



### Message from the Chairman

Throughout history, the need of humans to interact and communicate, in order to fulfill and satisfy their needs and demands has led to the development of economic and commercial relations. Especially in recent decades, governments and politicians have been obliged to provide and facilitate the security of such communications.



Commercial diplomacy, particularly in the field of goods and services related to health and education, such as health tourism, the transfer of scientific and technical experience, the commercialization of new technologies, franchising, services, and joint production of products and improvement of educational services, especially professional and skilled training, has enhanced the positive and effective relations between nations and has developed peace, friendship and security in the world. Nowadays, notably in West and South Asia, the demand for this type of communication has increased more than ever before.

Free economy and trade allows entrepreneurs, manufacturers, and businesspersons in the food, medicine, medical equipment, health tourism services, and education industries to play an effective role in human, economic and commercial development in order to lead politicians towards peace and tranquility. Education and the promotion of people's level of awareness, especially in the field of technical and vocational skills, will increase the efficiency of the workforce, human development and economic growth, which itself will promote self-care, the formation and expansion of government agencies, NGOs, and Health-related businesses.

Meanwhile, the development of ICT-related education and activities, in particular e-health and digital marketing skills, can play a key role in facilitating the level of education and community health.

In this context, by developing communication and coordination among its members, the Confederation of Asia-Pacific Chambers of Commerce and Industry, especially through the Asian Council on Health and Education, can become the main contributor in implementing the concept of "commerce for peace" in the vast continent of Asia.

Arash Anissian, MD  
Chairman  
Asian Council on Health and Education

### Content

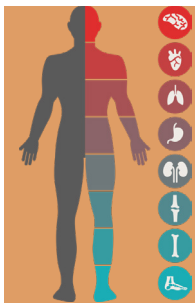
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# Part I Health



## How To Provide Free Medicine and Make a Profit

*An interview with Rishi Madhok MD, CEO and Co-Founder of BitMED*



*A paramedic in Pakistan checks a child's throat at a telemedicine online treatment center.*

*Photo: Aamir Qureshi/AFP/Getty Images*

*Technology offers huge opportunities for broad social benefit in public healthcare—particularly in the area of telehealth, which has the ability to deliver long-distance healthcare. BRINK News spoke to Rishi Madhok, the CEO of BitMED, a company that provides free health care to underserved communities in places as far apart as the Pacific Northwest and Mongolia.*

**BRINK:** *What exactly is telehealth?*

**Rishi Madhok:** Telehealth refers to remote care—doctors and patients interacting with each other—whether it's through a computer, an iPhone, or an Android app, or through remote consultation via email or a phone call.

Traditionally, medicine just takes whatever the current technology is and sticks it between the patient and doctor. But if you just take a video camera and stick it between a patient and doctor, I don't believe you have actually improved care. I think you've actually made things a lot harder, because you've taken the patient-doctor interaction, where it's already quite hard for information to be transacted, and now stuck a video camera or an audio telephone call in between, where data gets lost and call quality gets lost.

**BRINK:** *So which areas of health care is telehealth working best in?*

**Dr. Madhok:** The type of care that can be developed and given over this type of technology has really excelled in primary

care, urgent care, and what I like to think of as referral services. The other area that has seen a lot of great success is essentially providing specialty services from provider to provider. There have been great advances in telestroke care. Stroke specialists are a scarce resource, but strokes are common, so the ability for an ER doctor to engage a teleneurologist quickly and efficiently helps guide the patient care early. If you can deliver the effective and right care more quickly in the setting of a stroke or a neurological emergency, you're helping that patient's long-term outcome to better restore their function.

**BRINK:** *What is BitMED's niche in this space then?*

**Dr. Madhok:** Our view of health care, and telehealth specifically, is that we use it as a way to engage our users in a form of health care that they're used to: I feel sick, I talk to a doctor. But the actual reality of BitMED is that we're seeking health maintenance and health betterment. So, we use telehealth to efficiently engage our users with primary care doctors, family medicine, and emergency medicine doctors to help address the everyday needs—but also to help address long-term care plans with our patients.

We started out with just primary care and urgent care. We've expanded now to women's health, quite a bit more preventative care, and engaging nutritionists from the platform. Our most recent pilots have revolved around mental health.

