Health & Education Newsletter

Confederation of Asia-Pacific Chambers of Commerce and Industry

Volume 18 July 2022

Message from the Chairman

As Chairman of the Asian Council on Health and Education (ACHE), I am pleased to present the latest issue of the Newsletter of ACHE to all our colleagues not only in the health and education sectors, but in other relevant industries as well.

This issue highlights the trends, the latest news and interesting reports on health and education in the Asia-Pacific region. I hope that you will find the articles included in this Newsletter of great value, and look forward to your contribution to the Newsletter in the future.

As many of you may know, this Council has been a valuable platform for information exchange and networking for all representatives from the region's health and education industries. Therefore, all CACCI members are encouraged to take advantage of the Council and the Newsletter as channels not only to share relevant information but also to voice their opinions and viewpoints.

My best wishes,

Arash Anissian, MD
Chairman
Asian Council on Health and Education

Table of Contents

Health

Education

Taiwan Launches Digital Submission System for Medical Devices

By Jerome Siacor

In the age of digital, having a digital submission is timely. The Taiwan Food and Drug Administration (TFDA) launched a new online pre-market application platform for medical devices. They named it the TFDA Medical Device Premarket E-submission System.

The new online submission system is aimed to speed up the process. It provides manufacturers with an alternative way to submit pre-market application documents. This should improve the convenience of pre-market applications for medical devices.

Moreover, it's going to be a more energy-saving way to help the planet. Going paperless means saving the resources required to prepare paper documents. TFDA encourages but does not compel manufacturers to submit pre-market applications for class II and III medical devices through this new system.

According to the Medical Devices Act, an application shall be filed with the central competent authority (TFDA) for the manufacture and import of medical devices for registration and market approval. No manufacture or import shall be allowed until such approval is granted and a medical device licence is issued.

It shows how committed the agency is to its mandate. To date, it has always been continuously improving the pre-market review of medical devices in accordance with international regulations. With the advancement of network technology and the demand for electronic remote applications, TFDA has started developing an electronic document submission mechanism for pre-market applications for medical devices in 2018.

Now that things are ironed out, it has launched its online system for the benefit of manufacturers. The Medical Devices Act is quite recent as it took effect on May 1, 2021. On the other hand, the TFDA accelerated the development of the E-submission System and officially launched the system this year 2022.

At the same time, information such as the "Implementation Instructions for the Application for E-Submission of Class II and III Medical Device Registration", the system user manual and common Q&A have also been released. Medical device manufacturers or dealers can choose to apply for Class II and III Medical Device registration.

Also, they can do alterations to the registration or factor licence extension through this E-Submission system. Details can be found in the "TFDA Medical Device Premarket E-submission System for Class II and III Medical Device Registration" area of the TFDA official website.

The TFDA, an agency within the Ministry of Health and Welfare, was established in 2010. The organisation oversees food, drug and medical device safety and quality. Plus, its job includes dealing with risk assessment and inspections to ensure the welfare of its people. That means overseeing market approvals for foods, biotech products, cosmetics, drugs and medical devices.

The Division of Medical Devices & Cosmetics is in charge of the safety and quality control of:

- medical devices
- medical device regulation
- clinical diagnostics
- in vitro diagnostic products (IVDs)

Indeed, digital transformation can change lives for the better. That is certainly the case for Taiwan. For instance, Taiwan University recently held food training via Virtual Reality (VR) that allows the learning institution to teach their students to handle equipment even when the equipment itself hasn't arrived yet.

OpenGov Asia

Staring at an image of yourself on Zoom has serious consequences for mental health

By Roxanne Felig and Jamie Goldenberg

In the past few years, people across the world have spent more time on video chat programs like Zoom and FaceTime than ever before. These applications mimic in-person encounters by allowing users to see the people they are communicating with. But unlike in-person communications, these programs often also show users a video of themselves. Instead of catching the occasional glimpse of themselves in a mirror, now people are looking at themselves for hours a day.

We are psychologists who study society's focus on women's appearance and the consequences of this constant scrutiny. We were immediately fascinated by the new dynamic created by the Zoom world. While critical for public safety during the pandemic, we believe that virtual classes, meetings and the like

lead to a continuous focus on one's own appearance – something research suggests is harmful to mental health, especially for women.

Objectification and self-objectification

Objectification is a bit of a buzzword, but the meaning is rather literal: being seen or treated as an object. This often comes in the form of sexual objectification, where bodies and body parts are seen as separate from the person to which they are attached. Advertisements are rife with examples of this, where close-ups of certain body parts are often shown to help market a product, such as a bottle of cologne graphically nestled between a woman's breasts.

Not surprisingly, women's bodies are treated as objects way more often than men's. Because women and girls are socialized in a culture that prioritizes their appearance, they internalize the idea that they are objects. Consequently, women self-objectify, treating themselves as objects to be looked at.

Researchers investigate self-objectification in experimental studies by having study participants focus on their appearance and then measure cognitive, emotional, behavioral or physiological outcomes. Research has shown that being near a mirror, taking a picture of oneself and feeling that one's appearance is being evaluated by others all increase self-objectification. When you log in to a virtual meeting, you are essentially doing all of these things at once.

What does self-objectification do?

Thinking of yourself as an object can lead to changes in a person's behavior and physical awareness, and has also been shown to negatively affect mental health in a number of ways. While these experiences with self-objectification lead both women and men to focus on their appearance, women tend to face many more negative consequences.

Research suggests that experiencing self-objectification is cognitively taxing for women. In a seminal study done in 1998, researchers showed that when women put on a new swimsuit and viewed themselves in a mirror, the self-objectification this produced caused women to perform poorly on math problems. Men's math performance was not affected by this objectifying experience.

Further, experiencing objectification has behavioral and physiological consequences. In the aforementioned study, trying on a swimsuit produced feelings of shame among women, which in turn led to restrained eating. Other research has shown that when women think of themselves as objects, they speak less in mixed gender groups.

Self-objectification also leads women to, in a sense, distance themselves from their own bodies. This can cause worse motor performance as well as difficulty recognizing one's own emotional and bodily states. One study showed that girls who were prone to self-objectification were less physically coordinated than girls who showed less self-objectification.

In a paper we published in 2021, our team showed that women who think of themselves as objects have difficulty recognizing their own body temperature. To test this, we asked women how cold they felt while standing outside nightclubs and bars on chilly nights. We found that the more a woman was focused on her appearance, the less connection there was between the amount of clothing she was wearing and how cold she felt.

In some women, self-objectification can become the default way of thinking of themselves and navigating the world. High levels of this self-objectification can be associated with mental health consequences, including disordered eating, increased anxiety over one's appearance and depression.

Evidence of harm and how to reduce it

While we are not aware of any research directly exploring the connection between video meetings and self-objectification, some recent studies suggest that our concerns are well founded.

One study found that the more time women who are focused on their looks spent on video calls, the less satisfied they were with their appearance. Facial dissatisfaction also seems to play a role in Zoom fatigue, with women across all races reporting higher levels of Zoom fatigue than their male counterparts.

For better or worse, the virtualization of daily life is here to stay. One way to reduce the negative effects of endless video meetings is to use the "hide self-view" function during online interactions. This hides your image from yourself but not others.

Turning off self-view is easy to do and may help some people, but many others – including us – feel that this puts them at a disadvantage. This may be because being aware of your appearance has benefits, despite the risk of self-objectification and the harms it brings. A huge body of research shows that looking attractive has tangible social and economic benefits, for women more so than for men. By monitoring your appearance, it is possible to anticipate how you will be evaluated and adjust accordingly. Therefore, we expect that people, especially women, will continue to keep the camera on for the duration of their Zoom calls.

A huge amount of previous research suggests that Zoom calls are a perfect storm for self-objectification and that the harms disproportionately affect women. It seems that the already uneven playing field for women is exacerbated in online social interactions. Any small reprieve from staring at a literal projection of yourself will be a net gain for your well-being, especially for women.

Roxanne Felig is a professor in the Psychology department at University of South Florida. Jamie Goldenberg, Ph.D., is a professor of psychology at the University of South Florida.

The Conversation is an independent and nonprofit source of news, analysis and commentary from academic experts.

Japan Today

Being Behaviorally Savvy in Vaccine Communication

By Rialda Kovacevic, Corey Morales Cameron and Renos Vakis

In the history of public health, vaccines continue to be one of the greatest solutions and to date have saved countless lives. However, hesitancy towards vaccination was a problem before the COVID-19 pandemic and continues to be a challenge with the rollout of COVID-19 vaccines across the globe. Reasons for vaccine hesitancy vary from country to country. Misinformation and lack of consistent messaging about the COVID-19 vaccines can lead to confusion and low-risk perceptions about the odds of getting ill. Hesitancy toward the COVID-19 vaccines may also be influenced by the speed of their development which raised safety concerns for some. Lastly, the goal of vaccines is to prevent severe illness and hospitalization, infection is still possible, but poor outcomes are far less likely. These are a few examples of underlying reasons for vaccine hesitancy, but beliefs are as diverse as people themselves.

With COVID-19 vaccines offering great protection in reducing the risk of hospitalizations and death, why has addressing vaccine hesitancy been such a challenge?

Asian woman waiting to get COVID19 vaccine. Photo: Shutterstock

Those attempting to answer this question might be well-intended but could be taking a one-sided approach to the problem. One of the common mistakes is applying a generalized blanket solution to increase vaccine acceptance. Often it is assumed that a "communication campaign" can solve the problem without first understanding the root cause of an issue; this can lead to poor outcomes.

Instead of beginning with a public health campaign alone, behavioral science may be a better starting point to consider psychological, social, as well as economic factors that affect how people behave and think. Based on the context of the environment, society, political influences, and culture, the root cause of the problem will differ from one country to the next. Social norms, attitudes, needs, and wants of the target audience must be taken into account when thinking of behavioral interventions.

In a recent blog, we highlighted some insights and lessons from work we have been doing at the World Bank to support countries understand and reduce vaccine hesitancy using behavioral science. The work is done through social media surveys and randomized experiments, allowing us to understand people's beliefs about COVID-19 and vaccination intentions. The information is then used to inform the countries' behavior-change communications to address vaccine hesitancy.

We first must remember that vaccine hesitancy lives on a spectrum. On one end there is a completely vaccine-resistant subgroup, on the other, there are early vaccine adopters, with agreeable champions, individuals concerned about safety, those uninformed on COVID-19, and low-vaccine-trust individuals in between. Hesitancy varies across demographics, behaviors, and beliefs. The correct communication strategy must be data-informed . Measuring target populations' social norms, intention to vaccinate, belief, and trust in vaccines is the essential prerequisite for crafting audience-specific interventions.

Social norms will be a key starting point for the right form of communication

Social norms are the informal, mostly unwritten, rules that define acceptable, appropriate, and obligatory actions in a given group or society. As we are social beings, we care about what those around us believe and do, and more importantly: their actions and beliefs influence us. Relying on personalized normative feedback, where people receive information on how they are performing against others around them, can help achieve higher vaccination rates. In the case of COVID-19, where vaccination is low, we can appeal to "dynamic" social norms by telling people that more and more people are getting vaccinated. An example is: "More and more of your neighbors are getting vaccinated, 10,000 people in your community received their COVID vaccine in the last week, don't miss out! Get your vaccine today," compared to a general messaging that simply implores "Get vaccinated!". In our work in North Macedonia, we found that this appeal to dynamic social norms had a large effect by increasing the intent to be vaccinated by 39%.

