanian	
2020	Algeria	15.1	Oct 9 – Oct 24, 2020	1,016	1.56	3.8	Landline and Mobile Telephone	Arabic	
2020	Argentina	15.1	Sep 7 – Nov 20, 2020	1,000	1.93	4.3	Landline and Mobile Telephone	Spanish	
2020	Australia	15.1	Feb 4 – Mar 22, 2020	1,003	1.76	4.1	Landline and Mobile Telephone	English	
2020	Austria	15.1	Aug 24 – Sep 19, 2020	1,000	1.68	4.0	Landline and Mobile Telephone	German	
2020	Bahrain	15.1	Aug 6 – Aug 23, 2020	1,009	1.61	3.9	Landline and Mobile Telephone	Arabic, English	Includes only Bahrainis, Arab expatriates and non-Arabs who were able to complete the interview in Arabic or English.
2020	Bangladesh	15.1	Oct 30 – Nov 28, 2020	1,013	2.43	4.8	Mobile Telephone	Bengali	
2020	Belgium	15.1	Aug 19 – Sep 19, 2020	1,005	1.33	3.6	Landline and Mobile Telephone	French, Dutch	
2020	Benin	15.1	Dec 11 – Dec 25, 2020	1,042	2.36	4.7	Mobile Telephone	Bariba, Fon, French	
2020	Bolivia	15.1	Sep 25 – Oct 28, 2020	1,001	1.84	4.2	Mobile Telephone	Spanish	
2020	Bosnia and Herzegovina	15.1	Oct 16 – Nov 19, 2020	1,001	1.50	3.8	Landline and Mobile Telephone	Bosnian	
2020	Brazil	15.1	Sep 10 – Nov 11, 2020	1,002	1.85	4.2	Landline and Mobile Telephone	Portuguese	
2020	Bulgaria	15.1	Sep 17 – Nov 26, 2020	1,000	2.03	4.4	Landline and Mobile Telephone	Bulgarian	

Data Collection Year	Country	Wave	Data Collection Date	Number of Interviews	Design Effect[a]	Margin of Error[b]	Mode of Interviewing	Languages	Exclusions (Samples are nationally representative unless noted otherwise)
2020	Burkina Faso	15.1	Feb 19 – Mar 4, 2021	1,007	2.52	4.9	Mobile Telephone	Dioula, French, Fulfulde, Moore	
2020	Cambodia	15.1	Oct 23 – Nov 15, 2020	1,002	2.73	5.1	Mobile Telephone	Khmer	
2020	Cameroon	15.1	Sep 19 – Nov 8, 2020	1,000	2.63	5.0	Mobile Telephone	French, English, Fulfulde	
2020	Canada	15.1	Aug 3 – Sep 21, 2020	1,006	1.46	3.7	Landline and Mobile Telephone	English, French	Northwest Territories, Yukon and Nunavut (representing approximately 0.3% of the Canadian population) were excluded.
2020	Chile	15.1	Sep 11 – Nov 16, 2020	1,000	1.52	3.8	Landline and Mobile Telephone	Spanish	
2020	China	15.1	Sep 8 – Oct 28, 2020	3,503	2.16	2.4	Mobile Telephone	Chinese	Tibet was excluded from the sample. The excluded areas represent less than 1% of the population of China.
2020	Colombia	15.1	Aug 21 – Oct 27, 2020	1,000	1.52	3.8	Landline and Mobile Telephone	Spanish	
2020	Congo, Republic of the	15.1	Dec 2 – Dec 29, 2020	1,002	1.55	3.9	Face-to-Face (HH)*	French, Kituba, Lingala	
2020	Costa Rica	15.1	Sep 15, 2020 – Jan 4, 2021	1,000	1.67	4.0	Landline and Mobile Telephone	Spanish	
2020	Croatia	15.1	Sep 22 – Nov 2, 2020	1,002	1.77	4.1	Landline and Mobile Telephone	Croatian	
2020	Cyprus	15.1	Jul 20 – Sep 27, 2020	1,005	1.55	3.8	Landline and Mobile Telephone	Greek, English	
2020	Czech Republic	15.1	Oct 9 – Nov 28, 2020	1,004	1.50	3.8	Landline and Mobile Telephone	Czech	
2020	Denmark	15.1	Sep 14 – Oct 10, 2020	1,000	1.30	3.5	Mobile Telephone	Danish	
2020	Dominican Republic	15.1	Sep 24 – Oct 23, 2020	1,000	1.63	4.0	Landline and Mobile Telephone	Spanish	
2020	Ecuador	15.1	Aug 26 – Oct 23, 2020	1,000	1.51	3.8	Landline and Mobile Telephone	Spanish	
2020	Egypt	15.1	Oct 24 – Nov 12, 2020	1,002	2.00	4.4	Landline and Mobile Telephone	Arabic	

Data Collection Year	Country	Wave	Data Collection Date	Number of Interviews	Design Effect[a]	Margin of Error[b]	Mode of Interviewing	Languages	Exclusions (Samples are nationally representative unless noted otherwise)
2020	El Salvador	15.1	Sep 23 – Nov 17, 2020	1,000	1.83	4.2	Mobile Telephone	Spanish	
2020	Estonia	15.1	Oct 14 – Nov 20, 2020	1,000	1.54	3.8	Mobile Telephone	Estonian, Russian	
2020	Ethiopia	15.1	Oct 5 – Nov 1, 2020	1,003	2.96	5.3	Mobile Telephone	Amharic, English, Oromo, Tigrinya	
2020	Finland	15.1	Mar 26 – May 13, 2020	1,000	1.42	3.7	Mobile Telephone	Finnish, Swedish	
2020	France	15.1	Sep 7 – Oct 2, 2020	1,000	1.52	3.8	Landline and Mobile Telephone	French	
2020	Gabon	15.1	Feb 19 – Mar 3, 2021	1,000	2.43	4.8	Mobile Telephone	French, Fang	
2020	Georgia	15.1	Sep 25 – Nov 14, 2020	1,003	2.00	4.4	Landline and Mobile Telephone	Georgian, Russian	
2020	Germany	15.1	Aug 24 – Sep 19, 2020	1,000	2.14	4.5	Landline and Mobile Telephone	German	
2020	Ghana	15.1	Oct 2 – Oct 30, 2020	1,000	2.19	4.6	Mobile Telephone	English, Ewe, Twi	
2020	Greece	15.1	Sep 23 – Oct 24, 2020	1,002	1.88	4.2	Landline and Mobile Telephone	Greek	
2020	Guinea	15.1	Feb 19 – Mar 4, 2021	1,005	2.88	5.2	Mobile Telephone	French, Malinke, Pular, Soussou	
2020	Hungary	15.1	Oct 19 – Nov 17, 2020	1,001	1.83	4.2	Landline and Mobile Telephone	Hungarian	
2020	Hong Kong, S.A.R. of China	15.1	Sep 3 – Nov 8, 2020	1,005	1.26	3.5	Landline and Mobile Telephone	Chinese	
2020	Iceland	15.1	Aug 31 – Oct 12, 2020	501	1.49	5.3	Landline and Mobile Telephone	Icelandic	
2020	India	15.1	Dec 28, 2020 – Jan 26, 2021	3,103	3.53	3.3	Mobile Telephone	Assamese, Bengali, Gujarati, Hindi, Kannada, Malayalam, Marathi, Odia, Punjabi, Tamil, Telugu	Excluded population living in Northeast states and remote island.

