A Hand Up

Global Progress Toward Universal Education

INSTITUTE FOR HEALTH METRICS AND EVALUATION
UNIVERSITY OF WASHINGTON

IHME

A Hand Up: Global Progress Toward Universal Education **examines unprecedented gains in expanding education for all people over the past 50 years. This report presents data on educational attainment over time and across countries in a comparable, comprehensive way. This report also advances our perspective of progress toward universal education and reveals continuing challenges in the final year of the Millennium Development Goals' education agenda. The world has made great strides but must continue to expand education to the hardest-to-reach populations.**

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About IHME
The Institute for Health Metrics and Evaluation (IHME) is an independent global health research center at the University of Washington that provides rigorous and comparable measurement of the world's most important health problems and evaluates the strategies used to address them. IHME makes this information freely available so that policymakers have the evidence they need to make informed decisions about how to allocate resources to best improve population health.

About the Center for Health Trends and Forecasts
Funded by the National Institute on Aging and housed at IHME at the University of Washington, the Center for Health Trends and Forecasts is expanding the evidence base for a better understanding of health and aging. The Center encourages the use of data from a variety of disciplines, alongside Global Burden of Disease findings, to foster innovative social science research.

Contents

Education matters

Education matters for development

Education is a transformative force in individual lives and in broader development efforts. It facilitates a path out of poverty and helps make people, families, and communities healthier and more productive.[1] From giving people the tools to make better decisions for themselves to creating community leadership that can build stronger and more equitable societies, education matters.

Global authorities recognize education as a building block of development. Millennium Development Goal 2 called for the achievement of universal primary education by the end of 2015, while the Human Development Index includes education as a basic dimension alongside income and health. Momentum for education started building after the 1948 Universal Declaration of Human Rights but was galvanized by the 2000 World Education Forum, when global powers renewed their commitment for the "Education for All" movement to provide basic education for all children, youths, and adults.

While the crucial role of education is well recognized and there have been substantial gains over the past half century, it remains a social good often not afforded to vulnerable populations around the world, especially girls and women.

Education matters for children

The United Nations (UN) estimates that 58 million primary-school-age children are out of school and that most of these children are girls.[1] For many of these children, this lack of access to schooling is permanent. The UN estimates that 15 million girls and 10 million boys will never attend school.[1]

Low educational attainment negatively impacts the trajectory of a child's life. Education-deprived children lose vital opportunities to develop foundational skills and are more vulnerable to poverty, hunger, and disease.[2]

The impact of a lack of access to schooling is intergenerational. Uneducated children are more likely to become adults with lower incomes, larger families, and less healthy children.[2] Alternatively, children who receive education are more likely to experience a healthy childhood and grow into healthy and productive adults who will pass the benefits of learning on to their children.

Education matters for women

There is a longstanding gap between the education of men and women. Female schooling is restricted by many forces that include, but are not limited to, poverty, traditional beliefs about the role of women in society, early marriages and pregnancies, war and conflict, and competing priorities between educational and domestic responsibilities.[3]

Educating women saves lives. The education of mothers is significantly and powerfully associated with childhood survival.[4–6] Studies show that a one-year increase in a mother's education is associated with a 7% to 9% reduction in child mortality for children under 5.[5,7] In fact, in 2010 it was estimated that half of the reduction in child mortality since 1970, or about 4.2 million child deaths, was due to gains in educational attainment of young women.[5]

Children who receive education

are more likely to experience a healthy childhood and grow into healthy and productive adults who will pass the benefits of learning on to their children.

Since 1970, over 4.2 million child deaths have been averted due in part to gains in the educational attainment of young women.

What is educational attainment?

In this report, educational attainment is defined as the average years of schooling completed per capita.

The life-saving effect of maternal education may be due to a range of factors: a mother's increased empowerment and independence; increasing economic advantages; improved sanitation and better housing; and improved access to and use of health services. Additionally, as women become more educated, they tend to start having children at an older age and have fewer children,[7–9] which, in turn, is connected to increased maternal and child survival.[10]

Measuring education matters

Education is recognized as a powerful determinant of child mortality, but the world lacks a comprehensive way to measure educational attainment by age and sex for all countries over time. This has restricted the ability to measure global changes in education, quantify the relationship between improvements in education and improvements in child and maternal health, and engage in evidence-based reforms.

As the world enters the final year of the Millennium Development Goal (MDG) era and considers future steps for expanding education for all, it is increasingly vital that decision-makers have access to up-to-date, comparable data on educational attainment.

Existing global- and country-level education data from leaders in education measurement, such as the United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics, measure many aspects of education, including enrollment ratios, number of out-of-school children, literacy rates, completion and graduation ratios, school life expectancy,* and educational attainment. These metrics, which are focused on measuring childhood and adolescent education, are valuable in monitoring progress toward education for all, especially because they are highly predictive of childhood survival and well-being. Here we offer an additional perspective on understanding population-level educational attainment over generations and across countries by estimating educational attainment among adults, rather than children.

The Institute for Health Metrics and Evaluation (IHME), based at the University of Washington, has improved previous systematic assessments of educational achievement and created a comprehensive time series of the average number of years of education for 188 countries by age and sex. By using a consistent definition of educational attainment and leveraging country-level census data and nationally representative surveys with statistical modeling, IHME has generated a tool to understand education in a way that was not previously possible: across time, place, and gender.