It may seem surprising, but message framing, including message tailoring, is sometimes even more critical than the message content to achieve behavior change. Customized messages are more personally relevant, thus attracting more attention. In Jordan, providing vaccine messaging that addresses an individual's specific concern was effective at encouraging intent to vaccinate. For example, those who reported concerns about the COVID vaccine efficacy were most likely to have an increased intent to get vaccinated when shown a message highlighting vaccine efficacy along with a reminder that they would be protecting friends and family. This group's intent to vaccinate increased by 21%, compared to control messages. This demonstrates the importance of adapting the messaging, so it is responsive to the individual's concern.

How relevant are messengers?

Some of the biggest concerns among those who are unwilling to get the COVID-19 vaccine include long-term side effects, already having had COVID-19 illness, concerns of the vaccine being ineffective, or just simply recognizing that there is still no long-term data available. As we are influenced by those

around us, relying on trusted messengers can make a difference in changing the target audiences' planned action to vaccinate from unsure to consenting to vaccinate. For example, using health care workers as a messenger can build trust, as seen in the message below, used in Iraq. For individuals with low trust, messages referencing doctors resulted in a 57% increase in intent to get vaccinated.

Similarly, in Cameroon, when shown messages with endorsement from experts and religious leaders, the intent to vaccinate was increased by 83% compared to the control message. While trusted messengers vary by country and local context, this finding highlights the importance of utilizing locally trusted sources for vaccine communication campaigns.

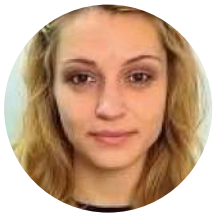
Finally, one flaw in traditional health behavior change interventions is the reliance on the target audience to use cognition and reflection as they are attempting to extinguish undesired behavior. But, if a task absorbs too much of our attention, we will quickly revert to the easiest way, the status quo. This adaptation allowed for our evolutionary survival given that default behaviors preserve our cognitive capacity. How can we use and manipulate our wiring to achieve the health outcomes we are after? For vaccine hesitancy that would mean making vaccination easier for the target audience, and altering the environment to present the easiest option, the default option, becomes vaccination. Some of the suggestions would be leveraging general providers to automate vaccination appointments, providing free transportation to vaccination sites, sending vaccination reminders via texts, and securing mobile vaccination units for hard-to-reach populations. Some of our current work revolves around this, and we will share results as we get them.

Increasing vaccination globally will require many different strategies. Harmonizing existing strategies with behavior science principles is a complementary element that can be leveraged to create strong vaccine communication and policies and vaccine take-up.

The work, led by the Mind, Behavior, and Development (eMBeD) unit of the Poverty and Equity Global Practice (GP), the Health, Nutrition and Population GP, and the Development Impact Evaluation Department (DIME) is supported in part by the Alliance for Advancing Health Online (AAHO), an initiative to advance public understanding of how social media and behavioral sciences can be leveraged to improve the health of communities around the world.

World Bank Blogs

About the Authors:



Rialda Kovacevic
Health Specialist

Rialda Kovacevic is a Health Specialist at the World Bank. Since joining the Health Nutrition and Population (HNP) Global Practice in 2018, she has worked on various initiatives, including the Health Systems Strengthening Program, Primary Health Care, Mental Health Global Task Force, Access to Covid-19 Tools Accelerator (ACT-A) – Health Systems Connector. She has an extensive background in medicine, public health, clinical as well as epidemiological research and data analysis.

Rialda has Doctor of Medicine degree from American International Medical University and Master's degree in Public Health from Johns Hopkins Bloomberg School of Public Health. Her primary areas of interest are preventative medicine, health care, and public health integration, along with mental and behavioral health in developing and developed countries.

Corey Morales Cameron
Behavioral Science Consultant

Corey Morales Cameron is a Behavioral Scientist with the World Bank's Mind Behavior & Development Unit (eMBeD), within the Poverty and Equity Global Practice at the World Bank working. For more than 10 years Corey has applied behavioral science to health policy issues including vaccination, maternal health, and youth engagement. Prior to joining eMBeD she worked on vaccine acceptance and uptake programs in Kenya, Nepal, and the Philippines with Busara Center for Behavioral Economics. Previously, she worked in the private sector, at Google, improving employee programs with behavior science and data analytics. Corey holds a M.Sc. in Global Health & Population from the Harvard T.H. Chan School of Public Health and a B.Sc. in International Health from Georgetown University.

Renos Vakis
Lead Economist, Poverty and Equity Global Practice, World Bank

Renos Vakis is a Lead Economist with the Poverty and Equity Global Practice where he co-leads the Mind, Behavior, and Development Unit (eMBeD). The unit integrates behavioral science in the design of anti-poverty policies in a wide range of issues such as financial inclusion, early childhood development, social protection, health and education. As a member of the Living Standards Measurement Study (LSMS) team in the Development Data Group of the World Bank, he also conducts experiments to improve household survey measures of behavioral dimensions of well-being. He has written extensively on issues related to poverty dynamics and mobility, risk management, social protection, market failures and rural development, especially in Latin America and South Asia and has led the design of impact evaluation of anti-poverty interventions in various settings. Most recently, he has completed a book on Chronic Poverty in Latin America and the Caribbean. Renos has also taught economics at Johns Hopkins University (SAIS). He holds a Ph.D. from the University of California, Berkeley.

A Ticking Clock: Are Our Health Systems Prepared to Address The Impacts of Climate Change?

By Tamer Samah Rabie and Stephen Dorey

Almost half of the world's population will soon be exposed to deadly heat stress. Photo: Shutterstock

On World Health Day, we reflect on the scale of the climate challenge we face and consider what are the lessons from the COVID-19 pandemic which can help countries rise to the health challenges posed by the climate crisis.

In early April 2022, for the sixth time, the Intergovernmental Panel on Climate Change (IPCC) issued a report warning us about the health impacts we can expect to see now and in coming decades. The picture is grim and should kick us into action. A recent IPCC report already warns that globally, the percentage of people exposed to deadly heat stress is projected to increase from 30% today to up to 76% by the end of the century. If we are lucky just under half of the world's population will be exposed to deadly heat stress.

This is just one of the climate threats that impact human health. There are numerous others like floods, droughts, windstorms, sea level rise, and extreme precipitation. The list is much longer, and poverty and inequality will only exacerbate the impacts of these shocks.

What can response to pandemics teach us about how to deal with the climate challenge?

The World Bank is firmly focused on these critical global challenges. Climate Change is the greatest global problem the world needs to overcome. Global pandemics – such as COVID-19 – are also very complex problems so what can we learn from our experiences in addressing them that could help us deal with the health risks we can expect from the climate crisis?

What are some of the lessons that we can already draw from? The global COVID-19 response showed us that it is possible for the governments and the international community to act quickly and at scale. The critical lesson here is that we can mobilize resources when needed. On our part, the World Bank has provided $12 billion to more than 100 countries to help them respond to the health impacts of COVID-19 and increase vaccinations. The second encouraging lesson is that international institutions, when faced with a global emergency, can adapt to enable them to move more quickly and to focus on very specific health challenges .

We need climate-smart health care

The "COVID-19 and Climate-Smart Health Care: Health Sector Opportunities for Synergistic Response to the COVID-19 and Climate Crises", jointly prepared by the World Bank and the Climate Investment Fund (CIF), outlines some of the climate-smart solutions.

It showed that by adopting low-carbon, climate-resilient approaches in their COVID-19 responses, countries have a chance to turn the pandemic challenge into an opportunity to strengthen their health infrastructure, so it is more resilient to impacts of climate change as well as to tackle the perennial threat of communicable diseases. Emergency interventions that promote sustainability and decarbonization can become the building blocks for how climate-smart Universal Health Coverage systems are designed going forward. A few examples of impactful interventions:

- The Gambia was able to lower its carbon footprint for medical waste disposal.
- Ghana built a sustainable vaccine cold chain that supports COVID-19 immunization while enabling the country to honor its climate commitments.
- India has built a climate-resilient, solar-powered facility for COVID-19 testing, isolation and treatment to improve and safeguard the continuity of healthcare delivery.
- The Philippines', People's Survival Fund supports local governments' efforts to adapt for climate change, including through initiatives that combine pandemic preparedness and climate adaptation.
- Yemen, which is facing many other challenges besides COVID, it was possible to deploy an Electronic Integrated Disease Early Warning System (eIDEWS) as part of its COVID-19 response.

These are great examples, but it is clear that they are just the tip of the iceberg of what is needed. We need to do much, much more, and do it much, much quicker.

Recognizing what we do and don't know

The first step is knowledge and we already know enough to act. What we don't know enough about is where to act and how much this will cost. Supported by CIF and other partners the World Bank has two key analytics seeking to answer these questions.

Firstly, a growing program of Climate and Health Vulnerability Assessments (CHVAs). These provide a country-level and sub-national assessment of human health risks from climate change and outlines the public health policies and programs that can be implemented to reduce these risks.

Secondly, the question on the costs is being tackled through the development of a Climate and Health Economic Valuation Tool (CHEVT) which models the climate-attributable health burden of selected health risks and the economic implications of these. The tool helps to estimate country-level and sub-national current and future climate-related health burdens and economic costs. This translates the problem into the language that governments can work with.

Focusing on climate-smart healthcare, gives countries their best chance to develop resilient health systems capable of

withstanding future climate shocks, thus protecting the health of individuals and communities. The World Bank aims to increase its work on this agenda and is committed to support countries with operational and analytical projects and tools.

World Bank Blogs

About the Authors:

Tamer Samah Rabie
Lead Health Specialist, World Bank's Health, Nutrition and Population Global Practice

Tamer Rabie is a Lead Health Specialist in the World Bank's (WB) Health, Nutrition and Population (HNP) Global Practice. He is a Medical Doctor with a master's in public health from the London School of Hygiene & Tropical Medicine, and with over twenty years of experience spanning clinical medicine, public health, health systems, health policy, service delivery and environmental health. Since joining the World Bank in 2005, he has led lending as well as advisory services programs in over twenty-five countries in Europe and Central Asia, South Asia, East Asia, and the Middle East and North Africa regions. Further, he has developed a number of health-related analytical and knowledge products in diverse areas, including private sector participation in health care service delivery, climate change, nutrition, reproductive health rights, and environmental health. In 2019, Tamer established HNP's global Health-Climate and Environment Program (H-CEP) with the aim to integrate environmental health and climate-smart healthcare measures into WB operations. Specifically, this program supports the WB Climate Change Action Plan and IDA19 climate commitments, the Clean Cooking Program, the Energy Efficiency and Health Sector Program, the WASH in Healthcare Facilities Program, as well as a number of other wider environmental health activities. In his current position, Tamer is assisting client countries in meeting their aspirations for achieving Universal Health Coverage and addressing the needs of their populations, especially among the poor and vulnerable.

Stephen Dorey
Health, Nutrition, and Population Consultant, World Bank

Stephen Dorey is a medically trained public health specialist with the World Bank (WB) focusing on environment and health challenges. Since joining the WB Stephen has been managing the operational and technical work of the Health - Climate and Environment Program (H-CEP) managed by the Health, Nutrition and Population (HNP) Global Practice (GP). He also coordinates the Multi-Sectoral Pillar (MSP) of the World Bank's COVID-19 Emergency Operations Centre (EOC) also in the HNP GP.

Before joining the WB Stephen worked with WHO EURO, the Commonwealth Secretariat, and at a number of national and sub-national levels of public health in the United Kingdom. Stephen holds a master's in public health and environment from the London School of Hygiene & Tropical Medicine, and qualified in clinical medicine from St Andrew's University and Manchester University.