Data Collection Year	Country	Wave	Data Collection Date	Number of Interviews	Design Effect[a]	Margin of Error[b]	Mode of Interviewing	Languages	Exclusions (Samples are nationally representative unless noted otherwise)
2020	Indonesia	15.1	Oct 31, 2020 – Jan 13, 2021	1,062	2.43	4.7	Mobile Telephone	Bahasa Indonesia	
2020	Iran	15.1	Aug 5 – Aug 12, 2020	1,009	1.45	3.7	Landline and Mobile Telephone	Farsi	
2020	Iraq	15.1	Nov 1 – Nov 23, 2020	1,000	1.69	4.0	Mobile Telephone	Arabic, Kurdish	
2020	Ireland	15.1	Aug 17 – Sep 12, 2020	1,000	1.62	3.9	Landline and Mobile Telephone	English	
2020	Israel	15.1	Sep 24 – Oct 19, 2020	1,057	1.38	3.5	Landline and Mobile Telephone	Hebrew, Russian, Arabic	
2020	Italy	15.1	Aug 24 – Sep 16, 2020	1,000	2.53	4.9	Landline and Mobile Telephone	Italian	
2020	Ivory Coast	15.1	Dec 5 – Dec 21, 2020	1,021	2.20	4.5	Mobile Telephone	French, Dioula	
2020	Jamaica	15.1	Sep 24, 2020 – Jan 4, 2021	502	1.47	5.3	Mobile Telephone	English	
2020	Japan	15.1	Aug 7 – Oct 8, 2020	1,016	1.22	3.4	Landline and Mobile Telephone	Japanese	Landline RDD, excluded 12 municipalities near the nuclear power plant in Fukushima. These areas were designated as not-to-call districts due to the devastation from the 2011 disasters. The exclusion represents less than 1% of the population of Japan.
2020	Jordan	15.1	Nov 3 – Nov 20, 2020	1,012	1.46	3.7	Mobile Telephone	Arabic	
2020	Kazakhstan	15.1	Nov 7 – Dec 4, 2020	1,000	1.57	3.9	Mobile Telephone	Russian, Kazakh	
2020	Kenya	15.1	Sep 30 – Nov 6, 2020	1,008	1.99	4.4	Mobile Telephone	English, Swahili [Kishwahili]	
2020	Kosovo	15.1	Oct 12 – Dec 12, 2020	1,000	1.73	4.1	Mobile Telephone	Albanian, Serbian	
2020	Kyrgyzstan	15.1	Oct 27 – Nov 20, 2020	1,000	1.33	3.6	Mobile Telephone	Kyrgyz, Russian	
2020	Lao People's Democratic Republic	15.1	Oct 28 – Nov 11, 2020	1,000	2.43	4.8	Mobile Telephone	Lao	
2020	Latvia	15.1	Sep 10 – Oct 31, 2020	1,001	1.62	3.9	Mobile Telephone	Latvian, Russian	
2020	Lebanon	15.1	Oct 18 – Nov 26, 2020	1,050	1.33	3.5	Landline and Mobile Telephone	Arabic	

Data Collection Year	Country	Wave	Data Collection Date	Number of Interviews	Design Effect[a]	Margin of Error[b]	Mode of Interviewing	Languages	Exclusions (Samples are nationally representative unless noted otherwise)
2020	Lithuania	15.1	Oct 8 – Nov 26, 2020	1,002	1.93	4.3	Mobile Telephone	Lithuanian	
2020	Malta	15.1	Mar 8 – Apr 24, 2020	1,001	1.46	3.7	Landline and Mobile Telephone	Maltese, English	
2020	Malaysia	15.1	Oct 27, 2020 – Jan 26, 2021	1,000	2.09	4.5	Mobile Telephone	Bahasa Malay, Chinese, English	
2020	Mali	15.1	Dec 3 – Dec 22, 2020	1,000	1.36	3.6	Face-to-Face (HH)*	French, Bambara	The regions of Gao, Kidal, Mopti and Tombouctou were excluded because of insecurity. Quartiers and villages with less than 50 inhabitants were also excluded from the sample. The excluded areas represent 23% of the total population.
2020	Mauritius	15.1	Jul 24 – Aug 27, 2020	1,000	1.69	4.0	Landline and Mobile Telephone	Creole, English, French	
2020	Mexico	15.1	Sep 8 – Nov 18, 2020	1,010	1.66	4.0	Landline and Mobile Telephone	Spanish	
2020	Moldova, Republic of	15.1	Oct 7 – Nov 16, 2020	1,000	1.63	4.0	Mobile Telephone	Romanian/ Moldavian, Russian	
2020	Mongolia	15.1	Nov 14 – Nov 30, 2020	1,000	1.58	3.9	Mobile Telephone	Mongolian	
2020	Montenegro	15.1	Oct 15 – Dec 25, 2020	1,004	1.74	4.1	Landline and Mobile Telephone	Montenegrin	
2020	Morocco	15.1	Oct 8 – Nov 10, 2020	1,006	1.47	3.7	Landline and Mobile Telephone	Moroccan Arabic	
2020	Myanmar	15.1	Oct 29 – Dec 4, 2020	1,000	1.84	4.2	Mobile Telephone	Myanmar, Burmese	
2020	Namibia	15.1	Oct 5 – Nov 16, 2020	1,000	1.76	4.1	Mobile Telephone	English, Oshivambo, Afrikaans, Kwangali	
2020	Nepal	15.1	Oct 18 – Dec 4, 2020	1,000	2.59	5.0	Mobile Telephone	Nepali	
2020	Netherlands	15.1	Mar 11 – May 15, 2020	1,006	1.60	3.9	Landline and Mobile Telephone	Dutch	
2020	New Zealand	15.1	Feb 17 – Mar 23, 2020	1,002	1.56	3.9	Landline and Mobile Telephone	English	