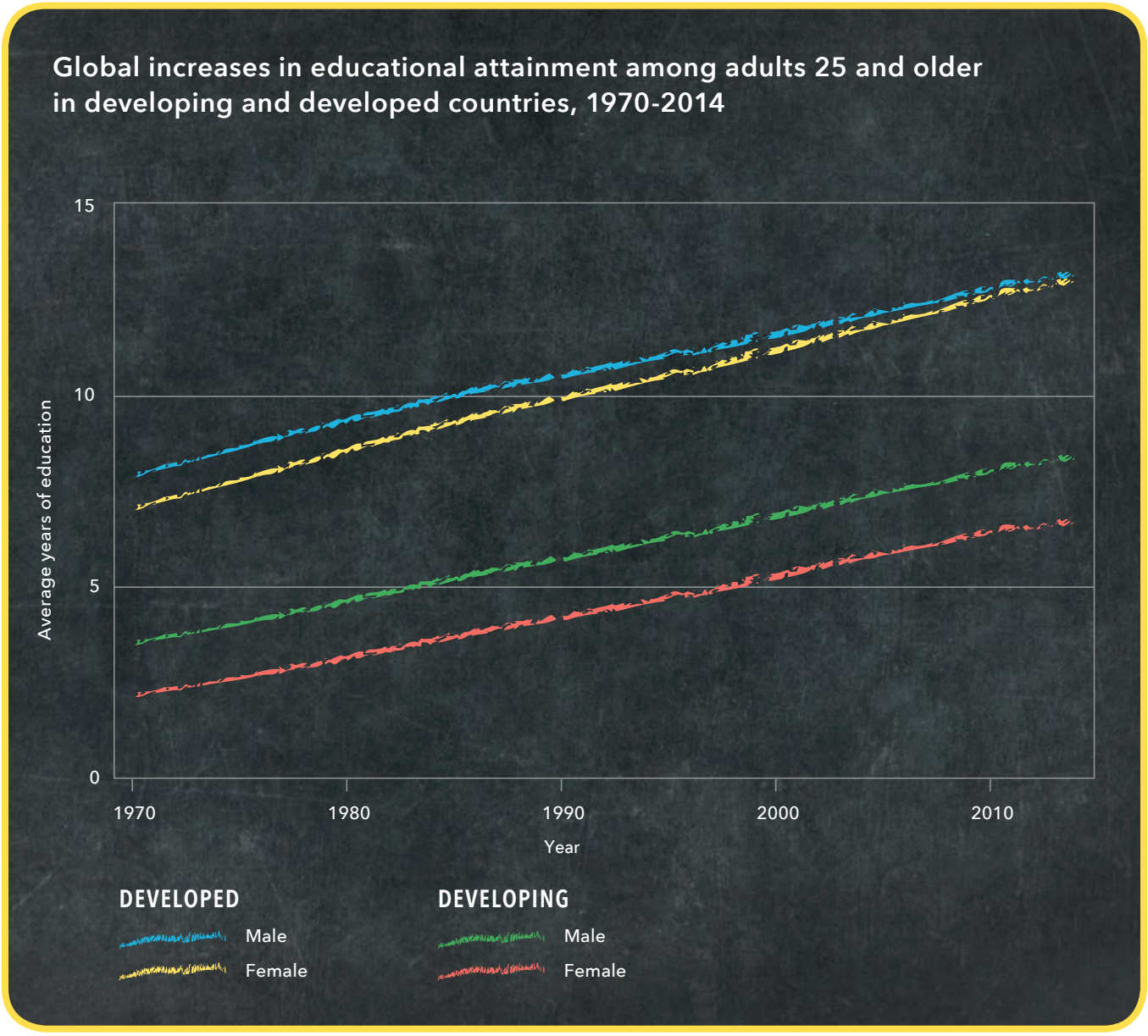
IHME has generated estimates of the years of educational attainment for people over the age of 15 since 1970 by country and sex. By estimating the highest level of schooling achieved by adults rather than children, IHME can more fully capture the progression of education from childhood through adulthood. This perspective of learning is uniquely reflective of population-level health and development.

In this report, education data are reported for adults, defined as those aged 25 and older. The education among women of reproductive age is defined as the average years of education among women between the ages of 15 and 44.

* School life expectancy is a measure of the expected total number of years of schooling a child entering the educational system might expect to achieve over a lifetime, assuming that the current enrollment rate will remain unchanged.

Global trends

The world has made substantial increases in educational attainment, especially in developing countries and most notably for women. However, there is considerable variability across countries and regions. This variability is driven by a range of political contexts that include the level of government commitment to education, the state of economic development, societal views on the role of education for women, political instability, and war and conflict. Variability is also affected by the availability of data by country. Overall, the global trend indicates that universal education, while not yet realized, is achievable with continued commitment and locally tailored solutions. Explore educational attainment trends worldwide using IHME's Social Determinants of Health visualization, available at http://vizhub.healthdata.org/SDH.



The world has made substantial progress in increasing the educational attainment of all people, including in developing countries.

Among adults aged 25 and older in developed countries in 1970, men received an average of 8.0 years of education and women received 6.9 years; by 2014 the average had increased to 13.1 years for men and 12.9 years for women. The average number of years of education for people in developing countries is much lower by comparison, but the rate of increase is very high, with many countries more than doubling their average years of education over the past four decades. For those aged 25 and older in developing countries, years of education improved from 3.4 years among men and 1.9 years among women in 1970 to 8.0 years and 6.0 years, respectively, in 2014.

Progress has been especially momentous in Latin American countries, parts of North Africa and the Middle East, and many countries across sub-Saharan Africa. In Latin America, the mean years of education have increased by 43% for men and 54% for women since the 1990s. Across sub-Saharan Africa, the educational attainment of women has improved, with increases by country ranging between 44% and 140% for women since the 1990s, and between 37% and 93% for men since the 1990s. In North Africa and the Middle East, years of educational attainment have increased by 82% for women and 53% for men since the 1990s. In all other regions, education increased as well, with a global average of 35% increase for women and 30% increase for men since the 1990s.