We've been focused on the U.S. markets, but also we felt that this technology was immediately addressable and scalable to emerging markets such as Rwanda and Kenya. We're now moving into Ghana and then Asia: Myanmar, Thailand, Singapore and now Mongolia.

**BRINK:** *You offer no-cost health care to these patients. How is that a sustainable business model?*

**Dr. Madhok:** That's a great question. In the current system, there's always a cost: There's the cost of getting in a car and driving, waiting in a waiting room. The average patient drives 10 to 85 miles to get to their physician. There's an average wait time of 19 days for a general clinic appointment. The average cost is going to be anywhere from \$50 to \$500 in terms of engaging with your care.

It's a catch-22. On one hand, as a person, you don't want to be sick. But you also feel somewhat unfulfilled when you go to a doctor and they're like, "well, you're fine. It should clear up in a week. Just give it some time and we'll follow up." All this

expense—and you walk away with nothing in hand. It's something, as an emergency physician, that I've seen and felt many times.

When the patient is treated as a customer, that's dangerous. Because when you're treated as a customer, there's a desire to give a product, and that's why you see a lot of traditional tele-health care platforms over-prescribing—because the prescription becomes the product. You pay \$20, you talk to a doctor, here's a prescription. Did you need that antibiotic? Truthfully, no, and there's very good studies to show that antibiotics and other medications have been overprescribed from tele-health care.

So, for BitMED we said, "listen, let's take out all that friction. Let's take out the hesitation for engagement from the patient side. Let's take out the conflict the doctor feels from engaging the patient as an actual patient and person instead of a customer." So the whole thing is no cost. We don't bill insurance. We don't do subscriptions. We don't do copays. None of that.

*BRINK: So where does your revenue come from?*

*Dr. Madhok:* All of our work is fully subsidized and supported by the ability to derive insights and data products from what comes on the platform. If you look at attempts to develop a clinical decision support tool, why doesn't it work? They feed it tons and tons and tons of data, but it still fails. Because they're going to electronic health records that aren't really meant for documentation of care. They're definitely not meant for scientific development. They're meant for billing.

What we offer is de-identified, aggregated data that has been structured for you to train your AI, to train your neuron network, to help you develop a pharmaceutical drug that has a good response profile to this very specific population.

And we don't just give people no-cost health care. We incentivize the health care. When your data gets transacted as a member on our platform, you actually earn back what we call a BXM token. That token can be used for more goods and services on our platform—we're working with hospitals, pharmacies, grocers, solar power companies to be able to accept this token so you can have a better life just by engaging in your health care. You get immediate benefits, but you also get long-term benefits as well.

*BRINK: What are the organizations that pay for this data? Is it hospitals? Insurance companies? Where does the data go?*

*Dr. Madhok:* Insurers can use this to help them in terms of where are the new markets for them to expand into? How do they understand risk adjustments for a 45-year-old male who has hypertension, diabetes, and what does that health care utilization look like? What's the right insurance package for them?

We also take the de-identified data and create analyst reports and profiles. So if you're a company looking to move into a new market and want to understand the disease penetrant of diabetes or HIV, we can provide you with those insights and reports to help you then move into a new market.

Then there's academia. Coming from the academic world, patient engagement and involvement and acquisition of data are the biggest risks and represent 30 percent of the time of enrollment with any trial. We can help cut that down and save on cost tremendously and hopefully improve those outcomes.

*BRINK: So you're not actually providing the health care. You're an intermediary to physicians, hospitals and so forth. Is that correct?*

*Dr. Madhok:* BitMED is also the provider of health care. We have developed our own medical practice. It is a separate entity, completely blinded from how we make money. We have a collection of physicians, a pool of physicians, that we employ and pay, to provide direct care on our platform. Our AI bot engages the patient, asks them what's going on, when did your headache start? Does anything make it better or worse? Do you have any of these associated symptoms like neck stiffness or fever? When it hits an end point to this logic, it transitions the care to our medical team.

The medical practice doctor then comes in, a family practitioner or emergency doctor, and they will look at the case and move to a treatment decision, either reassurance, a prescription if necessary, and, if needed, a referral to care and always a delivery of a treatment plan.