Data Collection Year	Country	Wave	Data Collection Date	Number of Interviews	Design Effect[a]	Margin of Error[b]	Mode of Interviewing	Languages	Exclusions (Samples are nationally representative unless noted otherwise)
2020	Nicaragua	15.1	Nov 14 – Dec 28, 2020	1,002	2.06	4.4	Mobile Telephone	Spanish	
2020	Nigeria	15.1	Sep 25 – Nov 2, 2020	1,004	1.96	4.3	Mobile Telephone	English, Hausa, Igbo, Pidgin English, Yoruba	
2020	North Macedonia	15.1	Nov 28 – Dec 17, 2020	1,003	1.44	3.7	Landline and Mobile Telephone	Macedonian, Albanian	
2020	Norway	15.1	Mar 24 – May 4, 2020	1,000	1.47	3.8	Landline and Mobile Telephone	Norwegian	
2020	Pakistan	15.1	Jan 2 – Feb 5, 2021	1,000	1.56	3.9	Face-to-Face (HH)*	Urdu	Did not include AJK, Gilgit-Baltistan. The excluded area represents approximately 5% of the population. Gender-matched sampling was used during the final stage of selection.
2020	Paraguay	15.1	Nov 28 – Dec 28, 2020	1,000	1.28	3.5	Landline and Mobile Telephone	Spanish	
2020	Peru	15.1	Oct 29, 2020 – Jan 6, 2021	1,006	1.67	4.0	Landline and Mobile Telephone	Spanish	
2020	Philippines	15.1	Sep 14 – Oct 26, 2020	1,000	1.92	4.3	Landline and Mobile Telephone	Filipino, Iluko, Cebuano, Waray, Bicol	
2020	Poland	15.1	Sep 25 – Oct 24, 2020	1,010	1.74	4.1	Landline and Mobile Telephone	Polish	
2020	Portugal	15.1	Mar 20 – Apr 16, 2020	1,002	1.70	4.0	Landline and Mobile Telephone	Portuguese	
2020	Romania	15.1	Dec 5, 2020 – Jan 25, 2021	1,000	1.44	3.7	Landline and Mobile Telephone	Romanian	
2020	Russian Federation	15.1	Aug 19, – Oct 2, 2020	2,022	1.68	2.8	Landline and Mobile Telephone	Russian	
2020	Saudi Arabia	15.1	Aug 9 – Aug 27, 2020	1,043	1.80	4.1	Landline and Mobile Telephone	Arabic, English, Hindi, Urdu	Includes Saudis, Arab expatriates, and non-Arabs who were able to complete the interview in Arabic, English, Urdu or Hindi.
2020	Senegal	15.1	Dec 5 – Dec 23, 2020	1,000	1.36	3.6	Face-to-Face (HH)*	French, Wolof	

Data Collection Year	Country	Wave	Data Collection Date	Number of Interviews	Design Effect[a]	Margin of Error[b]	Mode of Interviewing	Languages	Exclusions (Samples are nationally representative unless noted otherwise)
2020	Serbia	15.1	Sep 18 – Oct 25, 2020	1,002	1.63	4.0	Landline and Mobile Telephone	Serbian	
2020	Slovakia	15.1	Sep 9 – Oct 9, 2020	1,001	1.51	3.8	Landline and Mobile Telephone	Hungarian, Slovak	
2020	Slovenia	15.1	Mar 13 – Apr 18, 2020	1,001	1.97	4.3	Landline and Mobile Telephone	Slovene	
2020	South Africa	15.1	Oct 21 – Dec 12, 2020	1,019	1.91	4.2	Mobile Telephone	Afrikaans, English, Sotho, Xhosa, Zulu	
2020	South Korea	15.1	Aug 25 – Oct 7, 2020	1,005	1.32	3.6	Landline and Mobile Telephone	Korean	
2020	Spain	15.1	Aug 24 – Sep 17, 2020	1,000	1.60	3.9	Landline and Mobile Telephone	Spanish	
2020	Sri Lanka	15.1	Oct 31 – Dec 5, 2020	1,000	1.91	4.3	Mobile Telephone	Sinhala, Tamil	
2020	Sweden	15.1	Mar 30 – Apr 29, 2020	1,000	1.41	3.7	Landline and Mobile Telephone	Swedish	
2020	Switzerland	15.1	Sep 7 – Oct 9, 2020	1,000	1.79	4.1	Landline and Mobile Telephone	German, French, Italian	
2020	Taiwan, Province of China	15.1	Jul 9 – Jul 31, 2020	1,000	1.54	3.8	Landline and Mobile Telephone	Chinese	
2020	Tajikistan	15.1	Nov 15 – Dec 7, 2020	1,000	1.89	4.3	Mobile Telephone	Tajik	
2020	Tanzania	15.1	Oct 6 – Nov 8, 2020	1,001	2.56	5.0	Mobile Telephone	Swahili [Kishwahili]	
2020	Thailand	15.1	Oct 22 – Dec 7, 2020	1,000	2.39	4.8	Mobile Telephone	Thai	
2020	Tunisia	15.1	Sep 19 – Oct 7, 2020	1,003	1.81	4.2	Landline and Mobile Telephone	Arabic	
2020	Türkiye	15.1	Oct 3 – Oct 23, 2020	1,000	1.68	4.0	Landline and Mobile Telephone	Turkish	
2020	Uganda	15.1	Oct 12 – Nov 8, 2020	1,016	2.35	4.7	Mobile Telephone	Ateso, English, Luganda, Runyankole	
2020	Ukraine	15.1	Sep 20 – Oct 19, 2020	1,001	1.68	4.0	Landline and Mobile Telephone	Russian, Ukrainian	