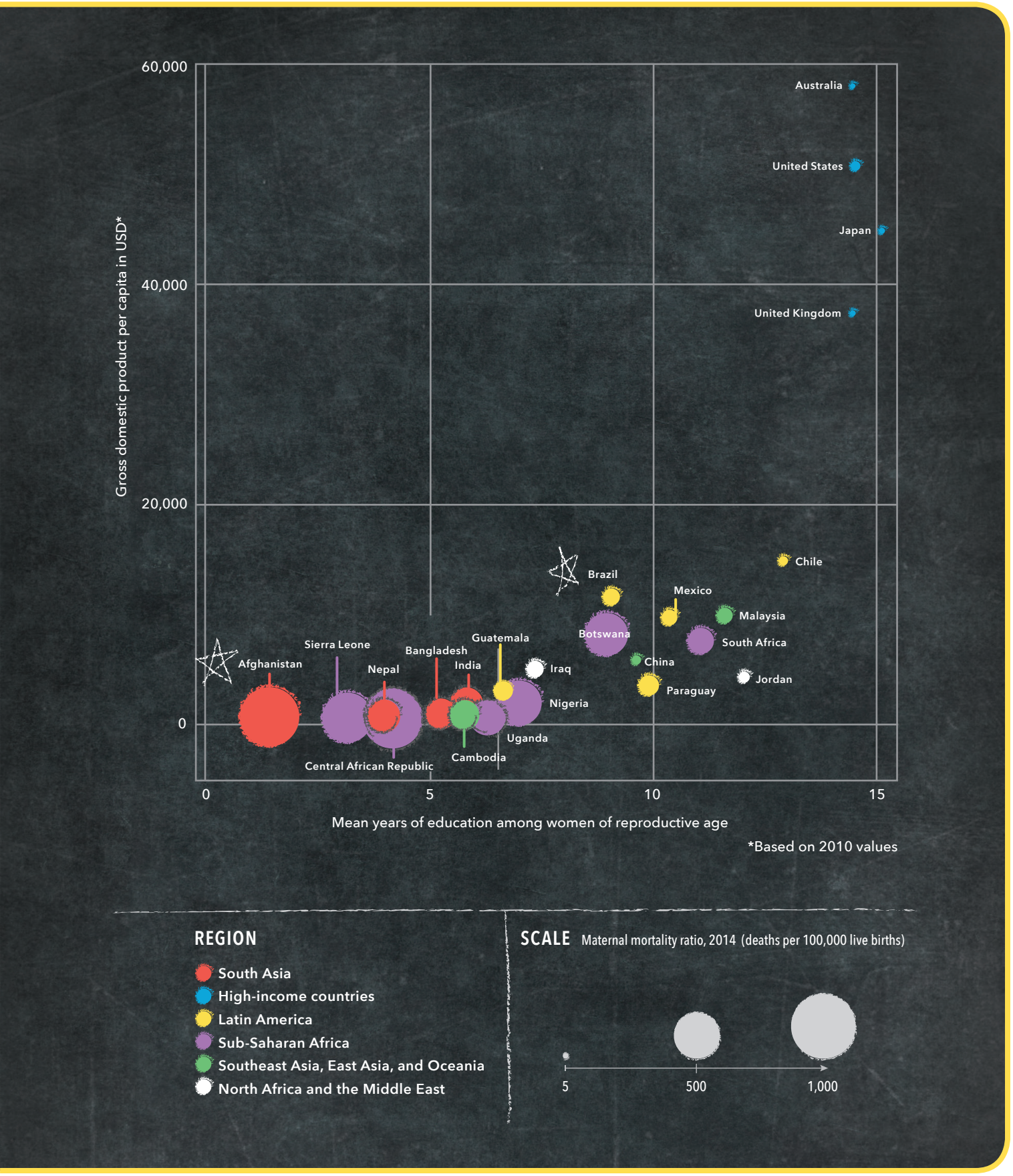
Comparing the educational attainment among women of reproductive age to maternal mortality ratio and gross domestic product per capita, 2014

Afghanistan

In Afghanistan, the Taliban rule banned the education of girls and women and severely restricted access to health services for women. Following the Taliban's overthrow in 2001, the education of women has minimally increased. Though the Ministry of Education has prioritized education[2] and the average years of education among women of reproductive age has risen by over 112% since the 1990s, this increase represents a gain from 0.7 years to only 1.4 years. Despite the 2003 introduction of a basic package of health services focusing on the needs of women of reproductive age to improve maternal health, Afghanistan still has one of the highest maternal mortality ratios in the world.[11]

Brazil

Brazil has one of the largest, most rapidly urbanizing populations and fastest growing economies in the world. Health system reforms since the 1980s created a unified health system with increased coverage of maternal health interventions. Since the 1990s, Brazil has both improved maternal health and increased average education among women of reproductive age. Educational attainment among this group of women has risen from less than six years in the 1990s to over nine years in 2014.


60,000
40,000
20,000
0
Gross domestic product per capita in USD*
Australia
United States
Japan
United Kingdom
Chile
Brazil
Mexico
Malaysia
Botswana
South Africa
Guatemala
Sierra Leone
Bangladesh
India
Afghanistan
Nepal
Iraq
China
Jordan
Paraguay
Nigeria
Uganda
Cambodia
Central African Republic
0
5
10
15
Mean years of education among women of reproductive age
*Based on 2010 values
REGION
South Asia
High-income countries
Latin America
Sub-Saharan Africa
Southeast Asia, East Asia, and Oceania
North Africa and the Middle East
SCALE
Maternal mortality ratio, 2014 (deaths per 100,000 live births)
5
500
1,000

Increases in educational attainment among women of reproductive age are substantial in developing countries.