Korea to pour W877 billion into pharma industry

By Kim Yon-se

Office of the Ministry of Health and Welfare at Government Complex Sejong in Eojin-dong of the administrative city (Yonhap)

The Korean government has decided to inject 877.7 billion won ($693 million) into the pharmaceutical industry which will be used for the development of new drugs, especially medicines and vaccines for variants of COVID-19, and fostering the nation's bio-related manpower.

The government also plans to support businesses which have been developing innovative vaccines or other medicines by raising the so-called "K-global vaccine fund" worth 500 billion won, officials said Thursday.

According to the Ministry of Health and Welfare, the 2022 commission for fostering and supporting the pharmaceutical industry finalized its implementation plan for this year.

The budget of 877.7 billion won for pharmaceuticals and bio in 2022 marked an increase of 13.7 percent, compared to 771.8 billion won in 2021.

Under the confirmed budget, the ministry will push for implementation of 152 details in for major policy segments: research and development of new medicines, fostering of the workforce, supporting exports, and improving relevant regulations.

The local pharmaceutical industry is a 23 trillion won market as of 2020, with its output and outbound shipments continuously increasing thanks to their recent active inroads into overseas markets.

Its growth is projected to be steady this year, buoyed by an expanded production of biosimilar drugs and increasing exports of its independent technologies.

An official said the ministry will focus on supports for businesses, engaging in state-led development of new medicines, commenting on the allocation of 134.2 billion won to the segment in 2022. This is an increase by about 200 percent, compared to the previous year (2021).

Investment in the medicines and vaccines for variants of COVID-19 will reach 97.3 billion won.

Among state investment in

manpower is 12.5 billion won in fostering bio production, dubbed the "K-National Institute for Bioprocessing Research and Training," and 10 billion won in supporting a convergence-type workforce, which combines information technology with bio-technology.

As a noteworthy case, the government has decided to set up an overseas office in a Boston-based bio cluster by investing 1.09 billion won.

A state-led fund worth 500 billion won will be raised as well, whose investors are composed of the government, public agencies and private investments.

Called the "K-global vaccine fund," the fund will support local businesses that develop innovative drugs and COVID-19 vaccines. Apart from the fund, the ministry is poised to create another policy fund at a similar size by 2023.

"This year (2022) is a significant time to map out support plans for the coming five years (2023-2028)," Health and Welfare Minister Kwon Deok-cheol said.

He said the government "is seeking to generate core implementation tasks to reap into a pharmaceuticals powerhouse."

As the government has finalized the nation's second comprehensive support project for the 2017-2022 period for the industry, the coming third comprehensive project for 2023-2028 is drawing wide attention in the market.

The Korea Herald

Antibiotic resistance detected in the food chain could have implications for human health, new study finds

By Norman Swan, Alex McDonald, and Alison Xiao

Researchers at Melbourne's Monash University tested foods that Australians eat every day and made findings which could have profound implications for human health. (ABC News)

Thirty-nine per cent of salmon samples tested were found to harbour resistance to a range of commonly used antibiotics. (Flickr: BakiOguz)

Chris Greening says an integrated surveillance system is needed in Australia to monitor antimicrobial usage. (Supplied: Elders Wagga Wagga)

A new study has found surprisingly high rates of antibiotic resistance in samples of salmon and beef purchased from Australian supermarkets.

The study, shared exclusively with 7.30, was commissioned by animal rights not-for-profit World Animal Protection and carried out by researchers at Melbourne's Monash University.

The researchers looked at how well antibiotics worked against bacteria in salmon and beef and also searched for what antibiotic-resistant genes the micro-organisms might be harbouring.

These genes can jump between bacteria, and from bacteria to humans through consumption.

"Alternatively, you would also have these genes potentially passing into wastewater, for instance, and then also causing environmental contamination," said Associate Professor Chris Greening from Monash University.

Fifty-five per cent of the beef samples and 39 per cent of the salmon samples were found to be harbouring resistance to a range of commonly used antibiotics.

"It's a concern. The levels of antimicrobial resistance in these meats was much, much more than we were expecting," Mr Greening said.

"We can't really conclude exactly how the antimicrobial resistance in these meats was acquired.

"What's clear is, because of the very high levels of antimicrobial resistance, they're probably exposed to antibiotics at some point, but we can't determine in what context and for what purpose."

It's possible that cooking the meat reduces the risk of transmission.

But Mr Greening said not enough was being done to monitor antibiotic resistance in the food chain.

"What Australia desperately needs is basically an integrated surveillance system for both antimicrobial usage as well as antimicrobial resistance levels," he said.

"We also need to be looking at animal health, we need to be looking at food, we need to be looking at [the] environment."

Food Standards Australia New Zealand said it would be monitoring antibiotic resistance from June 2022 as part of a new study looking at antibiotic resistance in Australian food. It said it was analysing the research from Monash University.

Coles, Woolworths, and Aldi all declined to be interviewed.

In a statement, a spokesperson for Woolworths said the company takes food safety seriously and relies on "the expert

Antibiotic resistance is becoming a global problem. (Flickr.com: Global Panorama (CC-BY-SA-2.0))

Bryce Camm says he tries to limit antibiotic use on his cattle. (ABC News: Alex McDonald)

Bryce Camm says more work is being done to understand the impact of antibiotic use in feedlot operations like his. (ABC News)

guidance of national authorities who set science-based regulations for the livestock industry and animal medicine".

The Department of Agriculture, Water and the Environment also told 7.30 in a statement that the study's findings "are not reflective of current antimicrobial usage practices" in Australia's beef or salmon industry.

Antibiotic resistance 'a real problem'

Antibiotic resistance is becoming a global problem that could make infections much harder to treat.

"Antibiotic resistance is where antibiotics no longer work because bacteria produce chemicals that inactivate the antibiotic, and that's a real problem," said Peter Collignon, an infectious diseases physician and microbiologist at the Canberra Hospital.

"There's people already dying around the world because they're getting infections that we can no longer treat.

"And as the projections go for the future, they're talking about millions of extra people dying per year because antibiotics don't work.

"It just shows why we have to be very careful with the volumes of antibiotics we allow to be used, the types that are used, and how we let it spread.

"If we don't have transparency of what's happening with real-time or near real-time data, then it's very hard to police this."

The Australian Pesticides and Veterinary Medicines Authority (APVMA) said it is responsible for approving antibiotics, but that it is up to state and territory regulators to monitor how much is used.

A spokesperson for the Department of Agriculture also told 7.30 that the department is in the initial planning stage for "a nationally coordinated One Health Surveillance System that will collect and report on antimicrobial resistance and antimicrobial use" across sectors including agriculture, food and animal health.

Beef industry taking concerns 'very seriously'

Bryce Camm runs his family's cattle company in Queensland's Darling Downs.

He's well aware that antibiotic resistance is a serious issue, and says he tries to limit his use of antibiotics.

The only part of Mr Camm's business where antibiotics are used is to treat disease among cattle in the feedlot.

"We'll use antibiotics when we have a beast with an ailment, that might have had a cut or an abrasion," Mr Camm said.

"Or it might have a respiratory [illness] or something like what we would call the flu in humans.

"Before we can use an antibiotic on any animal, it has to be authorised or signed off by a veterinarian.

"So Australia has some of the lowest usage of antibiotics in the world."

Mr Camm says he is working hard to avoid making the problem of antibiotic resistance worse.

"Antimicrobial resistance in the management of antibiotics, both in human health and animal health, is an emerging issue globally," he said.

"[It is] something that the beef industry ... takes very seriously.

"We understand how crucial it is to maintain the efficacy of those important medicines that we have today.

"We're always very conscious of emerging issues for consumers and ensuring that we're delivering a safe and nutritious product onto the plate.

"And hence, we have been world-leading in implementing stewardship guidelines around the use of antibiotics."

A Department of Agriculture spokesperson told 7.30 that Australia had adopted "one of the most conservative approaches to the use of antimicrobials in agriculture in the world", and that the registration process for antibiotics for use on food-producing animals takes a "science and risk-based approach".

"Australia has a national antimicrobial resistance strategy that reflects the shared responsibility of human health, agriculture and environment and the best available scientific knowledge of this topic," the statement said.

ABC News

Singapore and New Zealand researchers aim to use AI to help predict mental illness risk in youth

By Timothy Goh

Researchers from the Nanyang Technological University's (NTU) Lee Kong Chian School of Medicine and the Institute of Mental Health (IMH) are working with their counterparts in the Auckland University of Technology (AUT) to use artificial intelligence (AI) to help predict mental health conditions in youth.

More than one in five of those aged 18 to 29 in Singapore are in a state of poor mental health. PHOTO: ST FILE

According to the National Population Health Survey report 2020, more than one in five of those aged 18 to 29 here were in a state of poor mental health.

Noting that mental health is an extremely complex subject, NTU Assistant Professor Wilson Goh, who is leading the research, told The Straits Times that he and his counterparts in IMH had wanted to work on this project for more than a decade, but were constrained by the technology at the time.

"This was before the rise of big data, before AI became such a big buzzword... we were lacking the powerful algorithms that allowed us to make sense of (such) data sets," he explained.

Prof Goh said that since then, more powerful algorithms have been developed, and his team has also been able to hire more talent and beef up its ties with researchers around the world.

These factors have made it possible for their research to begin.

Run under the newly launched Centre for Biomedical Informatics at the Lee Kong Chian School of Medicine, the project will tap data from IMH's 2009 longitudinal youth-at-risk study.

The 2009 study examined 600 young people to identify social, biological, clinical, and cognitive factors involved in the transition to psychosis in at-risk youth.

Prof Goh, who is co-director of NTU's new centre, explained that at the time of the study, blood samples were taken from each of the participants and frozen, but not analysed due to the cost and availability of technology at the time.

Now that technology has progressed, the scientists will examine data such as gene expression profiles and metabolic profiles and compare it with clinical and behavioural data from the participants, in an attempt to combine all the data into a single model and see how they all relate to one another.

"We are looking at quite possibly the largest diversity of data that's ever been tackled in a single study," said Prof Goh.

To do this, the team will be using a complicated AI algorithm developed by a professor from AUT. The extremely powerful algorithm is meant to behave like a human brain, allowing it to analyse patterns across time and spot the complex relationships between various sets of data.

The research is expected to take about three years from 2022. The first year will be spent generating data from the blood samples and the results of the 2009 IMH study, and sorting relevant data from irrelevant ones.

The next year will be spent trying to integrate clinical and behavioural data with genetic information to develop a model.

In the last year, researchers will test out their model and see if it can be applied to other settings around the world, while working out the real-world implications of the model including the policies that should govern its use.

If successful, Prof Goh hopes that the model will be able to assist clinicians in diagnosing patients with mental health issues whose conditions are harder to spot.

"It can be incredibly difficult to diagnose patients because doctors will essentially be relying on a single panel of data... but the AI is able to look at a lot more dimensions. It can give you a counter-check or an alternative perspective. If the AI disagrees with you, it may give you pause and prevent you from missing out a potential case," explained Prof Goh.

Dr Jimmy Lee, an associate professor at the school of medicine and a senior consultant with the Department of Psychosis and Research Division at IMH, noted that numerous studies have shown that early and timely intervention can improve long-term management and outcome of mental health conditions.

Dr Lee, who was involved in IMH's 2009 study, said: "By tapping the expertise of NTU's Centre for Biomedical Informatics and our partners in Auckland, we can now take a deep dive into the data and possibly discover new insights - something that was not possible when we first started our study on at-risk youth.