Data Collection Year	Country	Wave	Data Collection Date	Number of Interviews	Design Effect[a]	Margin of Error[b]	Mode of Interviewing	Languages	Exclusions (Samples are nationally representative unless noted otherwise)
2020	United Arab Emirates	15.1	Aug 9 – Sep 7, 2020	1,011	1.27	3.5	Mobile Telephone	Arabic, English, Hindi, Urdu	Includes only Emiratis, Arab expatriates and non-Arabs who were able to complete the interview in Arabic, English, Urdu or Hindi.
2020	United Kingdom of Great Britain and Northern Ireland	15.1	Aug 17 – Sep 12, 2020	1,000	1.50	3.8	Landline and Mobile Telephone	English	
2020	United States of America	15.1	Mar 16 – May 8, 2020	1,007	1.67	4.0	Landline and Mobile Telephone	English, Spanish	
2020	Uruguay	15.1	Sep 24 – Nov 30, 2020	1,001	1.54	3.8	Landline and Mobile Telephone	Spanish	
2020	Uzbekistan	15.1	Oct 26 – Nov 21, 2020	1,000	1.82	4.2	Landline and Mobile Telephone	Uzbek, Russian	
2020	Venezuela	15.1	Sep 19 – Nov 25, 2020	1,000	1.65	4.0	Landline and Mobile Telephone	Spanish	
2020	Vietnam	15.1	Dec 16, 2020 – Jan 8, 2021	1,000	2.15	4.5	Mobile Telephone	Vietnamese	
2020	Zambia	15.1	Oct 4 – Oct 28, 2020	1,026	1.81	4.1	Mobile Telephone	Bemba, English, Lozi, Nyanja, Tonga	
2020	Zimbabwe	15.1	Sep 21 – Oct 24, 2020	1,004	1.81	4.2	Mobile Telephone	English, Shona, Ndebele	
2021	Afghanistan	16.2	Aug 8 – Sep 27, 2021	1,002	1.60	3.9	Face-to-Face and Face-to-Face (HH)*	Dari, Pashto	Gender-matched sampling was used during the final stage of selection.
2021	Albania	16.2	Jun 29 – Aug 27, 2021	1,000	1.65	4.0	Face-to-Face (HH)*	Albanian	People living in remote or difficult-to-access rural areas were excluded. The excluded area represents approximately 2% of the population.
2021	Algeria	16.4	Nov 6 – Nov 23, 2021	1,003	1.85	4.2	Mobile Telephone	Arabic	
2021	Argentina	16.3	Oct 16, 2021 – Jan 31, 2022	1,003	2.51	4.9	Landline and Mobile Telephone	Spanish	

Data Collection Year	Country	Wave	Data Collection Date	Number of Interviews	Design Effect[a]	Margin of Error[b]	Mode of Interviewing	Languages	Exclusions (Samples are nationally representative unless noted otherwise)
2021	Armenia	16.2	Aug 5 – Dec 12, 2021	1,000	1.59	3.9	Face-to-Face (HH)*	Armenian	Settlements near territories disputed with Azerbaijan were not included for insecurity reasons. The excluded area represents approximately 3% of the population.
2021	Australia	16.4	Aug 23 – Oct 3, 2021	1,000	1.63	4.0	Landline and Mobile Telephone	English	
2021	Austria	16.4	Sep 6 – Oct 1, 2021	1,000	1.53	3.8	Landline and Mobile Telephone	German	
2021	Bangladesh	16.2	Feb 27 – Mar 30, 2022	1,000	1.27	3.5	Face-to-Face (HH)*	Bengali	
2021	Belgium	16.3	Nov 10 – Dec 30, 2021	1,012	1.32	3.5	Landline and Mobile Telephone	French, Dutch	
2021	Benin	16.2	Jul 26 – Aug 12, 2021	1,000	1.49	3.8	Face-to-Face (HH)*	Bariba, Fon, French	
2021	Bolivia	16.3	Sep 11 – Oct 20, 2021	1,000	2.14	4.5	Mobile Telephone	Spanish	
2021	Bosnia and Herzegovina	16.3	Oct 2 – Nov 8, 2021	1,000	1.81	4.2	Landline and Mobile Telephone	Bosnian	
2021	Brazil	16.3	Jul 21 – Sep 10, 2021	1,002	2.39	1.5	Landline and Mobile Telephone	Portuguese	
2021	Bulgaria	16.4	Aug 13 – Sep 26, 2021	1,013	1.79	4.1	Landline and Mobile Telephone	Bulgarian	
2021	Burkina Faso	16.2	Aug 16 – Sep 7, 2021	1,000	1.51	3.8	Face-to-Face (HH)*	Dioula, French, Fulfulde, Moore	Some communities in the East and Sahel regions were excluded due to security reasons. The areas excluded represent 4% of the population.
2021	Cambodia	16.2	Aug 28 – Oct 5, 2021	1,000	1.95	4.3	Face-to-Face (HH)*	Khmer	Koh Kong, Stueng Treng, Otdor Meanchey and Kep provinces were excluded. These excluded areas represent approximately 3% of the population.

Data Collection Year	Country	Wave	Data Collection Date	Number of Interviews	Design Effect[a]	Margin of Error[b]	Mode of Interviewing	Languages	Exclusions (Samples are nationally representative unless noted otherwise)
2021	Cameroon	16.2	Jun 11 – Jul 4, 2021	1,000	1.49	3.8	Face-to-Face (HH)*	French, English, Fulfulde	Some arrondissements in the Extreme North region, the Northwest region and the South West region were excluded due to insecurity. Neighborhoods with less than 50 households were also excluded from the sampling. The exclusion represents 20% of the total population.
2021	Canada	16.3	Sep 3 – Oct 26, 2021	1,007	1.39	3.6	Landline and Mobile Telephone	English, French	Northwest Territories, Yukon and Nunavut (representing approximately 0.3% of the Canadian population) were excluded.
2021	Chile	16.2	Aug 20 – Dec 22, 2021	1,000	1.52	3.8	Face-to-Face (HH)*	Spanish	
2021	China	16.3	Nov 29, 2021 – Jan 4, 2022	3,500	2.66	2.7	Mobile Telephone	Chinese	Tibet was excluded from the sample. The excluded area represents less than 1% of the population.
2021	Colombia	16.4	Nov 5, 2021 – Jan 7, 2022	1,000	1.43	3.7	Landline and Mobile Telephone	Spanish	
2021	Congo, Republic of the	16.2	Jun 25 – Jul 21, 2021	1,000	1.62	3.9	Face-to-Face (HH)*	French, Kituba, Lingala	
2021	Costa Rica	16.3	Sep 23 – Nov 5, 2021	1,001	1.41	3.7	Landline and Mobile Telephone	Spanish	
2021	Croatia	16.3	Sep 30 – Nov 9, 2021	1,001	1.57	3.9	Landline and Mobile Telephone	Croatian	
2021	Cyprus	16.3	Oct 5 – Nov 17, 2021	1,019	2.11	4.5	Landline and Mobile Telephone	Greek, English	
2021	Czech Republic	16.4	Sep 1 – Nov 16, 2021	1,003	1.58	3.9	Landline and Mobile Telephone	Czech	
2021	Denmark	16.3	Sep 3 – Oct 12, 2021	1,002	1.74	4.1	Mobile Telephone	Danish	
2021	Dominican Republic	16.2	Aug 1 – Aug 30, 2021	1,000	1.32	3.6	Face-to-Face (HH)*	Spanish	
2021	Ecuador	16.3	Oct 5 – Dec 2, 2021	1,000	1.66	4.0	Landline and Mobile Telephone	Spanish	