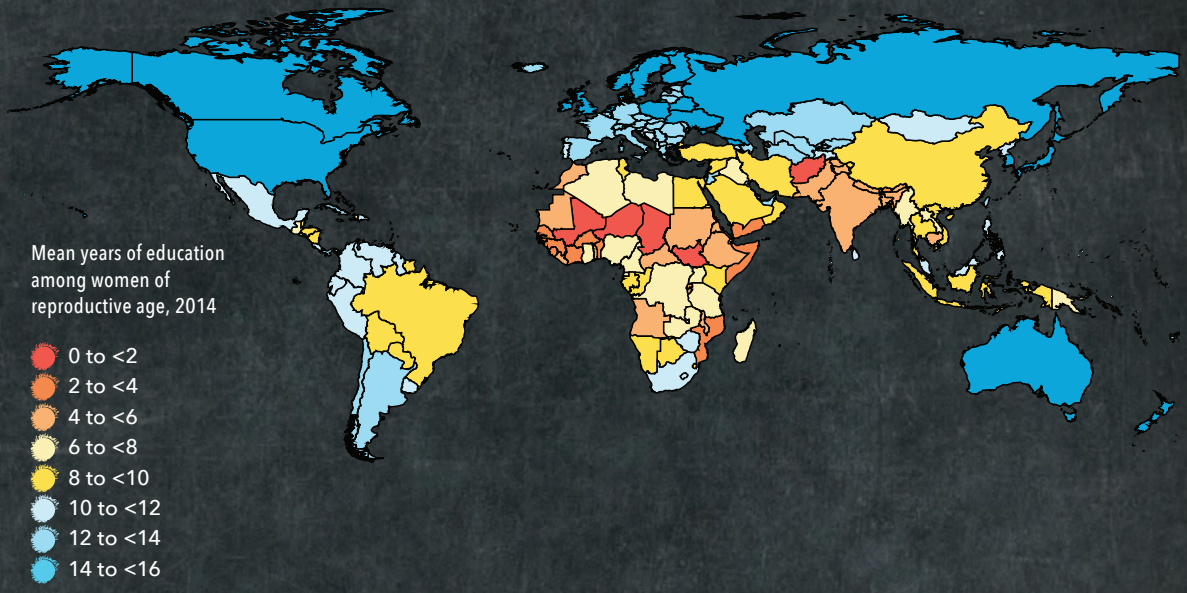
Education among women of reproductive age is increasing globally. Countries with higher average education among women of reproductive age tend to have lower maternal mortality ratios and higher incomes. High-income countries including Australia, Japan, the United Kingdom, and the United States generally illustrate this, with women of reproductive age achieving an average of more than 12 years of education and experiencing a low risk of childbirth-related deaths.

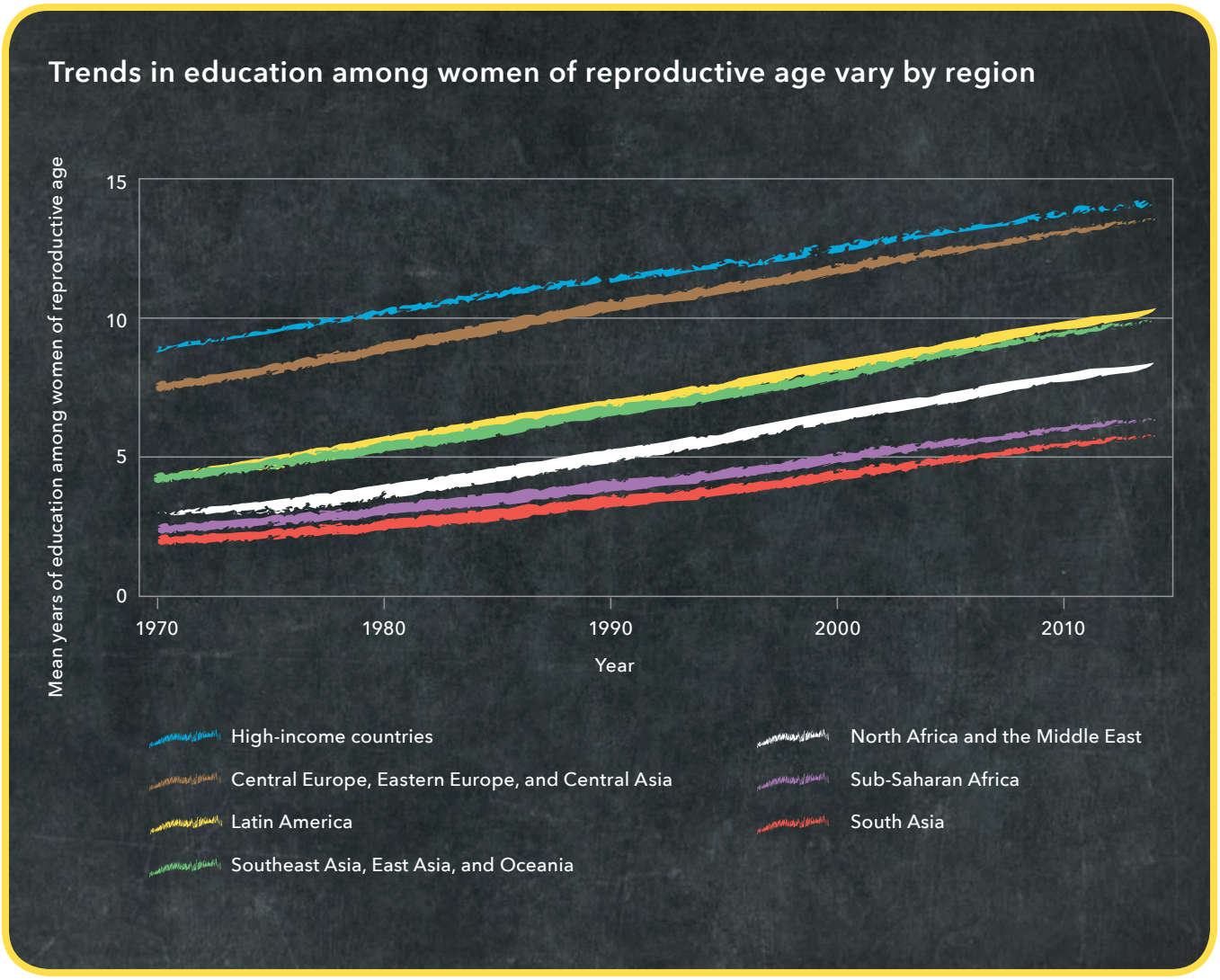
Lower-middle- and upper-middle-income countries with rising economies such as Brazil, China, Jordan, Mexico, Paraguay, and South Africa have increased the average education among women of reproductive age substantially since 1970. These gains are accompanied by relatively low rates of maternal mortality compared to other countries in their respective regions.

Low-income countries are making gains in education and health among women of reproductive age as well, though the gains are comparatively smaller than what has been achieved by higher-income countries. Among low-income countries in sub-Saharan Africa, increases in education among women of reproductive age range between 1.0 and 6.8 years since the 1970s, with women of reproductive age achieving between 1.4 and 11.0 average years of education in 2014. Countries in this region have among the highest maternal mortality ratios and the lowest gross domestic product per capita in the world. Similarly, low-income countries in South Asia such as Afghanistan, Bangladesh, and Nepal also have high maternal mortality ratios[12] and relatively low and slowly increasing education among women of reproductive age.