"This will potentially help us to map the various clinical attributes of a patient to predict disease progression and tailor personalised therapy."

The Straits Times

Three New Studies Show Excellent Heart Health News for Coffee Drinkers

Three related studies that combined comprise what the authors believe is the largest analysis of coffee's role in heart disease and mortality show excellent news for regular coffee drinkers.

The studies, presented in three subsequent days in April 2022 at the annual American College of Cardiology (ACC) convention in Washington D.C., found that daily coffee consumption was associated with lower risk of heart disease and dangerous heart rhythms, and also with overall longevity.

One of the studies also found that coffee consumption is associated with improved outcomes for people with existing cardiovascular diseases.

"Because coffee can quicken heart rate, some people worry that drinking it could trigger or worsen certain heart issues," lead author Peter M. Kistler of the Alfred Hospital and Baker Heart Institute in Melbourne, Australia, said in an announcement from the ACC. "This is where general medical advice to stop drinking coffee may come from. But our data suggest that daily coffee intake shouldn't be discouraged, but rather included as a part of a healthy diet for people with and without heart disease."

Kistler was one of 12 authors credited in each of the three studies, with all contributors hailing from the Alfred Hospital or its related medical research institute The Baker Institute. Funding for the studies, which were published in May 2022 in a supplementary

issue of the ACC journal, was not disclosed.

Three Studies

The three studies all culled data from the UK Biobank, a large-scale database with information from more than half a million participants who have received follow-ups for at least 10 years.

The UK Biobank has provided the foundation for a wealth of coffee-related research in recent years, including additional large-scaled studies on heart health, as well as major studies associating coffee consumption with liver health and decreased dementia.

Study 1

Involving 382,535 people with an average age of 57, the first study examined people with no known heart disease. People who reported drinking 2-3 cups of coffee per day were found to have a 10-15% lower risk of developing heart disease or of dying compared to non coffee drinkers. Less benefit was seen for participants who drank more or less coffee per day, although risk of stroke or heart-related death was lowest among people who drank one cup of coffee per day.

Study 2

The second study involved 34,279 individuals who had some form of cardiovascular disease. Coffee drinking was associated with less likelihood of death within the study period, and it was not associated with higher risk of heart rhythm problems.

Study 3

The third study explored the associations between heart health and coffee type, with lower rates of death found among all coffee types (instant, ground, caffeinated, decaffeinated). The authors found that caffeinated coffee provided the most favorable outcomes, "with no cardiovascular benefits to choosing decaf over caffeinated coffees."

The authors noted several important limitations of the studies, including the fact that many of the participants were predominantly white, and that additional dietary factors, including cream or sugar as coffee supplements, were not controlled.

Daily Coffee News

Health Ministry Policy Department Head: Healthcare Reform aims to Bring "Proper, Quality Medicines" to Patients

By Salome Tsereteli

"The patient now has the opportunity to make a choice, and to choose the desired medicine from the list of equivalent products offered, according to the manufacturer, price or other property," Adamia said. Photo: Health Ministry of Georgia.

In order to ensure the high quality of medicines, a "positive list" of drugs has been developed to ensure patients will receive high quality, equivalent products from pharmacies. Adamia said the title of the "positive list" did not imply any restriction on sale of medicines that did not make the list. Photo: Health Ministry of Georgia.

The Ministry of Health of Georgia has launched a large-scale reform aimed at making the Georgian pharmaceutical sector transparent and accessible, and offer high quality medicines to citizens. Changes include patient prescriptions - which, starting this week, can only be issued for drugs under generic or international titles, to enable patients to pick specific products from brands during purchase.

Eka Adamia, the Head of the Policy Department of the Health Ministry, spoke to agenda.ge about the reform, explaining the reform mainly aimed to ensure the "benefits of each component is felt first and foremost by patients". Adamia said the process would help create a competitive environment in the pharmaceutical market, and ultimately reduce the cost of medicines.

The Georgian pharmaceutical market has been characterised by a lack of regulations as well as a less competitive environment, high price of products, polypharmacy, self-medication and misuse of medicines by patients, Adamia said in the interview to explain the necessity of the Ministry's initiative. The reform also includes the recent launch of imports of medical drugs manufactured in Turkey following an initiative by the Georgian Prime Minister - with the aim of effecting a reduction of prices on the Georgian market - which the Ministry official said had shown a "very serious result" in the early stages through a reduction of prices by almost 60-80 percent for certain medications.

Under the new regulations, doctors will be prohibited

Photo: Health Ministry of Georgia.

Photo: Commersant.ge

to issue prescriptions for products under their trade name, while pharmacists will be required to offer customers equivalents of three high-quality and cheapest medicines from the prescribed generic type.

"The patient now has the opportunity to make a choice, and to choose the desired medicine from the list of equivalent products offered, according to the manufacturer, price or other property," Adamia said.

The Health Ministry official also explained a novelty in defining another group of pharmaceutical products. "This group includes medicines that should not be used without a doctor's prescription as their uncontrolled or untargeted use may harm the patient. These include antibiotics, anti-inflammatory and antihypertensive types," Adamia noted.

Also as part of the reform, starting April 1, pharmacists have been required to sell medicines only based on digital prescriptions, with the first group of psychotropic drugs added to the requirement starting April 11.

"This change will significantly regulate the misuse of non-therapeutic doses of psychotropic drugs, which poses a great threat to human health," Adamia said, adding the digital prescriptions would be able to monitor both over-the-counter pharmaceutical companies and prescription doctors.

"Our goal is to get the right, proper, quality medicine to the patient, because the main thing is their health. Naturally, the availability - or the price - of these medicines is no less important. Therefore, after the implementation of all components of the reform, it will ultimately have a positive impact on both the health of citizens and their financial situation," Adamia added.

We also asked the Ministry official about the challenges for doctors in adapting to the digital changes in their work. Adamia said the Ministry had started communicating with doctors over the changes early. "Trainings were held with clinics, family doctors, insurance companies, the pharmaceutical sector" to make sure they would be ready to work in the updated regulations "without any problems", she told us.

The Head of the Policy Department also explained, "if a doctor does not have information about the generic drug of a specific use, they can use the name of a familiar brand to search for results in a single list, and then issue a prescription to the relevant generic product."

Adamia said it was "important" that the Ministry had developed the reform and its action plan based on recommendations of the Competition Agency, and a study conducted by the World Health Organization. The Ministry consulted with both Georgian and international experts, and studied the experience of other countries before approving the changes, she said.

"We cooperated with the WHO expert Luka Vončina [in the process]. One of the recommendations was to introduce a mandatory national e-prescription system, which would connect all prescribing physicians and all pharmacies, as well as provide the cheapest generic equivalent instead of branded medicine. We have adapted the experience of the countries and the challenges we have," the health official noted.

Asked if there is now a risk that the practice of polypharmacy would be transferred from a family doctor to a pharmacy, the Ministry representative said the risk was insured by the digital prescription system. The unified list used in it displays the type of medicines, as well as the purpose for its prescription, with the risk of lobbying for specific products by both doctors and pharmacies also insured. "If we see a consumer constantly buying the same medicine, regardless of the drugs offered, this may point to a case of lobbying for a particular medicine by the pharmacy," Adamia told us.

As part of the reform, the full cycle of the pharmaceutical sector operation is planned to be digitised in an effort to contribute to market transparency. The Ministry of Health believes the reform will have a "really serious scale" that will ultimately lead to a "very significant result" in terms of ensuring highest possible access to high-quality pharmaceutical products, the official said.

Among comments on the reform from healthcare professionals, therapist Ketevan Tsertsvadze shared her opinion about the decision made by the Ministry over generic drugs.

"Expanding the generic segment is important to increase access to medicines. Competitive prices will regulate prices for medicines and increase the availability of quality medicines. The relationship between the doctor, the pharmacist and the patient will be regulated," Tsertsvadze said.

Eka Burdzenidze, the Director of Aversi Pharmacy network, noted patients would be able to choose the desired products from the manufacturer and price options and based on generic prescriptions, adding "from our side, the process is technically [already] fully operational.

We also spoke to Nana Motsonelidze, a resident of Tbilisi who suffers from chronic illness and has to frequently use medication. Aged 64, she is retired and believes the Health Ministry's reform to have been "necessary" for her and other people who spend a large part of their finances on medicines. She said she would "definitely" use the opportunity to buy generic products. It's very good that [now] I can choose medicines according to my budget. I often have to take medication to regulate my blood pressure, I have chronic thromboembolism and constantly need to buy medications that cost quite a lot. Now I can choose which one to buy, and as far as I know, this price does not affect the quality," she said.

Agenda.ge

India reveals latest digital health projects

By Adam Ang

Photo by: FG Trade/Getty Images

An open platform for its digital health mission and a national tele-mental health programme are going to be launched.

The Indian government has announced two new projects to promote digital health for its citizens as it continues to battle the ongoing COVID-19 pandemic.

Delivering her speech for the Union Budget 2022-2023, Finance Minister Nirmala Sitharaman said the government will be launching an open platform connecting the country's digital health ecosystem under the Ayushman Bharat Digital Health Mission (ABDM). The platform will include digital registries of health providers and facilities, unique health identities, a consent framework, and universal access to health facilities.

Sitharaman also disclosed that a national tele-mental health programme will be rolled out to provide better access to quality mental health counselling and care services. It will consist of a network of 23 tele-mental health centres of excellence with the National Institute of Mental Health and Neuro-Sciences serving at its core and the International Institute of Information Technology-Bangalore providing technology support.

WHY IT MATTERS

The ABDM seeks to develop the foundations of an integrated digital health infrastructure of India, connecting the different stakeholders of the healthcare ecosystem through digital pathways. Its building blocks are digital systems consisting of digital health IDs, registries of health professionals and facilities, and patient health records. Currently, there are separate web portals for each system.

Meanwhile, Health Minister Mansukh Mandaviya shared on his social media account some bits about the national tele-mental health programme. He said the programme, which also aligns with the ABDM, aims to transform mental healthcare access by:

- Providing counselling and care using standard, evidence-based, culturally appropriate tools;
- Enhancing access to quality, standardised, and free 24x7 mental health services to people; and
- Helping to connect with various mental health care services, the health and wellness centres under ABDM as well as with the e-Sanjeevani system.

An estimated 7% of the Indian population deals with mental health issues with at least one in four families likely having one member with a mental disorder, according to the World Health Organization. For every 100,000 people, there are only 0.3 psychiatrists, 0.12 nurses, 0.07 psychologists and 0.07 social workers providing mental health care in the country, way lower than the WHO standard of three per the same population.

THE LARGER CONTEXT

In 2022, the Ministry of Health and Family Welfare saw its budget increase by around 16% to Rs 86,200 crore ($11.5 billion) from 2021's estimate of Rs 73,900 ($9.8 billion).

To support the launch of a new digital health platform, India has raised its allocation for the National Digital Health Mission under ABDM to Rs 200 crore ($26.7 million) from Rs 30 crore ($4 million). As for the mental health sector, a budget of Rs 40 crore ($5.3 million) has been set aside for the National Mental Health Programme under Tertiary Care Programmes.

Healthcare IT News

Learning from previous research: the impact of schooling, learning, and parental involvement on educational outcomes

By Kerina Wang & KCP Program Management Unit (KCP PMU)

Photo: Mohamad Al-Arief/ The World Bank

This blog entry is part of a series that highlights insights from research for development policies and practices, supported by the Knowledge for Change Program (KCP).