Data Collection Year	Country	Wave	Data Collection Date	Number of Interviews	Design Effect[a]	Margin of Error[b]	Mode of Interviewing	Languages	Exclusions (Samples are nationally representative unless noted otherwise)
2021	Egypt	16.2	Sep 4 – Sep 28, 2021	1,003	1.53	3.8	Face-to-Face (HH)*	Arabic	Frontier governorates (Matruh, Red Sea, New Valley, North Sinai and South Sinai) were excluded, as they are remote and represent a small proportion of the population of the country. The excluded areas represent less than 2% of the total population.
2021	El Salvador	16.2	Sep 22 – Nov 24, 2021	1,002	1.61	3.9	Face-to-Face (HH)*	Spanish	
2021	Estonia	16.4	Sep 9 – Oct 16, 2021	1,001	1.53	3.8	Mobile Telephone	Estonian, Russian	
2021	Finland	16.4	Aug 26 – Sep 28, 2021	1,006	1.37	3.6	Mobile Telephone	Finnish	
2021	France	16.4	Sep 6 – Oct 5, 2021	1,000	1.53	3.8	Landline and Mobile Telephone	French	
2021	Gabon	16.3	Nov 4 – Nov 16, 2021	1,020	2.36	4.7	Mobile Telephone	French, Fang	
2021	Georgia	16.2	Jul 29 – Dec 5, 2021	1,000	1.42	3.7	Face-to-Face (HH)*	Georgian, Russian	South Ossetia and Abkhazia were not included for the safety of the interviewers. In addition, very remote mountainous villages or those with less than 100 inhabitants were also excluded. The excluded areas represent approximately 8% of the population.
2021	Germany	16.4	Sep 6 – Oct 2, 2021	1,000	2.44	4.8	Landline and Mobile Telephone	German	
2021	Ghana	16.2	Jul 27 – Sep 11, 2021	1,000	1.48	3.8	Face-to-Face (HH)*	English, Ewe, Twi, Dagbani, Hausa	Localities with less than 100 inhabitants were excluded from the sample. The excluded areas represent approximately 4% of the population
2021	Greece	16.4	Aug 30 – Sep 24, 2021	1,009	2.03	4.4	Landline and Mobile Telephone	Greek	
2021	Guinea	16.2	Sep 4 – Sep 27, 2021	1,000	1.40	3.8	Face-to-Face (HH)*	French, Malinke, Pular, Soussou	
2021	Honduras	16.2	Sep 22 – Dec 21, 2021	1,000	1.98	4.4	Face-to-Face (HH)*	Spanish	
2021	Hong Kong, S.A.R. of China	16.3	Aug 18 – Nov 9, 2021	1,003	1.18	3.4	Landline and Mobile Telephone	Chinese	

Data Collection Year	Country	Wave	Data Collection Date	Number of Interviews	Design Effect[a]	Margin of Error[b]	Mode of Interviewing	Languages	Exclusions (Samples are nationally representative unless noted otherwise)
2021	Hungary	16.3	Nov 15 – Dec 17, 2021	1,003	1.90	4.3	Landline and Mobile Telephone	Hungarian	
2021	Iceland	16.3	Oct 5 – Oct 31, 2021	502	1.38	5.1	Landline and Mobile Telephone	Icelandic	
2021	India	16.2	Jul 30 – Oct 18, 2021	3,000	1.34	2.1	Face-to-Face (HH)*	Assamese, Bengali, Gujarati, Hindi, Kannada, Malayalam, Marathi, Odia, Punjabi, Tamil, Telugu	Excluded population living in Northeast states and remote islands, and Jammu and Kashmir. The excluded areas represent less than 10% of the population.
2021	Indonesia	16.2	Jul 7 – Oct 15, 2021	1,062	1.42	3.6	Face-to-Face (HH)*	Bahasa Indonesia	
2021	Iran	16.4	Oct 8 – Oct 14, 2021	1,005	1.31	3.5	Landline and Mobile Telephone	Farsi	
2021	Iraq	16.2	Nov 1 – Dec 9, 2021	1,012	1.66	4.0	Face-to-Face and Face-to-Face (HH)*	Arabic, Kurdish	
2021	Ireland	16.3	Oct 18 – Nov 13, 2021	1,000	1.90	4.3	Landline and Mobile Telephone	English	
2021	Israel	16.2	Aug 15 – Nov 26, 2021	1,000	1.16	3.3	Face-to-Face (HH)*	Hebrew, Arabic	The sample does not include the area of East Jerusalem. This area included in the sample of Palestinian Territories.
2021	Italy	16.4	Sep 6 – Oct 2, 2021	1,000	2.59	5.0	Landline and Mobile Telephone	Italian	
2021	Ivory Coast	16.2	Oct 28 – Nov 27, 2021	1,000	1.62	3.9	Face-to-Face (HH)*	French, Dioula	
2021	Jamaica	16.2	Sep 17 – Nov 24, 2021	502	1.36	5.1	Face-to-Face (HH)*	English	
2021	Japan	16.3	Sep 29 – Dec 16, 2021	1,010	1.28	3.5	Landline and Mobile Telephone	Japanese	For landline RDD, excluded 12 municipalities near the nuclear power plant in Fukushima. These areas were designated as not-to-call districts due to the devastation from the 2011 disasters. The exclusion represents less than 1% of the population of Japan.
2021	Jordan	16.3	Nov 8 – Dec 1, 2021	1,009	1.38	3.6	Mobile Telephone	Arabic	