Across Latin America and the Caribbean, the education of women of reproductive age is rapidly rising. While education among women of reproductive age is increasing in Latin America, the number of years of schooling among women of reproductive age in lower-middle-income countries is generally less than in upper-middle-income countries in the same region. In the Caribbean, education among women of reproductive age is increasing, but gains in Haiti, the only low-income country in the region, are much smaller than in all other Caribbean countries.

Average years of education among women of reproductive age vary by region





Across sub-Saharan Africa, education among women of reproductive age is lower than in other parts of the world, but it is increasing steadily. There are important variations within the region. In general, Southern sub-Saharan Africa has the highest educational attainment among women of reproductive age of all the regions of sub-Saharan Africa, while Western sub-Saharan Africa has the lowest. In countries across sub-Saharan Africa, including Botswana, Gabon, Lesotho, South Africa, and Zimbabwe, education among women of reproductive age is nearing or exceeding 10 years and continues to rise, while in Guinea, Niger, Somalia, and South Sudan it has increased but remains less than three years.

In North Africa and the Middle East, education among women of reproductive age is increasing, with countries making gains ranging between 2.4 and 8.4 years since 1970. In some countries, education among women of reproductive age is nearing or exceeding 10 years, particularly Jordan, Kuwait, Lebanon, Qatar, and the United Arab Emirates. However, progress in Yemen has lagged behind other countries in the region, with women achieving an average of 2.7 years of education in 2014, a gain of about two years since 1970. Notably, in Yemen, deaths from newborn and maternal causes are among the highest in the region.[13]

Education of women of reproductive age is increasing in Asian countries, with much variation. In wealthier countries including Japan, Singapore, South Korea, and Taiwan, educational attainment among women of reproductive age is more than 12 years. In less wealthy South Asian countries such as Bangladesh, India, and Nepal, increases in the average education among women of reproductive age between 1970 and 2014 are all greater than 300%. However, the years of education among women of reproductive age for these countries are much lower than in higher-income countries in Asia, with an average educational attainment of 5.5 years.

While the percent increase in education among women of reproductive age since 1970 in high-income countries including Australia, Canada, and the United Kingdom is smaller than in other regions, the number of years of education for women is very high, nearing 15 years in many countries.

Globally, gender equality in educational attainment is better than ever before, but there are important regional differences.

Historically, men have had greater access to education than women.[5] In developed countries, the disparity between the education of men and women has either largely diminished or disappeared entirely. While educational attainment in developing countries has risen for both genders since the 1970s, the disparity between the education of men and women is still very relevant.

In this report we have chosen to discuss gender inequality by presenting relative inequality, using a ratio of male to female educational attainment. Across developing countries, this ratio has declined steadily since 1970, indicating that women's education is approaching that of men.

While there are still many countries where men are significantly more educated than women, this difference was not statistically significant in more than two-thirds of the 188 countries assessed.** Progress in reducing gender difference in education varies within regions.

Disparities in gender are visualized across a selection of countries by presenting the ratio of male to female educational attainment in both 1970 and 2014. A ratio of one indicates that the educational attainment of men and women is equal, a ratio greater than one indicates that males achieve more years of education than females, and a ratio less than one indicates that the educational attainment of females exceeds that of males.

In all countries, the ratio of male to female educational attainment has decreased since 1970, indicating global movements toward greater gender equity in education. In many countries, the ratio is close to or less than one, indicating that the education of women is the same as or has exceeded that of men. In other countries the ratio of male to female education has decreased since 1970, but men still achieve more years of education than women.

There is progress toward reducing gender disparities across Latin America. In most countries, the gender ratio is diminishing and gains in the education of women are matching or outpacing those of men.

In over half of the countries in North Africa and the Middle East, the gender ratio is shrinking, and average gains in education are more rapid for women than for men. However, in eight of the 20 countries in this region, men attain significantly more years of education than women.

The education of women is increasing across sub-Saharan Africa. In western and eastern countries that include Côte d'Ivoire, Ghana, Liberia, Malawi, Mozambique, and Senegal, the ratio of male to female education, though greater than one, has decreased since the 1970s. Across Southern sub-Saharan Africa, the gender ratio is steadily decreasing to favor women.