Does schooling necessarily lead to true learning outcomes? How does a mother's educational level impact educational outcomes of her children? And what are the effective mobilization modalities for parental involvement in children's learning endeavors and school activities? The research pieces that we are featuring today will help answer these questions.

This past Saturday, April 23, was the World Book and Copyright Day, designated by UNESCO. While we recount the benefits of reading, we can't help but notice that we are still a bit far from achieving the Sustainable Development Goal 4 (SDG 4) on education and learning. One of the sub-indicators of the SDG 4 aspires to ensure that all youth and a substantial proportion of adults, both men and women, achieve functional literacy and numeracy. Sadly, over 770 million adults still cannot read or write.

The failure of attaining true educational outcomes may be stemmed from lack of foundational skills due to insufficient early childhood development, lack of needed skills and motivation from teachers, low quality school management or outdated school inputs and insufficient resources, as highlighted by the 2018 World Development Report – Learning to Realize Education's Promise (WDR2018) which the KCP program supported. Today, we will zoom in on the role of parents in children's educational outcomes and illustrate evidence on effective mobilization strategies of more parental involvement.

1. Is schooling equal to learning?

The answer is no. Education is a powerful tool for individual and societal empowerment, and it serves as an engine to accumulate human capital in order to realize one's true potential. However, in many parts of the world, we are facing a multi-dimensional learning crisis. The increasing rate of school enrollment does not necessarily lead to actual learning by students. Many have completed primary education without acquiring sufficient competencies, lacking basic literacy and numeracy skills. In fact, the great schooling expansion over the past few decades was not necessarily translated into real learning outcomes in many low-income countries (WDR 2018).

In one of the background papers prepared for the WDR2018, the researchers revealed daunting results that in six out of the ten low-and lower-middle-income countries they studied, only about half younger adults aged 18-37 who completed primary education could read a three-sentence passage without assistance. By analyzing the Financial Inclusion Insights surveys, the authors argued that it was an untenable assumption that schooling would reliably lead to learning, and that purely looking at school enrollment rate would disguise real learning results . In addition, schooling targets such as Universal Primary Completion on schooling attainment can only achieve slightly better gains for female literacy in many countries. In Uganda for example, gender parity for attainment could only bring female literacy to 41 percent.

2. How does maternal educational level impact educational outcomes of children?

One set of projects that KCP has supported examined children's family environment, which had been assumed to have no causal linkages with children's outcomes, according to the classical model of human capital accumulation. Through a series of research endeavors on learning and educational achievements in Pakistan between 2009 and 2012, researchers found that in families where the mother had had some education, there were considerably more extra efforts put in by the mothers, children, and households in educational activities. In particular, one project demonstrated that there existed a clear causal link between maternal education and time spent with their children on educational activities outside of school settings – children of mothers with some education spend as much as 75 minutes more for every child. And mothers with some education also spend 40 minutes more with their children to help with schoolwork. These additional efforts would also pay off, as test scores of those children were also significantly higher. Moreover, it was also revealed that there was no relationship between maternal education and mother's choice of the provision of child-specific goods, such as tuition, purchase of uniforms or pocket money – this spoke to the phenomenon of low bargaining power at home. The data suggested that even with no influence on decisions related to household choices, the mother's productivity and her preferences toward children's education can be positively affected by the increasing level of her educational level. In sum,

we can reasonably expect a more conductive family environment for children's learning at households where the mother has attained higher level of education.

3. How to better mobilize parental involvement in children's school activities?

Recognizing the importance of mobilizing parents in the involvement of their children's educational activities, another KCP-funded project recently examined the effectiveness of different mobilization strategies for parents' involvement through a randomized control trial in 126 schools in the Angolan province of kwanza Sul. The researchers revealed in a working paper in 2021 that direct provision of information to parents alone was effective in improving parenting practices at home, such as helping children with their homework or instilling more discipline into children's time management in their studies. But evidence also suggested that the information campaign alone had no impact on parents' engagements at school such as participating in school institutions such as school boards. In addition, the research demonstrated the usefulness of less expensive alternatives to encouraging parental engagement – organizing parents' meetings and facilitating discussions on school related issues among themselves, without exogenous information provision. Such revelation highlighted that the indirect fostering of cooperation and coordination among parents would significantly increase their participation in formal school institutions.

Moreover, the approach that combines information and meetings treatments also led to improvement of parental involvement both at home and participation in school institutions, as well as indirect positive effects on other outcomes, such as measures of school management and quality of school infrastructure. Lastly, when studying whether the interventions would result in enhanced school performance in standardized tests by students, the results were mixed – the interventions did increase performance but only in schools where the original baseline was high. This may be due to the fact that it takes much longer time for benefits of parental involvement to be translated into better educational outcomes.

The exploration into what leads to real learning gains has come a long way. A decade or more ago, many development interventions were focused on building new schools and improving school enrollment rates, but the learning crisis prompted us to delve deeper into the factors that truly affect learning outcomes. The KCP will continue will to finance projects that bring a comprehensive and holistic understanding to education and learning.

The authors would like to acknowledge contributions from the following projects under the guidance of task team leads (TTLs) and researchers: World development report 2018: Learning to realize education's promise (TTL: Deon Filmer); Learning and Educational Achievements in Pakistan (TTL: Das Jishnu); and Mobilizing Parents at Home and at School: An Experiment on Primary Education in Angola (TTL: Vincenzo Di Maro)

World Bank Blogs

About the Authors:

Kerina Wang
Senior Program Officer, Development Economics and Chief Economist

Kerina Wang is the Program Manager for the Knowledge for Change Program, a flagship research and data initiative housed in the Office of the Chief Economist, Development Economics Vice Presidency (DEC) of the World Bank. She also leads the team that coordinates DEC's trust funds and partnerships function. Kerina returned to the World Bank after a four-year assignment at the International Monetary Fund (IMF), where she oversaw capacity development partnership portfolios related to public financial management, tax administration and policy reforms, statistics, and gender equality. Previously, she designed and implemented projects to improve public sector governance in the Governance Global Practice of the World Bank, and managed global operations at the World Resources Institute. Kerina holds a PhD in Public Policy and Public Administration from the George Washington University.

KCP Program Management Unit (KCP PMU)

The Program Management Unit (PMU) of the Knowledge for Change Program serves as the primary interface among the governance and management bodies of the program. The PMU assumes the day-to-day program monitoring, management and quality assurance function, coordinates stakeholder relations, and leads communications and outreach efforts. For more information regarding the KCP program, please visit the website.

How do the world's leading education experts recommend the education sector should respond to Covid-19?

By Charlotte Watts, Jaime Saavedra & Robert Jenkins

African school teacher wearing a lab coat, taking temperature on the forehead of a school girl | Shutterstock | I_Am_Zews

The arrival and scale of the Covid-19 pandemic caught everyone off guard; the pandemic, and its reverberating impacts, are far from over. The pandemic has impacted every area of the lives of every person around the globe, and education has been hit by its worst crisis in a century. In some countries, policy makers have been doing their best to respond to an unprecedented and fast-moving situation; in others, they have yet to grasp the magnitude of this monumental shock. Evidence on the effectiveness and impact of various policy and programmatic responses has been in short supply, in part because few countries were prepared. But recovering learning is now a gigantic task in need of urgent action.

The Global Education Evidence Advisory Panel (GEEAP), an independent multidisciplinary panel of leading global education experts convened by our organizations, is helping to fill this evidence gap. Their new report, Prioritizing Learning During Covid-19, summarizes the best evidence available, including on what has worked so far during the pandemic, and provides recommendations for how to tackle the global learning crisis in the wake of Covid-19. Here, we discuss our takeaways from the Panel's main recommendations.

1. Prioritize keeping schools and preschools fully open

Schools must be reopened and stay open. The large educational, economic, social, and mental health costs of school closures suggest full or partial school closure should be a last resort in governments' Covid-19 mitigation strategies. These costs fall heavily on the less well-off and girls, including through increased risk of teen pregnancy. The impacts of school closures will last longer than disruptions in many other sectors since losses in human capital reduce income and productivity throughout a child's life. Schools not only provide spaces for learning, but also deliver a range of critical services for students, including school meals, psychosocial support, and protection. Children need to be supported in their return to school and provided comprehensive supports that not only ensure their learning, but also their wellbeing. The priority should be keeping preschools, primary, and secondary schools fully open over keeping non-education sectors open, where disruptions cause shorter-term losses.

2. Reduce transmission in schools by prioritizing teachers for the Covid-19 vaccination, providing, and using masks where appropriate, and improving ventilation

The GEEAP cites ventilation and masking as key pandemic mitigation measures and calls for prioritizing teachers for vaccination. In Bangladesh, a randomized evaluation found that even imperfect masking substantially reduced community transmission (a 30-percentage-point increase in mask-wearing reduced transmission by 11% for surgical masks and 5% for the cloth masks often used in schools).

3. Adjust instruction to reflect the new reality and focus on important foundational skills

As children come back to school, curricula will need to be adjusted and aligned across the system to focus on foundational skills that children have missed. It will be too difficult for teachers to cover all the curricula as if children were just returning from a short break rather than major disruption to their schooling. Catch-up classes will be critical to meet children at their learning level rather than their curriculum grade. A series of randomized evaluations in India show that adjusting instruction to a child's level can rapidly improve foundational reading and math skills, even for students well behind grade level. When schools closed in Kano, Nigeria, the government leaned on the evidence-based Teaching at the Right Level approach to help pupils, both during and after school closures.

4. Provide additional instructional support to teachers

Teachers need support to continue improving their teaching skills, for example through structured pedagogy and simple teaching guides, to provide effective learning to their students as they return. They may also need increased human support to accommodate students' varying learning levels and needs. In South Africa, youth who volunteered as teaching assistants dramatically increased reading and math skills.

5. Leverage technology that is fit to country context

Remote education was not available to most students in low- and middle-income countries and most remote learning solutions were an inadequate substitute for in-person learning. Low-tech and no-tech solutions have been effective in many areas. But eventually, technology will have the potential to be an effective support in all education systems. In Brazil, text messages sent to students reduced dropout rates by 26% during the pandemic. In Bangladesh, mentoring and home-schooling support provided by tutors through mobile phones had large impacts on learning outcomes.

6. Foster parental engagement

Studies prior to the pandemic demonstrate how some parental involvement approaches can increase children's learning at low cost to the parent. These include direct communication from schools to parents, engaging more with young children in educational activities, reading books to a child (where the parent is literate), and sharing simple exercises for the parent to use with their child by text or phone call. Parents and caregivers have been engaged in education in an unprecedented way, and their expanded role should be encouraged as schools reopen.

In Costa Rica, text messages to parents that encouraged them to support their children's learning at home led to significant cognitive gains during the pandemic. These results reinforce findings from a review in non-Covid-19 settings, which revealed that interventions involving parents via phones, texts and emails have been successful as long as communications are two-way, personalised, and positive.

LOOKING FORWARD

Many countries are already responding to the pandemic in line with the Global Education Evidence Advisory Panel's recommendations. The learning crisis – now on the brink of becoming a catastrophe – is still underestimated in many countries and not sufficiently prioritized despite its potential to become the most serious and long-lasting impact of the pandemic. Beyond adopting evidence-based policies, we need to continue to measure the extent of the challenges through better data that will help decision-makers to target solutions, especially to the most marginalized learners. The urgency of the challenge should provide the political window of opportunity to implement critical education reforms that ensure all children receive the education and holistic support they need and deserve.