Data Collection Year	Country	Wave	Data Collection Date	Number of Interviews	Design Effect[a]	Margin of Error[b]	Mode of Interviewing	Languages	Exclusions (Samples are nationally representative unless noted otherwise)
2021	Kazakhstan	16.2	Sep 3 – Oct 19, 2021	1,000	1.46	3.8	Face-to-Face (HH)*	Russian, Kazakh	
2021	Kenya	16.2	Jun 19 – Jul 18, 2021	1,000	1.37	3.6	Face-to-Face (HH)*	English, Swahili [Kishwahili]	
2021	Kosovo	16.2	Jul 3 – Oct 4, 2021	1,000	1.55	3.9	Face-to-Face (HH)*	Albanian, Serbian	
2021	Kyrgyzstan	16.2	Aug 26 – Oct 23, 2021	1,000	1.43	3.7	Face-to-Face (HH)*	Kyrgyz, Russian, Uzbek	
2021	Lao People's Democratic Republic	16.2	Aug 30 – Dec 14, 2021	1,000	1.49	3.8	Face-to-Face (HH)*	Lao	Excluded Xaisomboun Province, Xayaboury Province and some communes that are unreachable and/or have security considerations. In addition, during fieldwork, Attapu and Houaphan were also excluded due to COVID-19 (red zones). The excluded areas represent approximately 14% of the population.
2021	Latvia	16.4	Oct 5 – Nov 4, 2021	1,002	1.65	4.0	Mobile Telephone	Latvian, Russian	
2021	Lebanon	16.4	Nov 24 – Dec 4, 2021	1,006	1.22	3.4	Landline and Mobile Telephone	Arabic	
2021	Lithuania	16.3	Oct 20 – Dec 3, 2021	1,009	1.79	4.1	Landline and Mobile Telephone	Lithuanian	
2021	Malawi	16.2	Aug 2 – Aug 13, 2021	1,000	1.42	3.7	Face-to-Face (HH)*	Chichewa, English, Tumbuka	
2021	Malaysia	16.3	Dec 17, 2021 – Jan 28, 2022	1,000	1.70	4.0	Face-to-Face (HH)*	Bahasa Malay, Chinese, English	Labuan and Putrajaya were excluded due to low population. The excluded areas represent approximately 1% of the population.
2021	Mali	16.2	Jul 15 – Aug 11, 2021	1,000	1.35	3.6	Face-to-Face (HH)*	French, Bambara	The regions of Gao, Kidal, Mopti and Tombouctou were excluded because of insecurity. Quartiers and villages with less than 50 inhabitants were also excluded from the sample. The excluded areas represent 23% of the total population.
2021	Malta	16.3	Sep 14 – Nov 8, 2021	1,000	1.41	3.7	Landline and Mobile Telephone	Maltese, English	

Data Collection Year	Country	Wave	Data Collection Date	Number of Interviews	Design Effect[a]	Margin of Error[b]	Mode of Interviewing	Languages	Exclusions (Samples are nationally representative unless noted otherwise)
2021	Mauritius	16.4	Aug 21 – Oct 14, 2021	1,000	1.90	4.3	Landline and Mobile Telephone	Creole, English, French	
2021	Mexico	16.4	Nov 9, 2021 – Feb 1, 2022	1,003	1.86	4.2	Landline and Mobile Telephone	Spanish	
2021	Moldova, Republic of	16.2	Jul 12 – Sep 10, 2021	1,000	1.25	3.5	Face-to-Face (HH)*	Romanian/ Moldavian, Russian	Transnistria (Prednestrovie) excluded for safety of interviewers. The excluded area represents approximately 13% of the population.
2021	Mongolia	16.2	Aug 20 – Oct 13, 2021	1,000	1.49	3.8	Face-to-Face (HH)*	Mongolian	
2021	Morocco	16.4	Nov 12 – Nov 28, 2021	1,004	1.75	4.1	Mobile Telephone	Moroccan Arabic	
2021	Mozambique	16.2	Oct 28 – Dec 16, 2021	1,000	1.87	4.2	Face-to-Face (HH)*	Portuguese, Xichangana, Emakhuwa	Cabo Delgado Province, as well as a small number of districts in other provinces, was excluded due to insecurity. The excluded areas represent 11% of population.
2021	Myanmar	16.3	Oct 9 – Nov 11, 2021	1,000	2.01	4.4	Mobile Telephone	Myanmar, Burmese	
2021	Namibia	16.2	Aug 29 – Oct 13, 2021	1,000	1.62	3.9	Face-to-Face (HH)*	English, Oshivambo, Afrikaans	
2021	Nepal	16.2	Sep 10 – Nov 19, 2021	1,000	1.45	3.7	Face-to-Face (HH)*	Nepali	
2021	Netherlands	16.4	Sep 6 – Dec 3, 2021	1,000	1.57	3.9	Landline and Mobile Telephone	Dutch	
2021	New Zealand	16.4	Aug 16 – Sep 26, 2021	1,000	1.49	3.8	Landline and Mobile Telephone	English	
2021	Nicaragua	16.2	Sep 15 – Nov 23, 2021	1,007	1.62	3.9	Face-to-Face (HH)*	Spanish	
2021	Nigeria	16.2	Jul 15 – Aug 20, 2021	1,000	1.91	4.3	Face-to-Face (HH)*	English, Hausa, Igbo, Pidgin English, Yoruba	The states of Adamawa, Borno and Yobe were excluded for safety and security reasons. These states represent 7% of the population.
2021	North Macedonia	16.3	Oct 22 – Dec 12, 2021	1,003	1.22	3.4	Landline and Mobile Telephone	Macedonian, Albanian	
2021	Norway	16.3	Aug 31 – Oct 17, 2021	1,001	1.94	4.3	Mobile Telephone	Norwegian	