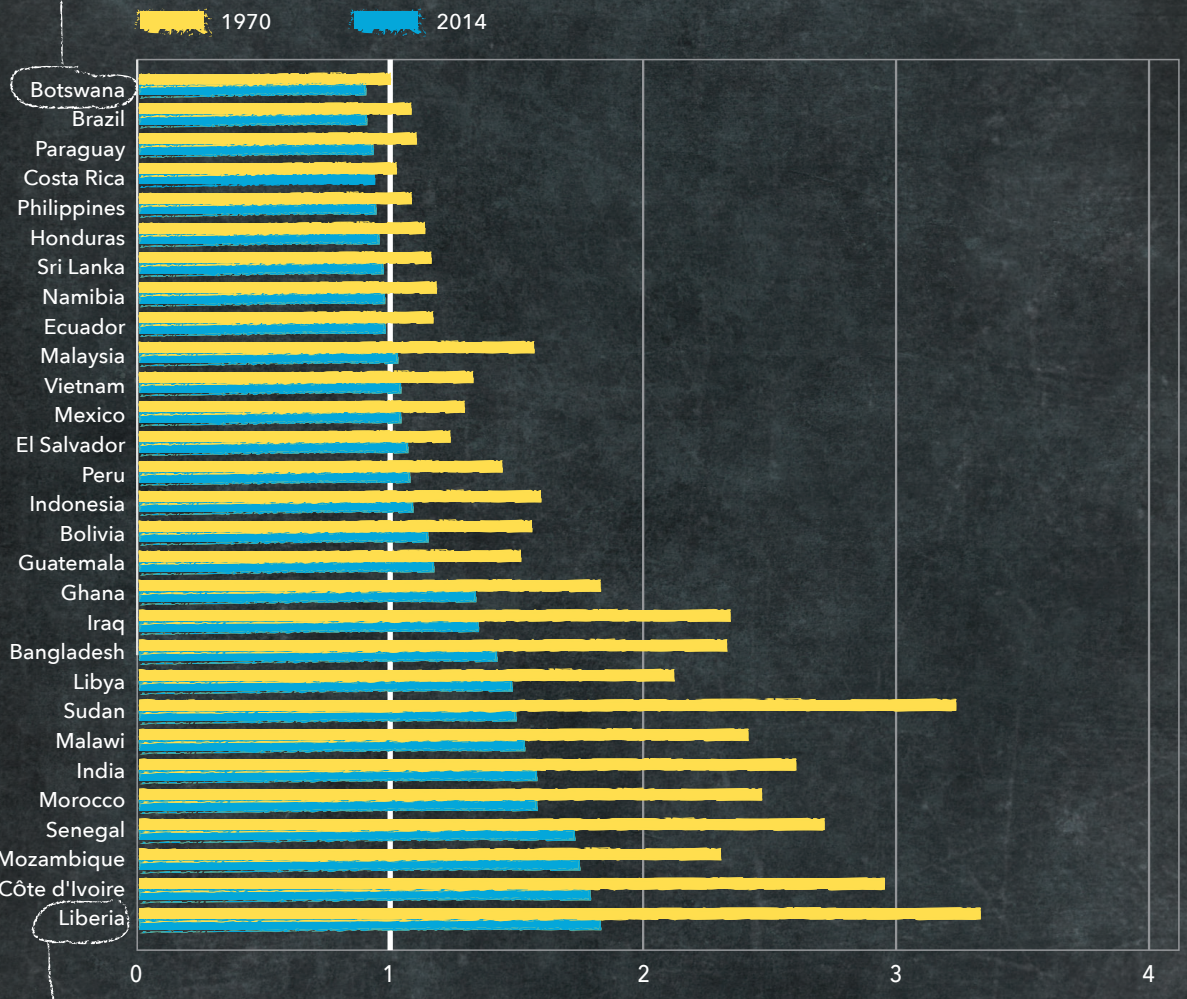
In Southeast Asia, South Asia, and East Asia, education equality between genders is generally improving, particularly in middle- and high-income countries in East Asia and Southeast Asia. Though the regional trend indicates that disparities are narrowing, men attain significantly more years of education than women in many places, including China and all countries of South Asia. In South Asia, men still attain significantly more education than women.

** For this comparison, the ages of men and women were restricted to a range of 25 to 44 years.

Ratio of male to female educational attainment among adults ages 25 to 44, 1970 and 2014

BOTSWANA

In a context of rising educational attainment for both genders, the educational gains of women are surpassing those of men, as indicated by a ratio of less than one in 2014. Botswana, a small country in Southern sub-Saharan Africa, has maintained a stable democracy since its independence in the 1960s and has promoted education as an ongoing national priority. Since the country's formation of the National Commission on Education in the 1970s,[15] public and private efforts have sought to encourage the advancement of women through education.[16]



Mean male educational attainment divided by mean female educational attainment, ages 25 to 44

LIBERIA

Though women's education in Liberia has increased from less than one year in 1970 to nearly four years in 2014, gains in the education of men continue to outpace those of women. Still, the ratio of male to female education in 2014 was 1.8, an improvement since 1970, when men earned more than three years of education for every one year earned by women. Liberia, located in Western sub-Saharan Africa, endured a devastating civil conflict from 1989 until 2003. The government has placed high priority on the education of children, especially girls, and enrollment in primary school and adult literacy programs has risen.[14] However, gender inequities persist.

A closer look: China

While national-level estimates provide insight into large-scale shifts in education, subnational data reveal important within-country trends and disparities. Understanding this finer-detailed landscape is crucial to enhancing the ability of decision-makers to tailor solutions to local contexts. Here we present a subnational analysis of education in China among adults between the ages of 25 and 44 using census data. We have forecast educational attainment into 2030, based on the current outlook.

National-level estimates indicate that education in China has increased steadily since the 1978 economic reforms, as well as the promotion of a nine-year compulsory education system that later followed. Average educational attainment among men older than 25 increased from 4.2 years in 1970 to 9.1 years in 2014. For women older than 25, educational attainment increased from 2.2 years in 1970 to 6.8 years in 2014. Improvements for women of reproductive age are even greater, with these women achieving 9.6 years of education in 2014. The education of men still exceeds that of women, though this difference was not significant in 2014.

National-level estimates mask important differences within China. The combination of coastal economic growth encouraged by the 1978 reform and existing geographical and agricultural differences have contributed to inequality between inland and coastal regions.[17] In addition, there are large disparities between urban and rural areas. Finally, there are differences between provinces, higher-level cities called municipalities, and autonomous regions, which are dominated by ethnic minority groups.

Since 1970, there have been large educational gains for men and women in all provinces, municipalities, and autonomous regions of China.

Across China, average educational attainment in 2014 for men at least doubled since 1970, with the exception of the municipality of Chongqing, where increases were slightly smaller. For women in all areas of China, educational attainment in 2014 at least doubled from levels in 1970, and in nine places it tripled.

Overall, gains in the coastal and central provinces of China are driving national growth in education.

Education levels are high and increasing in all coastal and eastern inland provinces. Across all coastal and eastern inland areas, average education has increased at least five years since 1970 for both men and women, with men in 2014 earning more than eight years of education and women achieving more than seven years.

Three of China's four highly populated municipalities, Beijing, Shanghai, and Tianjin, are the most highly educated places in the country. In 1970, average educational attainment in each of these coastal municipalities was less than seven years for men and less than five years for women. By 2014, education exceeded 12 years for men and neared or exceeded 12 years for women.

Educational attainment in the northeastern coastal provinces was among the highest in the country, closely following the growth of the coastal municipalities. In Jilin and Liaoning, education for both genders has more than doubled since 1970 to exceed 10 years for both men and women in 2014. In Heilongjiang, the northern-most province in this region, there were similar improvements, but educational attainment was slightly lower.

Levels of education in all provinces in the southeastern and south central regions of China were high. Anhui, located near Shanghai, has made substantial gains for men and especially women since 1970, though education here and in Fujian and Jiangxi was slightly lower than in other provinces in the east.