World Bank Blogs

About the Authors:

Charlotte Watts
FCDO Chief Scientific Adviser and Director for Research and Evidence

Professor Charlotte Watts is the Chief Scientific Adviser and Director for Research and Evidence in the Foreign, Commonwealth & Development Office

(FCDO). She is seconded from the London School of Hygiene and Tropical Medicine (LSHTM), where she is Professor of Social and Mathematical Epidemiology.

Jaime Saavedra Global Director, Education Global Practice, World Bank

Jaime currently leads the Education Global Practice at the World Bank Group, where he oversees a US$ 20 billion portfolio of education financing. He rejoined the World Bank Group in 2017 from the Government of Peru, where he served as Minister of Education from 2013 through 2016, being the first minister to continue in the same position across two administrations. During his tenure with the Ministry of Education, the performance of Peru's education system improved substantially as measured by international learning assessments and the university system underwent its largest reform in decades.

Prior to assuming his role as Minister for Education of Peru, Jaime had a ten-year career at the World Bank where, most recently, he served as Director for Poverty Reduction and Equity as well as Acting Vice President, Poverty Reduction & Economic Management Network. In 2012 Jaime co-led the team that developed the twin goals of Eliminating Extreme Poverty and Building Shared Prosperity, that since then defines the mission of the World Bank Group. He has also been Executive Director of GRADE, a leading social science think tank in Peru. Throughout his career, Jaime, a Peruvian national, has led groundbreaking work in the areas of poverty reduction and inequality, labor markets, education reforms, the economics of education, and monitoring and evaluation systems. He has worked with a number of international organizations and think tanks, among them the Inter-American Development Bank, Economic Commission for Latin America and the Caribbean, International Labour Organization, and the National Council of Labor in Peru.

Over the years, he has supported Enseña Perú and its efforts to place teachers in classrooms and foster the leadership of its alumni; spoken at global conferences; visited many network partners in their own countries; and worked with us globally to champion the importance of developing leadership at every level of the education system.

Jaime has also held teaching and research positions in academia and has published extensively. He holds a Ph.D in economics from Columbia University and a Bachelor's degree in economics from the Catholic University of Peru.

Robert Jenkins Chief, Education and Associate Director, Programme Division, UNICEF

Robert Jenkins, Chief, Education and Associate Director, Programme Division, UNICEF Headquarters, joined UNICEF in 1995. He brings over 20 years of experience in international development and humanitarian programming in Africa, Asia and the Middle East.

Lessons for the education sector from the COVID-19 pandemic

By Harry A. Patrinos & Eduardo Velez Bustillo

Photo: Shutterstock

In 2018 we published a blog, Four Education Trends that Countries Everywhere Should Know About, summarizing views of education experts around the world on how to handle the most pressing issues facing the education sector then.

The four most popular were:

1. Advances in neuroscience
2. MOOCs
3. Blockchain and
4. How to deal with the consequences of negative population growth

Today, after two years of COVID-19, we have been forced to look at a new set of relevant trends. Neuroscience remains as relevant, perhaps more so given the ability of science to advance learning. MOOCs were seen relevant for post-secondary education. In addition, the following topics may become more relevant: the role of the private sector; education technology; inequality; and pedagogy.

Neuroscience. Neuroscience will continue to be critical for early childhood development and for literacy and overall learning and cognitive development more broadly, especially for low-income children. But neuroscience also helps understand how distance learning impact the organization of our brain: (i) when learning in a dedicated physical place; (ii) when learning is carried out under the supervision of a professor; and (iii) when the learning is distributed between classmates. The use of videoconferencing affects the functioning of global positioning system neurons (neurons that code our navigation behavior), mirror neurons, self-attention networks, spindle cells, and interbrain neural oscillations. These effects have a significant impact on many identity and cognitive processes, including social identity, leadership, intuition, mentoring, and creativity. Just moving typical learning processes inside a videoconferencing platform, as happened during COVID-19, can in the long term erode school cultures and communities. Neuroscience research can be used to

understand how distance learning works best. How the teacher/learner separation by space or time, or both; the learner/learner separation by space or time, or both; and how the use of media and technology to enable communication and exchange during the learning process despite these separations. In particular, homes are becoming our schools: every day we check up on each other with online meetings, calls, and e-mails. Some of this will remain in the future and we need to find out what is its implication for learning.

Massive Online Open Courses. The potential of MOOCs increases with the challenges created by the need of online education. They acquire more importance today given that one side-effect of the COVID-19 pandemic has been increased enrollment in online classes. Some argue that secondary education may become a target for MOOCs. A clear "side-effect" of the COVID-19 pandemic has been increased enrollment in online classes. The increase in enrollment in many MOOC classes was in the order of magnitude over the similar time span in previous years. A particular target were teachers who needed to be trained to manage online classes. Some called 2020 the year of the MOOCs. Increase in enrollment has been seen in both developed and developing countries. It has been also noticed that learners enrolling during the pandemic are more likely to be younger than previous enrollees.

Private Sector. In the empirical literature one can see that income shocks, caused by natural crises or macroeconomic crises not necessarily reduce child human capital. In developed countries and in middle-income countries child education outcomes are counter-cyclical: they improve during recessions or natural crises. In developing countries, the outcomes are procyclical: school enrollment fall during recessions, especially among students served by the public sector schools. Not surprisingly, private sector enrollment goes up during these times, even covering low-income students. COVID-19 has led to an increase in private school enrollment in some countries.

Education Technology. This is a clear lesson. Education systems that did not pay enough attention to education technology, learned the hard way that it needs to be included as part of the system, a needed education input. Many innovative models have blossomed during the pandemic, so a role for Blockchain in education is still apparent, as it could help create an open architecture for learning.

Inequality. The negative impact of COVID-19 on learning has been significant and while it affected all students worldwide, the most affected ones are those students from low-income families in rural isolated regions. It is estimated that the share of 10-year-olds who cannot read a basic text could reach 70% in low- and middle-income countries due to prolonged school closures and poor learning outcomes.

Pedagogy. Last but not least, teachers and school principals need to be a focus of attention to make sure that the pedagogy in the classroom or in the videoconferencing platform deals with the specific challenges. New skills including dealing with education technology, working with parents and other community stakeholders, are needed.

As we said in 2018, education systems in developing countries are facing many challenges. It seems like such an understatement now given the two years of school disruptions in most countries due to COVID-19, the emerging learning losses, and rise in inequality and poverty; Omicron variant and its successors will continue to create more difficulties. The group with the most to lose are students. The time to act is now: improve pedagogy, with a focus on reducing inequalities that have emerged due to the pandemic, using whatever means necessary – edtech, MOOCs, private delivery – all informed by science of learning.

World Bank Blogs

About the Authors:

Harry A. Patrinos
Practice Manager, World Bank Education

Harry Anthony Patrinos is a Manager at the World Bank's education sector. He specializes in all areas of education, especially school-based management, demand-side financing and public-private partnerships. He managed education lending operations and analytical work programs in Argentina, Colombia and Mexico, as well as a regional research project on the socioeconomic status of Latin America's Indigenous Peoples, published as Indigenous Peoples, Poverty and Human Development in Latin America (Palgrave Macmillan, 2006). He is one of the main authors of the report, Lifelong Learning in the Global Knowledge Economy (World Bank, 2003). Mr. Patrinos has many publications in the academic and policy literature, with more than 40 journal articles. He is co-author of the books: Policy Analysis of Child Labor: A Comparative Study (St. Martin's, 1999), Decentralization of Education: Demand-Side Financing (World Bank, 1997), and Indigenous People and Poverty in Latin America: An Empirical Analysis with George Psacharopoulos (World Bank/Ashgate, 1994). He has also worked in Africa, Asia, Europe, the Middle East and North America. He previously worked as an economist at the Economic Council of Canada. Mr. Patrinos received a doctorate from the University of Sussex.

Eduardo Velez Bustillo
Consultant, Education Sector, World Bank

Eduardo Velez, Ph.D. (Sociology, University of Illinois). His main interest is the area of Economics of Education. Former World Bank Education Sector Manager for East Asia and the Pacific and for Latin American and the Caribbean, Human Development Sector Leader for China, Human Development Cluster Leader for Uganda and Tanzania, and Principal Education Specialist for Eastern and Southern Africa. Currently he is an Adjunct Professor at Georgetown University and a Visiting Professor at Kobe University in Japan and at Peking University in Beijing, China. Has published ten books and near 100 articles in professional journals and research reports.

STEM Education is Vital to National Development. Here's How We Can Support It

By Subramaniam Ramanathan, Jukka Tulivuori

Teachers who specialize in science, technology, engineering, and mathematics need greater support. Photo: Barney Yau

Taking an integrated approach to teaching science, technology, engineering, and mathematics is crucial to the growth of developing countries. It should be enhanced wherever possible.

STEM – an integrated approach to teaching science, technology, engineering, and mathematics – promotes the learning of the 21st century skills and provides developing countries with the tools they need to improve people's lives.

Surveys in developing countries show STEM education needs improvement in a variety of areas. We recommend the following:

Revamp the curricula: It is not necessary for a STEM subject to be introduced in schools when the levels of science, engineering, technology, and mathematics need improvement. In fact, many countries do not have a STEM subject in the school curricula. However, there is a need for students and teachers to be exposed to low-cost initiatives that can promote integrated STEM education.

Explicit articulation of STEM learning outcomes for each topic in a subject can better ensure the breadth and depth to which a topic needs to be taught and assessed. There is also a need to ensure that assessment goes beyond recall of facts. Test questions need to be pitched, as far as possible, at a number of levels so that students' learning can be assessed more rigorously.

Encourage students' interest in science and mathematics: Some of these programs can be on how to make STEM lessons more interesting. For example, using demonstrations with commonly available materials to showcase scientific concepts in a topic, formation of science clubs in schools (or raising activity levels of existing clubs), project work, and training teachers on how to inspire students in science and mathematics. Schools can also have visitors, who work in the fields of engineering and technology.

Improving teacher training: STEM education offerings need to be revamped at the pre-service level so that trainee teachers are better prepared when they are deployed in schools. That means STEM subject staff in teacher education institutes need to enhance their teaching methods as well as introduce courses that are aligned with contemporary thinking in these subjects.

Teacher educators in STEM subjects also need to undergo professional development programs that can upskill their competencies further and thus help to keep them abreast of the latest developments in leading teacher education institutes in the world. Their research skills also need to be improved.

Improve teacher development: Teachers must have multidisciplinary knowledge in various subjects and learn to work with other teachers. Professional development opportunities in STEM education will help teachers nurture students' critical thinking, collaboration, problem-solving, and communication skills. These initiatives can include, for example, how to use innovative approaches to teach STEM, how to develop low-cost STEM teaching aids, and conducting action research in schools.

Establish science centers: Research has established the important role that science centers can play in boosting science literacy levels, getting students excited about STEM, offering a possibility for schools, teachers, and students to promote their science, engineering, and technology projects, and contributing to the socioeconomic development of a country. Such science centers should also be established in developing member countries, preferably one in each of their major cities.

While there are no scientific societies that are set up in the nongovernment organization mode in many developing countries, these can be established as grassroots endeavors. However, they must be championed by prominent or influential scientists. Then they can support schools in many different ways in STEM education, besides contributing to nation building efforts.

Increasing internet bandwidth in schools: Teachers of STEM subjects as well as school leaders have cited slow internet connectivity in schools. This is one reason why teachers cannot access internet resources to support teaching and learning. Internet bandwidth in schools should be dramatically increased for enhancing educational effectiveness.