Data Collection Year	Country	Wave	Data Collection Date	Number of Interviews	Design Effect[a]	Margin of Error[b]	Mode of Interviewing	Languages	Exclusions (Samples are nationally representative unless noted otherwise)
2021	Pakistan	16.2	Oct 16 – Dec 14, 2021	1,002	1.72	4.1	Face-to-Face (HH)*	Urdu	Did not include AJK, Gilgit-Baltistan. The excluded area represents approximately 5% of the population. Gender-matched sampling was used during the final stage of selection.
2021	Panama	16.2	Oct 4 – Dec 17, 2021	1,002	1.64	4.0	Face-to-Face (HH)*	Spanish	
2021	Paraguay	16.2	Sep 1 – Nov 11, 2021	1,000	1.37	3.6	Face-to-Face (HH)*	Spanish, Jopara	
2021	Peru	16.2	Aug 22 – Oct 21, 2021	1,000	1.34	3.6	Face-to-Face (HH)*	Spanish	
2021	Philippines	16.4	Aug 17 – Oct 13, 2021	1,000	1.95	4.3	Mobile Telephone	Filipino, Iluko, Cebuano, Bicol, Waray	
2021	Poland	16.4	Aug 11 – Sep 8, 2021	1,006	1.43	3.7	Landline and Mobile Telephone	Polish	
2021	Portugal	16.3	Oct 8 – Nov 8, 2021	1,002	1.74	4.1	Landline and Mobile Telephone	Portuguese	
2021	Romania	16.3	Sep 4 – Oct 6, 2021	1,001	1.44	3.7	Landline and Mobile Telephone	Romanian	
2021	Russian Federation	16.4	Aug 20, – Oct 25, 2021	2,000	1.49	2.7	Landline and Mobile Telephone	Russian	
2021	Saudi Arabia	16.3	Sep 5 – Sep 20, 2021	1,019	2.02	4.4	Landline and Mobile Telephone	Arabic, English, Hindi, Urdu	Includes Saudis, Arab expatriates and non-Arabs who were able to complete the interview in Arabic, English, Urdu or Hindi.
2021	Senegal	16.2	Aug 17 – Sep 9, 2021	1,000	1.49	3.8	Face-to-Face (HH)*	French, Wolof	
2021	Serbia	16.3	Sep 29 – Dec 3, 2021	1,001	1.95	4.3	Landline and Mobile Telephone	Serbian	
2021	Sierra Leone	16.2	Jun 16 – Jul 19, 2021	1,001	1.46	3.7	Face-to-Face (HH)*	English, Krio, Mende	
2021	Singapore	16.3	Nov 23, 2021 – Jan 17, 2022	1,000	1.24	3.4	Face-to-Face (HH)*	English, Chinese	Twenty-eight of 55 Planning Areas were excluded due to zero or small population size, accounting for less than 3% of the population. In addition, individuals living in private condos or landed properties were excluded, representing approximately 20% of households in Singapore.

Data Collection Year	Country	Wave	Data Collection Date	Number of Interviews	Design Effect[a]	Margin of Error[b]	Mode of Interviewing	Languages	Exclusions (Samples are nationally representative unless noted otherwise)
2021	Slovakia	16.3	Sep 28 – Nov 6, 2021	1,005	1.51	3.8	Landline and Mobile Telephone	Hungarian, Slovak	
2021	Slovenia	16.3	Nov 10 – Dec 8, 2021	1,000	1.97	4.4	Landline and Mobile Telephone	Slovene	
2021	South Africa	16.2	Aug 6 – Nov 8, 2021	1,014	1.71	4.0	Face-to-Face (HH)*	Afrikaans, English, Sotho, Xhosa, Zulu	
2021	South Korea	16.3	Sep 8 – Oct 31, 2021	1,011	1.59	3.9	Landline and Mobile Telephone	Korean	
2021	Spain	16.3	Oct 18 – Nov 13, 2021	1,000	1.86	4.2	Landline and Mobile Telephone	Spanish	
2021	Sri Lanka	16.3	Nov 11 – Dec 28, 2021	1,005	2.47	4.9	Mobile Telephone	Sinhala, Tamil	
2021	Sweden	16.4	Aug 24 – Sep 29, 2021	1,002	1.53	3.8	Landline and Mobile Telephone	Swedish	
2021	Switzerland	16.4	Sep 6 – Oct 6, 2021	1,000	1.60	3.9	Landline and Mobile Telephone	German, French, Italian	
2021	Taiwan, Province of China	16.3	Aug 16 – Sep 14, 2021	1,000	1.88	4.3	Landline and Mobile Telephone	Chinese	
2021	Tajikistan	16.2	Aug 18 – Oct 11, 2021	1,000	1.67	4.0	Face-to-Face (HH)*	Tajik	
2021	Tanzania	16.2	Aug 2 – Aug 29, 2021	1,001	1.54	3.9	Face-to-Face (HH)*	Swahili [Kishwahili]	
2021	Thailand	16.3	Oct 11 – Dec 1, 2021	1,017	2.03	4.4	Mobile Telephone	Thai	
2021	Togo	16.2	Sep 4 – Sep 21, 2021	1,000	1.66	4.0	Face-to-Face (HH)*	French, Ewe	
2021	Tunisia	16.2	Sep 24 – Oct 16, 2021	1,000	1.29	3.5	Face-to-Face (HH)*	Arabic	
2021	Türkiye	16.3	Nov 24 – Dec 17, 2021	1,000	1.41	3.7	Landline and Mobile Telephone	Turkish	
2021	Uganda	16.2	Sep 12 – Oct 5, 2021	1,000	1.46	3.7	Face-to-Face (HH)*	Ateso, English, Luganda, Runyankole	Three districts in the North region were excluded for security reasons: Kotido, Moroto and Nakapiripirit. The excluded areas represent 2% or less of the population.
2021	Ukraine	16.4	Sep 11 – Sep 28, 2021	1,000	1.80	4.2	Landline and Mobile Telephone	Russian, Ukrainian	