There is an educational disparity between eastern and western regions of China.

There were educational gains in all western areas of China, but in general the west is less educated than the east, with the exception of the autonomous western-most Xinjiang region, which followed educational trends similar to eastern provinces.

The disparities between the east and west are particularly pronounced in Qinghai, Tibet, and Yunnan. In 2014 education for men was at least nine years in all areas of China, except in Qinghai, Tibet, and Yunnan. Similarly, in 2014 women achieved at least six years of education in all places except in Qinghai and Tibet. Educational attainment is historically and significantly lower in the autonomous region of Tibet than in any other province. In 1970, educational attainment was 1.8 years for men and 0.7 years for women; by 2014 this had increased to 3.8 years for men and 2.1 years for women. Compared to eastern provinces and municipalities, educational attainment was depressed in Gansu, Guizhou, Qinghai, Sichuan, and Yunnan. However, in these places there have been considerable advances since 1970, with education increasing from less than five years for men and three years for women to more than eight years for men and five years for women in 2014.

Women's education is rising in all provinces of China, though there are regional inequalities.

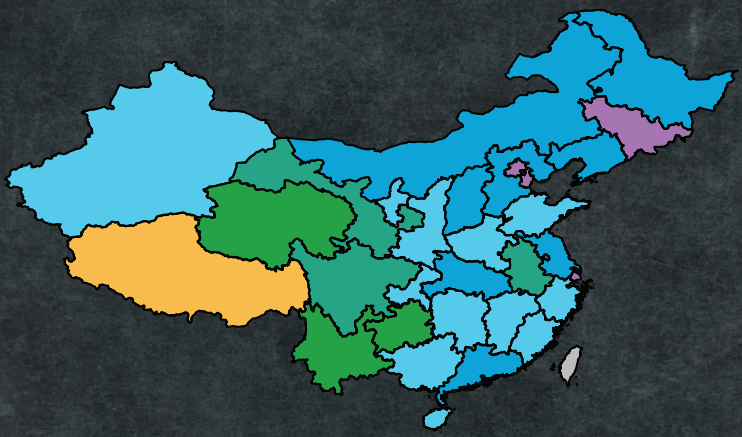
Men's average education exceeds women's in most provinces, though in all provinces, the ratio of the education of men compared to women has decreased since 1970. In eight areas, the difference between men's and women's education is less than one year. In the most highly educated provinces and municipalities, located in the east, men and women achieved approximately the same number of years of schooling. In contrast, some of the least-educated provinces were concentrated in the west and had the largest gender gaps in education, with differences of more than two years in provinces like Gansu, Guizhou, and Qinghai. While women in eastern provinces tended to achieve more schooling than women in the west, the difference between the education of men and women in the eastern provinces of Anhui and Fujian was also more than two years.

Forecasts of educational attainment indicate that, based on the current trends, educational attainment will continue to increase in all provinces of China, with regional disparities remaining.

By 2030, we expect that in almost all areas of China, men and women between the ages of 25 and 44 will achieve 10 or more years of education. Education will increase beyond nine years in all eastern areas. Education will also increase in the west, but in Qinghai, Tibet,

Educational attainment among adults ages 25 to 44, 1970

Educational attainment among adults ages 25 to 44, 2014



Forecast educational attainment among adults ages 25 to 44, 2030

and Yunnan, men will achieve less than 10 years. In the west, women's education will rise but will continue to lag behind other provinces. By 2030, women's educational attainment will be less than nine years in only four areas of China, all of which are in the west.

The national leaders in education will continue to greatly outpace all other areas, with education for both genders in Beijing, Shanghai, and Tianjin nearing or exceeding 15 years. Educational attainment in Qinghai and Yunnan will continue to be lower than in other regions, but overall, education for men and women will increase across western regions. However, in Tibet, educational attainment will increase less than one year for both genders, to only 4.6 years for men and 2.8 years for women by 2030.

We predict that while regional and gender disparities in education will persist, people in all regions of China will be more educated in 2030, and gender- and region-based disparities will continue to diminish.

Looking forward

Educational attainment is increasing around the world for men and women, but this growth has not reached everyone. While many countries will approach or reach Millennium Development Goal 2 to achieve universal primary education, it will remain an unfinished global goal by the end of 2015. Eliminating disparities in education across and within regions will require continued monitoring and assessment of educational attainment, increased political commitment, and investments from governments and multilateral organizations.

Across Latin America, educational attainment has increased substantially, from less than four years for both men and women to an average of nearly nine years. Beyond this, both low- and high-income countries in the region have increased levels of education among women of reproductive age and reduced educational inequities between men and women. Quantifying these gains and temporally connecting them to political contexts and changes in population-level health will embolden leaders to duplicate this regional success in other parts of the world.

Expanding education for all, especially in the most marginalized parts of societies, will promote equitable development and continued health improvements. Attaining universal education will in turn move the world toward achieving gender equality and empowering women, reducing child mortality, and improving maternal health.

To expand educational attainment, we must continue to measure it. By promoting rigorous, freely available information about educational attainment and by connecting these investments to changes in health and development, IHME equips decision-makers with powerful tools to inform policymaking.

Acknowledgments

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Center for Health Trends and Forecasts

Bringing together multiple disciplines for a deeper view of health and aging

Funded by the National Institute on Aging and housed at the Institute for Health Metrics and Evaluation (IHME) at the University of Washington, the Center for Health Trends and Forecasts is expanding the evidence base for a better understanding of health and aging. The Center encourages the use of data from a variety of disciplines, alongside Global Burden of Disease findings, to foster innovative social science research.

The Center focuses on supporting and piloting groundbreaking, multidisciplinary research on the trends, determinants, and impacts of health, aging, longevity, disease burden, and injury burden among older adults. It aims to develop an international network of emergent leaders from across social sciences who are advancing novel findings about health and aging. The Center will disseminate research findings and data from this network through open access portals, reports, scientific papers, visualization tools, and other product channels.