STEM education plays a crucial role in achieving the Sustainable Development Goals, improving the lives of people around the world, and in ensuring inclusive and equitable education for all. It should be enhanced and developed wherever possible.

Asian Development Blog

About the Authors:

Subramaniam Ramanathan
International STEM Education Specialist

Dr. R. Subramaniam was Associate Professor of Science Education at the National Institute of Education in Nanyang Technological University in Singapore until his recent retirement. Previously, he was worked at the Singapore Science Centre to popularise science and technology to students and the public. Recently he also worked as a STEM Education consultant for ADB.

Jukka Tulivuori
Social Sector Specialist, Education Sector Group, Sustainable Development and Climate Change Department, ADB

As part of the ADB's Education Sector Group, Jukka Tulivuori is improving teaching and learning outcomes in school education in Asia and the Pacific, and producing knowledge in education, especially in the areas of STEM education, inclusive education and teacher quality. He was a Counselor of Education in the Finnish National Agency for Education for eight years. He also has education and development working experience from Eritrea, Greece, and Ukraine. He holds master's degrees in Education and Geography from the University of Turku, Finland.

Accrediting Online College Courses Could be the Pandemic's Silver Lining

By Ayako Inagaki, Ryotaro Hayashi, Lynnette Perez, Marito Garcia

Online courses play an important role in accessing quality higher education, even more so during the pandemic. But most higher education systems do not have a process in place to accept credits from online courses not offered by their own institution.

During the COVID-19 pandemic peak in 2020, many school systems transitioned from traditional classroom-based education to online learning. Online courses had been playing an important role in accessing equitable and inclusive quality education and promoting lifelong learning opportunities for many years. And COVID-19 accelerated the trend.

Yet, the emergency also revealed shortcomings that will need addressing to fully tap the benefits of online learning. In particular, most higher education systems across the world do not have a process in place for accepting credits from online courses that are not offered by their own institution.

Universities began offering online courses to external learners in 2012 as massive open online courses (so-called MOOCs) hosted students on platform managers such as edX, Coursera, Udacity, FutureLearn, Udemy, etc. These platform managers do not create their own courses but form partnerships with universities, institutions and industries to offer online courses to outside learners.

Nonetheless, a few countries or regions have implemented educational reforms to incorporate online courses into their academic curriculums.

In 2016, Malaysia became the very first country to issue academic credits if a student successfully completes an online course as part of its Globalized Online Learning initiative. The project purports to enhance the quality of the course content as well as cut down the cost of course delivery, while allowing global learners access to Malaysian expertise. This recognizes online courses as valid and reliable instruments of learning by giving them recognition through credit.

Online learning has become widespread during the pandemic but transferring credits has been a challenge for many students. Photo: Barney Yau

Through online learning, Indonesia aims to increase equitable access to high-quality tertiary education to 50% by 2026 compared to 34% in 2018, while improving course quality. According to a 2018 regulation updated in 2020, the country will recognize online learning certificates as receipts of credit for formal academic qualification.

In addition, the government has established a consortium of online university course providers called the Indonesia Cyber Education Institute, where students can get credits through online courses. Students who pass assessment in the online courses are awarded digital credential certificates, which are registered on blockchain, enabling implementation of a verifiable digital credentialing system that is more difficult to hack, deters fake diplomas and fake certificates, and is thus more trusted by employers, government, and businesses.

Indonesia is among the world's first countries to employ blockchain technology in digital credentialing.

The 27 countries of the European Union are members of an interconnected system of course credit transfer, known as the European Credit Transfer and Accumulation System. The system has provided systematic recognition of courses in tertiary education institutions in member states since 1989. It was set up to allow students to study physically in other countries, enabling the transfer of their credits back to their home institutions. This credit transfer mechanism was extended to online courses as well and hence credits can be awarded to online courses taken from another institution.

In short, it is crucial to adopt flexible and enabling educational policy frameworks that allow recognition and transfer of credits from online courses across higher education institutions. Doing so will help them reap the full economic and social rewards of digital learning that were dramatically accelerated by the global pandemic.

More specifically, it brings three benefits: expanding access to higher education without the need to construct new classrooms; improving access to quality education by using content developed by the world's leading experts and the best professors; and reducing the cost of higher education.

Countries considering these frameworks can build on the experiences of the early adopters by paying attention to three lessons.

First, the scope of the credit transfer needs to be defined. Indonesia and Malaysia, for example, allow from 30% up to 40%

of total graduating credits in a specific program of study.

Second, it is important to clearly establish quality assurance mechanisms. The process for quality assurance, assessment and academic recognition needs to be worked out, using the guidelines in Malaysia as a great reference. Indonesia's experience shows that the academic credentials can also be protected by using blockchain technology.

Third, right providers and online courses need to be identified. The online courses could be provided by centers of excellence in the country and platform providers, while the online course marketplace could be provided by a credible institution.

Many countries, particularly small ones, may not have the capacity to develop such courses and policies; however, the example of the European Union can show them the benefits of regional cooperation with neighboring countries.

The pandemic has had a devastating impact on education in many parts of the world but one benefit that it could bring is the wider use of online courses as an important component of learning in developing countries. Systems that allow online course credit transfers is an important aspect of this transition.

Asian Development Blog

About the Authors:

Ayako Inagaki
Director, Human and Social Development Division Southeast Asia Department, ADB

Ayako Inagaki leads the planning, implementation, and supervision of ADB's lending and non-lending operations in the social sectors, that includes education and skills development, health, and social protection. Ms. Inagaki is also the Chair of ADB's Health Sector Group where she guides the preparation and implementation of the health sector group work plan.

Ryotaro Hayashi
Social Sector Economist, South Asia Department, ADB

Ryotaro works on improving the education sector in South Asia, particularly Bangladesh, Sri Lanka, India and Nepal. Before joining ADB as a Young Professional in 2015, he has worked for 10 years in international development organizations like the World Bank, the Japan International Cooperation Agency, and Japan Bank for International Cooperation.

Lynnette Perez
Principal Education Specialist, Southeast Asia Department, ADB

Lynnette joined ADB in August 2015. Her current portfolio includes preparation and implementation of education projects and provision of technical assistance support in Cambodia, the Philippines and Indonesia. She has more than 30 years experience in development work, especially in human development (education, health, social protection), poverty issues, rural development. She holds a Bachelor's degree in Business Economics from the University of the Philippines School of Economics and an MA degree in Development Economics from the Center for Development Economics, Williams College, Massachusetts, USA.

Marito Garcia
Fellow, University of Virginia's Darden Business School, Center for Global Initiatives (DCGI), USA

Marito Garcia served as Practice Manager for Education at the World Bank's Latin America and the Caribbean Region, and Lead Economist for Programs in New Economy Skills and e-Learning for World Bank's Africa Region. He currently serves as a Board Director of Learning Equality, a California-based non-profit education technology company dedicated to bringing the internet offline to address the digital divide. He currently advises the Asian Development Bank and the World Bank in key areas in education technology, such as digital credentialing using blockchain, online learning platforms, microcredentials, and digital transformation of tertiary institutions including implementation of training for the metaverse.

Taiwan donates multimedia classroom equipment to Saint Lucia

By Stacy Hsu and Matthew Mazzetta

Front row, from left: Taiwan Ambassador Peter Chen, Saint Lucia Education Minister Shawn Edward and Infrastructure Minister Stephenson King. Photo courtesy of Taiwan's embassy in Saint Lucia

Taiwan's embassy in Saint Lucia recently donated equipment for two multimedia classrooms, to help strengthen basic education and digital literacy in the Caribbean island nation.

At a ceremony on May 6, Taiwan Ambassador Peter Chen presented the first batch of equipment to Saint Joseph's Convent Secondary School in the country's capital Castries.

Saint Lucia Infrastructure Minister Stephenson King, who attended the ceremony along with Education Minister Shawn Edward, thanked Taiwan for its long-term commitment to his country's development, citing assistance in areas such as public health, agriculture, education, social development and basic

United States Ambassador to Barbados and the Eastern Caribbean Linda Taglialatela. Photo courtesy of Taiwan's embassy in Saint Lucia

infrastructure.

Meanwhile, in a pre-recorded statement, United States Ambassador to Barbados and the Eastern Caribbean Linda Taglialatela said the donation was part of Taiwan's support for the ConnectEd program, a USAID-funded digital education initiative for Saint Lucian youth.

The equipment, which includes 65-inch interactive screens and high-definition cameras and speakers, can be used to facilitate remote classes, musical performances and virtual meetings, according to the Taiwan embassy in Saint Lucia.

In addition to the interactive classroom at Saint Joseph's Convent in the north of the country, a second one will be set up at Vieux-Fort Comprehensive Secondary School in the south, the embassy said.

Saint Lucia is one of Taiwan's 14 diplomatic allies.

Focus Taiwan

Korea International School's counselling supports students through college applications and beyond

By Choi He-suk

High school principal Aimmie Kellar at a graduation ceremony. (Korea International School)

Korea International School offers comprehensive counselling with emphasis on social-emotional growth and academic development that guides high school students through the challenges of their teenage years to aid them in the college application process.

High school principal Aimmie Kellar observes that since the pandemic began, "We're having more conversations with families. Parents talk with us about taking care of the whole child." KIS counselors provide a common language to talk about mental health issues and offer relevant resources. These conversations equip each family to support their child.

Beginning in grade nine (freshman year), counselors help students identify their own strengths and interests to give them guidance and skills they can apply beyond KIS. One such example is Jessica, a grade twelve student (senior year), who plans to study psychology in university but also wants to learn more about media arts.

Her counselor suggested taking media classes this year to help her decide which classes to register for during her first year of college.

Jessica also encourages younger students to talk with their counselors. "Each conversation helps your counselor know who you are," she says, "Then they can help you make informed decisions about college."

KIS counselors build rapport with students and their families through individual or parent appointments and information sessions. High school counselor Jennifer Dorn appreciates the time she spends with each of her students. "When you get to know a student through social-emotional support, that can strengthen your relationship and understanding of where they're coming from," Dorn says.

During grade eleven (junior year), counselors offer lessons specific to postsecondary education. At this point, students are prepared to consider potential careers or study options that suit their interests. Students also prioritize what matters most to them in a university such as location, diversity, class size, internship opportunities, or alumni networks.

Each spring, KIS celebrates the matriculation of its students. "Our legacy walks across the stage in May, graduates, and goes out into the world," says high school principal Aimmie Kellar. She finds joy in the unique choices each graduate makes. "When they talk about where they're going next year, they light up," she says.

2022's graduates will join universities around the world including Princeton, Yale, Columbia, Brown, Cornell, Dartmouth, University of Pennsylvania, University of Chicago, Johns Hopkins, McGill, and Waseda.

Kellar credits the counseling team with facilitating a helpful range of conversations that build rapport with students and families, successfully guiding students' high school experience and college application process.

The Korea Herald

All Australian schools to sit NAPLAN online for the first time

By Daniella White

Ready to be tested: Students at Sacred Heart Primary School at Mt Druitt. CREDIT: EDWINA PICKLES

Sacred Heart principal Glenn Patchell. CREDIT: EDWINA PICKLES

Children across the country are preparing to sit the annual NAPLAN tests from May 10, which will mark the first time all schools will participate in assessments online.

About 1.2 million Australian students in years 3, 5, 7, and 9 are set to take the literacy and numeracy tests in more than 9500 schools and campuses across Australia.