Data Collection Year	Country	Wave	Data Collection Date	Number of Interviews	Design Effect[a]	Margin of Error[b]	Mode of Interviewing	Languages	Exclusions (Samples are nationally representative unless noted otherwise)
2021	United Arab Emirates	16.3	Oct 19 – Nov 17, 2021	1,000	1.41	3.7	Mobile Telephone	Arabic, English, Hindi, Urdu	Includes only Emiratis, Arab expatriates and non-Arabs who were able to complete the interview in Arabic, English, Hindi or Urdu.
2021	United Kingdom of Great Britain and Northern Ireland	16.3	Oct 18 – Nov 12, 2021	1,000	1.47	3.8	Landline and Mobile Telephone	English	
2021	United States of America	16.3	Oct 5 – Dec 27, 2021	1,007	1.61	3.9	Landline and Mobile Telephone	English, Spanish	
2021	Uruguay	16.2	Aug 24 – Nov 20, 2021	1,000	1.29	3.5	Face-to-Face (HH)*	Spanish	
2021	Uzbekistan	16.2	Aug 12 – Oct 6, 2021	1,000	1.65	4.0	Face-to-Face (HH)*	Uzbek, Russian	
2021	Venezuela	16.3	Oct 4 – Nov 24, 2021	1,000	1.72	4.1	Landline and Mobile Telephone	Spanish	
2021	Vietnam	16.3	Oct 14 – Nov 16, 2021	1,000	2.59	5.0	Mobile Telephone	Vietnamese	
2021	Zambia	16.2	Aug 31 – Sep 28, 2021	1,000	1.54	3.9	Face-to-Face (HH)*	Bemba, English, Lozi, Nyanja, Tonga	
2021	Zimbabwe	16.2	Jun 26 – Aug 8, 2021	1,000	1.40	3.7	Face-to-Face (HH)*	English, Shona, Ndebele	

Data Analysis Methodology

The analysis in this report sought to answer the critical research questions that motivated this study. In some instances, this entailed reporting on the topline results for each country and area in the study; however, more complex data analysis techniques often were required to better understand why and how attitudes toward science and health differed across the world or parts of the world, or within a certain population. This section explores the analytical tools and techniques employed in this analysis.

Country Groupings

As the Hologic Global Women's Health Index was fielded in 116 countries and territories in 2020 and 122 countries and territories in 2021. The survey findings are often reported in various cross-national groupings to help illustrate the global variation of results without overburdening the reader by presenting data points from more than 120 different countries and territories. The major types of country groupings used in this report are by country income breakdowns described below.

Presentation of Cross-Country Results

All results presented at a combined-country level — such as by region, country income level or at the overall (i.e., 'global') level — were weighted by the aged 15 and older population size of the countries included in the analysis. This process gives more populated countries more weight than less populated countries.

For example, in 2020 China had the largest population of the 116 countries included in the Hologic Global Women's Health Index. China's aged 15 and older population represented about 22% of the total 15 and older population across the countries and areas surveyed, according to the national census figures Gallup used in its sampling and weighting processes. Thus, when presenting global estimates in this report, respondents from China were given a greater weight — corresponding to their share of the population — in determining the final calculation.

Standardization of Income, Education and Employment Groups

Personal information such as income, education and employment can be defined or measured differently across countries, which can create challenges when attempting to compare cross-country results.

For this reason, the Hologic Global Women's Health Index examined these characteristics using standardized definitions of income and education (shown below) that have been developed by the Gallup World Poll. Additionally, employment status was defined in a manner consistent with the Bureau of Labor Statistics in the United States.

Country income level

Countries were divided into four income groupings, as defined by the World Bank:

The World Bank updates its classifications annually on July 1 based on the GNI per capita in current USD of the previous year.

In 2020 these categories were:

- **Low income:** Gross national income (GNI) per capita of $1,035 or less (in 2019)
- **Lower-middle income:** GNI per capita of $1,036 to $4,045
- **Upper-middle income:** GNI per capita of $4,046 to $12,535
- **High income:** GNI per capita above $12,535

In 2021 these categories were:

- **Low income:** GNI per capita of $1,035 or less (in 2019)
- **Lower-middle income:** GNI per capita of $1,046 to $4,095
- **Upper-middle income:** GNI per capita of $4,096 to $12,695
- **High income:** GNI per capita above $12,695

Note: The World Bank does not classify Venezuela in any of the categories. When the country averages are presented at their country income level breaks, Venezuela is not included.

Education

Countries have unique ways of classifying education levels, and these classifications need to be preserved during data collection for weighting purposes. However, to make comparisons across countries by educational attainment, consistent categories needed to be created. All education descriptions can be placed within three categories: primary, secondary and tertiary. All responses regarding education were coded into their relevant category for global comparison.

- **Primary:** Functional equivalent to completing primary education or lower secondary or less. This level is closest to completing up to eight years of education. The exact definition will vary by country.

- **Secondary:** Functional equivalent to completing some secondary up to some tertiary education. This category typically refers to individuals who have completed nine to 15 years of education but have not completed the equivalent of a bachelor's degree. The exact definition will vary by country.

- **Tertiary:** Functional equivalent to completing four years of post-secondary tertiary education, or the equivalent of a bachelor's degree. This level typically refers to individuals who have completed approximately 16 or more years of education. The exact definition will vary by country.

Employment

Gallup classified respondents into one of six employment categories based on a respondent's combination of answers to a series of questions about employment.

- **Employed full time for an employer:** A respondent is considered employed full time for an employer if they are employed by an employer and work for this employer for at least 30 hours per week.

- **Employed full time for self:** Respondents are considered employed full time for themselves if they are self-employed and work at least 30 hours per week.

- **Employed part time, do not want to work full time:** Respondents who work either for an employer or themselves and do not work more than 30 hours per week at either job are categorized as employed part time. Additionally, when asked, these respondents indicate that they do not want to work more than 30 hours per week.

- **Employed part time, want to work full time:** Respondents who work either for an employer or themselves and do not work more than 30 hours per week at either job are categorized as employed part time. Additionally, when asked, these respondents indicate that they do want to work more than 30 hours per week.

- **Unemployed:** A respondent is unemployed if they report not being employed in the last seven days, either for an employer or themselves. The respondent must also report actively looking for a job in the past four weeks AND being able to begin work in the last four weeks.

- **Out of the workforce:** Respondents who are out of the workforce, were not employed within the last seven days either for an employer or themselves, are not looking for work, AND/OR are not available to start work. Respondents may be full-time students, retired, disabled or homemakers; however, some respondents will not fall into any of these scenarios.

Our purpose — to enable healthier lives everywhere, every day — is driven by **a passion** to become global champions for women's health. We succeed by fulfilling **our promise** to bring *The Science of Sure*® alive through product quality, clinical differentiation, customer relationships and our team's talent and engagement.

Hologic intends to conduct the Hologic Global Women's Health Index in partnership with Gallup for years into the future.

HEALTH

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