Welcoming interested researchers to join the Center for Health Trends and Forecasts as members

The Center for Health Trends and Forecasts looks forward to undertaking and promoting innovative work with a robust network of researchers who wish to exchange ideas, work in tandem on projects, and engage in multidisciplinary learning. We hope that this network expands beyond traditional public health to a wide range of social science fields.

Membership is free and offers many benefits. The Center will provide members with opportunities to publish and disseminate research, collaborate with other members, learn about Global Burden of Disease data and how to access data for analyses, and gain information about additional funding and publication and presentation opportunities as they arise.

We hope that you and your colleagues will participate as members of the Center for Health Trends and Forecasts.

For more information and to indicate your interest in becoming a member, please visit

www.healthdata.org/chtf/membership

References

1. UNESCO Institute for Statistics. Fixing the broken promise of education for all: findings from the Global Initiative on Out-of-School Children. United Nations Educational, Scientific, and Cultural Organization, Institute for Statistics, 2015. http://www.uis.unesco.org/Education/Documents/oosci-global-report-en.pdf. Accessed March 25, 2015.

2. UNICEF. State of the world's children, 2004. http://www.unicef.org/sowc04/files/SOWC_04_eng.pdf. Accessed March 25, 2014.

3. United National Entity for Gender Equity and the Empowerment of Women. Proceedings from the United Nations Fourth World Conference on Women: Action for Equality, Development and Peace. 1995. http://www.un.org/womenwatch/daw/beijing/platform/educa.htm. Accessed March 25, 2015.

4. Özaltin E, Hill K, Subramanian SV. Association of maternal stature with offspring mortality, underweight, and stunting in low- to middle-income countries. *JAMA*. 2010; 303:1507–1516.

5. Gakidou E, Cowling K, Lozano R, Murray CJL. Increased educational attainment and its effect on child mortality in 175 countries between 1970 and 2009: a systematic analysis. *The Lancet*. 2010; 376:959–974.

6. Bicego GT and Boerma T. Maternal education and child survival: A comparative study of survey data from 17 countries. *Social Science & Medicine*. 1993; 36:1207–1227.

7. Cleland JG and Van Ginneken JK. Maternal education and child survival in developing countries: the search for pathways of influence. *Social Science & Medicine*. 1988; 27:1357–1368.

8. Weinberger MB. The Relationship Between Women's Education and fertility: selected findings from the World Fertility Surveys. *International Family Planning Perspectives*. 1987; 13:35–46.

9. Martin TC. Women's education and fertility: Results from 26 demographic and health surveys. *Studies in Family Planning*. 1995; 26:187–202.

10. Trussell J and Pebley AR. The potential impact of changes in fertility on infant, child and maternal mortality. *Studies in Family Planning*. 1984: 15:267–280.

11. GBD 2013 Mortality and Causes of Death Collaborators. Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013. *The Lancet*. 2015; 385:117–171.

12. Bhutta ZA, Gupta I, de'Silva H, Manandhar D, Awasthi S, Hossain SM, Salam MA. Maternal and child health: is South Asia ready for change? *BMJ*. 2004; 328:816–819.

13. Hogan MC, Foreman KJ, Naghavi M, Ahn SY, Wang M, Makela SM, Lozano R, Murray CJL. Maternal mortality for 181 countries, 1980–2008: a systematic analysis of progress towards Millennium Development Goal 5. *The Lancet*. 2010; 375:1609–1623.

14. United Nations Educational, Scientific and Cultural Organization. Education and fragility in Liberia. Inter-Agency Network for Education in Emergencies, 2011.

15. Weeks SG. Reforming the reform: Education in Botswana. *Africa Today*. 1993; 40:49–60.

16. United Nations. Botswana's response to the questionnaire to governments on implementation of the Beijing Platform for Action (1995) and the outcome of the twenty-third special session of the General Assembly (2000). http://www.un.org/womenwatch/daw/Review/responses/BOTSWANA-English.pdf. Accessed March 25, 2015.

17. Hao R and Wei Z. Fundamental causes of inland-coastal income inequality in post-reform China. *Annals of Regional Science*. 2008; 45:181–206.

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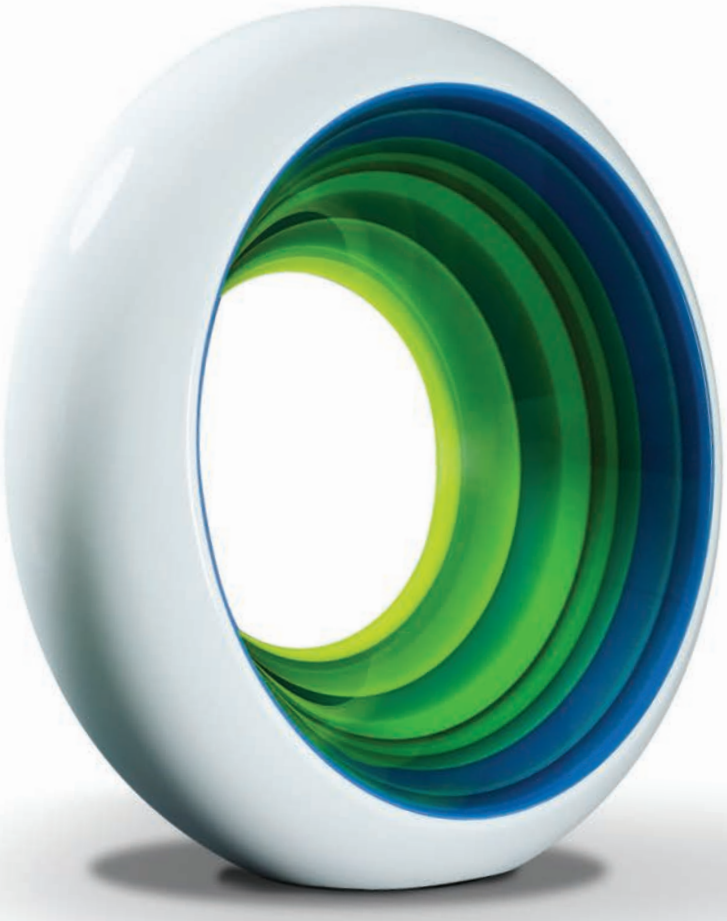

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