It will also mark the final year the national standardised tests will be completed in May, moving to March from 2023 so results will be available to education authorities earlier.

In 2022, all tests except the year 3 writing task must be completed on computers for the first time, meaning the online tests are tailored to individual students. Most NSW public and Catholic schools have already transitioned to computer-based assessments.

Online NAPLAN automatically adapts to a student's test performance and asks questions that match their achievement level. All students start on the same level, but depending on whether a question is answered correctly or incorrectly, the next set of questions may be easier or more difficult.

Australian Curriculum, Assessment and Reporting Authority chief executive David de Carvalho said this provided teachers and schools with more targeted and detailed information on students' performance.

"The tailored testing means students are given questions that are better suited to their abilities, so they can show what they know and can do," he said.

"NAPLAN online also has a variety of accessibility adjustments, so that students with diverse capabilities, learning needs and functional abilities are able to participate."

Students at Sacred Heart Primary School, Mount Druitt, have been completing the online assessments for a number of years.

In 2021's tests, it was among high progress schools which achieved some scores above and well above average in literacy.

Principal Glenn Patchell said the school, located in Sydney's outer western suburbs, never let its postcode determine its success.

"We still have high expectations of the kids, we have focused teaching, we have engaged learning," he said.

"We always use the data to inform our teaching."

He said the school had focused on its professional learning in recent years to help improve student outcomes.

Curtin University Associate Professor Karen Murcia said tailored online testing was a better way of identifying different abilities of students who achieved at a similar level.

But she said the online tests' success depended on a number of factors, including a reliable internet connection, access to enough devices and students' IT abilities.

De Carvalho said 2022's test would continue to give an insight into the impact the pandemic has had after two years of disruptions to schooling.

"2020 and 2021 have been challenging for schools, parents and students, with disruptions such as lockdowns, floods and COVID cases keeping students out of the classrooms at times," he said.

"Contingency plans are in place in each state and territory, as they were in 2021, and jurisdictional testing authorities can support schools that need flexibility and help completing NAPLAN due to disruptions caused by COVID, flooding or other reasons."

The Sydney Morning Herald

Indonesia Attempts to Address Digital Divide in Education

By Kirana Aisyah

The government has vowed to address Indonesia's perennial education problems, such as the lack of equal access to digital technology and high-quality education, which have only been exacerbated by a COVID-19 pandemic that has forced many schoolchildren online.

The country has for the longest time put education funding on a pedestal, with a regular allotment of 20% of the state budget mandated by the 1945 Constitution. In 2022, the government's entire education budget stands at Rp 541.7 trillion (US$37.9 billion). However, efforts to evenly develop the sector across the archipelago have been less than ideal, despite the funds, given the size of the population and the geographical challenges of infrastructure building.

Kick-starting the nation's G20 activities in the education sector, the Education, Culture, Research and Technology Ministry has said that COVID-19 has further exposed Indonesia's deeply rooted problems. As a result of the

nation's wide digital divide, for instance, students, especially those in vulnerable communities and impoverished population groups, have been facing the brunt of cognitive learning loss.

Inequality in education has actually been around for a long time. The pandemic has opened our eyes to the fact that education is in crisis, and we must deal with this together. Since COVID-19 swept throughout the world, schools have been locked down and students were forced to migrate online, robbing them of opportunities to socialise and develop skills that need to be learned in person.

The Indonesian government, while convinced that online classes cannot effectively replace face-to-face learning, has been unable to overcome the obstacles to online learning, such as the lack of equal access to the internet and devices, or poor digital literacy among teachers. Even as authorities resumed limited classroom learning earlier this year, the recent surge in COVID-19 cases has led to another tightening of activity restrictions, putting the issue of learning loss once again.

This pandemic is an opportunity for us to be more enthusiastic in rethinking and rebuilding a better education system that is more inclusive, fair and of high quality.

– Anindito Aditomo, Head of Ministry's Educational Standards, Curriculum and Assessment Agency

Under its G20 presidency, the Education Minister, Nadiem Makarim said Indonesia will prioritise four main issues at the G20 Education Working Group (EdWG): quality universal education, the use of digital technologies, forging solidarity and partnerships and building a post-COVID-19 workforce. With the spirit to recover and rise together, the Education Minister invites everyone to strengthen mutual cooperation to succeed under Indonesia's G20 presidency and realise merdeka belajar, merdeka berbudaya (freedom to learn, freedom to be cultured).

As reported by OpenGov Asia, in the measurement of the Indonesia Digital Literacy Index 2021, Digital Culture has the highest score. The pillar of Digital Culture was recorded with a score of 3.90 on a scale of 5 or good. Furthermore, the pillars of Digital Ethics (digital ethics) with a score of 3.53 and Digital Skills with a score of 3.44. Meanwhile, the Digital Safety pillar got the lowest score (3.10) or slightly above average. The measurement of this digital literacy index is not only to find out the status of digital literacy in Indonesia but also to ensure that efforts to increase people's digital literacy are more targeted.

The four pillars that form the Digital Literacy Index are measured annually by the Ministry of Communication and Informatics. In 2022, the Indonesian Digital Literacy Index is at a score of 3.49 or at a moderate and close to a good stage. The use of the four pillars in this measurement refers to the 2020-2024 Indonesia Digital Literacy Roadmap compiled by the Ministry of Communication and Information, based on previous national research and refers to similar measurements held by UNESCO.

OpenGov Asia

Finland's big new export to India: Education

By Charu Sudan Kasturi

Schools offering activity-based learning over textbook-based education are emerging across India.

Playdough is not a common mathematics teaching aid. But at Jain Heritage School in the upmarket neighbourhood of Whitefield in Bengaluru, India's tech capital, it is among the options that primary school teachers use to make numbers fun.

Instead of learning by rote, children are encouraged to shape playdough into different numerals. They learn patterns using sticks and stones; counting by tallying up the trees they see during an outdoor exercise; and measurements by making lemonade.

The schooling style is a sharp break from the doctrinaire approach that has long dominated Indian education: Government agencies draw up curricula, teachers and schools have little flexibility to innovate, and students are graded on what they remember rather than what they understand. This, on the other hand, is an attempt at emulating Finland's globally acclaimed school system, which is now gaining traction 6,500km away in India.

Schools offering "Finnish education" are emerging across Indian cities, emphasising activity-based learning, interaction with nature and life skills over textbook-based, test-oriented education. The Academy School (TAS) in the city of Pune adopted a Finnish curriculum in 2021. Finland International School, also in Pune, will start later in 2022. FinlandWay, a Helsinki-based preschool provider, is setting up three institutions in Mumbai. There is Nordic High International School in Indore and Ramagya Roots, a pre-school in Noida.

Finland's globally acclaimed school system is gaining traction in India [File: Courtesy, The Academy School in Pune, India]

Even Mohan Bhagwat, the chief of the Rashtriya Swayamsevak Sangh — the mothership Hindu nationalist organisation that the country's ruling Bharatiya Janata Party belongs to — has publicly acknowledged the successes of Finland's schooling system.

Some experts are worried that

Indian private schools — mostly catering to children from privileged backgrounds — will not be able to ensure equal access to quality education and teaching, a foundational principle of Finland's public school-based model. But the allure is real for parents like Pragya Sinha, a Pune-based marketing executive nervous about her eight-year-old son returning to the pressures of the classroom after studying from home during the pandemic.

Parents like the personalised attention these schools offer [File: Courtesy, The Academy School, Pune, India]

"What's really appealing to me is the personalised attention that these schools promise to students and that learning seems like fun," Sinha told Al Jazeera. She is thinking of seeking admission for her son in either TAS or Finland International School. "We're in a global village today — why should my geography limit my child's education?"

'Global village'

That is Finland's pitch to the world, too. In 2015, the country's government created a platform called Education Finland with the task of exporting the country's education model that is routinely near the top in the OECD's Programme for International Student Assessment (PISA) tests and that boasts a high school graduation rate of more than 90 percent. The organisation works with Finnish companies that identify global markets, find partner schools and customise pedagogy for specific countries.

"Systems in one country cannot be copied as such," Jouni Kangasniemi, programme director at Education Finland, told Al Jazeera. "However, many good practices can be exported and adapted in another environment."

India is not the only country looking at Finland. In Peru, the government is building 75 schools modelled on the Finnish experience, Kangasniemi said. New Nordic Schools, a Helsinki-based company, is helping new schools start in Brazil and in Minnesota in the United States, co-founder Pia Jormalainen said.

But the size of the Indian education market — expected to touch $225bn by 2025 — makes it a rare prize. New Nordic Schools and an Indian partner company, Finland Education Hub, are responsible for the curriculum and teacher training at Jain Heritage School and Nordic High International.

Alien schooling system

It is not always easy for Indian teachers and schools to adopt the Finnish model, said Jormanainen. While Finland has a core curriculum, teachers are expected to develop teaching and evaluation plans on their own. In India, teachers are trained to follow government-prescribed syllabi and textbooks. "We've had schools ask us to craft the syllabus for their teachers," Jormanainen told Al Jazeera. "That's fundamentally against our approach."

Parents will also take time to accept an alien schooling system, said Shashank Goenka, whose Goenka Global Education group is launching Finland International School in Pune. At Finland International School, every class will have two trained teachers — one Finnish, the other Indian — and an assistant. "We want to deliver the best of the Finnish model in an Indian context," Goenka told Al Jazeera.

That needs modifications to the Finnish schooling approach, said Ashish Srivastava, CEO of Finland Education Hub. Students in the Nordic nation do not take school work back home. But many Indian parents find the absence of any homework hard to understand, he said. "So our schools occasionally give activity-based exercises that kids and parents can do at home," Srivastava told Al Jazeera. When parents ask schools why their children are not learning how to write with pens sooner, they are gently reminded that most people hardly write with pens any more. "That's what we keep emphasising — the Finnish system is all about teaching children what's relevant."

But rigorous teacher training is the cornerstone of Finland's education success, experts said. Until Indian teachers are trained afresh, schools have no alternative but to hire teachers from Finland. That is costly and reflects in the fees: Finland International School, for instance, charges 570,000 rupees ($7,600) a year, in a country where per-capita gross domestic product (GDP) hovers under $2,000. And while India has far more expensive private schools, Jari Lavonen, a professor at the faculty of educational sciences at the University of Helsinki, said he worries that the commercialisation of his country's schooling approach "can hurt the image of Finnish education".

"It is not fair to establish private schools and sell Finnish education," Lavonen told Al Jazeera. But he acknowledged that since private schools already exist in India and other nations, injecting Finnish approaches into these institutions might make sense. "I know that in some countries, children who are studying in a Finnish-style private school are quite happy."

Meanwhile, public schools are starting to adopt lessons from Finland, too. The education minister of Kerala, arguably home to India's best government-run schools, announced earlier this month that the state would partner with Finland on teacher training, curriculum reforms and classroom technology. And even private schools are eyeing smaller cities and towns, said Goenka, portending a spread beyond major metropolitan regions soon. "We're just getting started," he said.

AL JAZEERA

Published by the Secretariat, Confederation of Asia-Pacific Chambers of Commerce and Industry (CACCI)
David Hsu, Director General; Amador R. Honrado, Jr., Editor
Wendy Yang, Contributing Editor; Teresa Liu, Assistant Editor
7F-2, No. 760, Sec. 4 Bade Road, Taipei 10567, Taiwan; Tel: (886 2) 2760-1139; Fax: (886 2) 2760-7569
Email: cacci@cacci.biz; Website: www.cacci.biz