Then, the bot takes over the care again and basically asks the patient two questions at 48 hours. First: "How are you doing?" We want to make sure you are feeling better. Next, "Did we answer your question?" Because it gives the patient an opportunity to basically say whatever they felt may not have come to mind, or what they may not have had a chance to bring up in the clinical encounter. Maybe that patient had a grandmother who passed away from a brain tumor six months ago, and they want to make sure that their worsening headaches couldn't be that. If there's a negative response in those questions, the patient is offered again a clinical consult because they're no cost. There's no friction in bringing them back in.

*BRINK: How has working in the developing world been a different experience to what you've been doing in the U.S.?*

*Dr. Madhok:* Within the emerging market, there's great opportunity because you have these kinds of leapfrog events within Africa and Asia. They leaped from phone lines underground, power lines above ground to solar power panels and solar connectivity. In Africa, there's great adoption of mobile payment and mobile wallets, so there's a strong understanding that one can engage with everyday goods and services from a mobile device.

For example, in Rwanda, their priority was nutrition and prenatal health. We said, "great, we're happy to come to the country; give us two districts to start where we can help make an impact. Give us one in a densely populated city and the other in a more remote area." Then we asked that they introduce us to a channel partner, so we have a private and a public partner in the health system. We basically hire local physicians to help support. We gauge academics to help provide local content. Also, we're engaged with public health as well.

So we're able to become a channel where people can push content through us. So you see in the emerging market the ability to be this bridge where health services tend to lag behind. Mobile technology and this connectivity has blossomed, and so we've been able to move through those markets extraordinarily well and get very readily available adoption.

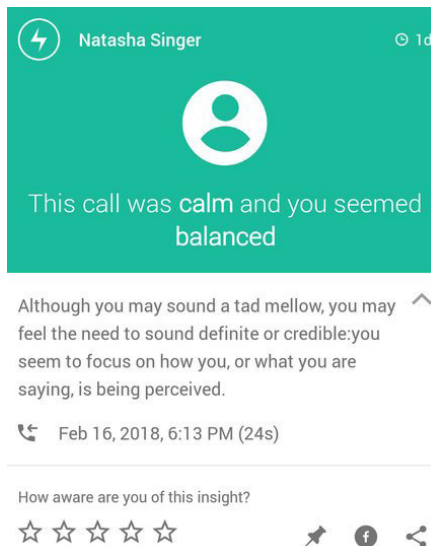
*This interview has been edited and condensed for clarity.*

*Brink, August 31, 2018*



# How Companies Scour Our Digital Lives for Clues to Our Health

By Natasha Singer



*Aaron Krolik, a software engineer in news technology at The New York Times, downloaded the Sharecare app and received this voice analysis message after he called Natasha Singer, a Times reporter.*

*An emerging field, digital phenotyping, tries to assess people's well-being based on their interactions with digital devices.*

Your digital footprint — how often you post on social media, how quickly you scroll through your contacts, how frequently you check your phone late at night — could hold clues to your physical and mental health.

That at least is the theory behind an emerging field, digital phenotyping, that is trying to assess people's well-being based on their interactions with digital devices. Researchers and technology companies are tracking users' social media posts, calls, scrolls and clicks in search of behavior changes that could correlate with disease symptoms. Some of these services are opt-in. At least one is not.

People typically touch their phones 2,617 per day, according to one study — leaving a particularly enticing trail of data to mine.

"Our interactions with the digital world could actually unlock secrets of disease," said Dr. Sachin H. Jain, chief executive of CareMore Health, a health system, who has helped study Twitter posts for signs of sleep problems. Similar approaches, he said, might someday help gauge whether patients' medicines are working.

"It could help with understanding the effectiveness of treatments," he said.

The field is so new and so little studied, however, that even proponents warn that some digital phenotyping may be no better at detecting health problems than a crystal ball.

If a sociable person suddenly stopped texting friends, for instance, it might indicate that he or she had become depressed, said Dr. Steve Steinhubl, director of digital medicine at the Scripps Translational Science Institute in San Diego. Or "it could mean that somebody's just going on a camping trip and has changed their normal behavior," he said.

"It's this whole new potential for snake oil," Dr. Steinhubl said.

That is not stopping the rush into the field — by start-ups and giants like Facebook — despite questions about efficacy and data privacy.

## Scanning for Suicidal Thoughts

One of the most ambitious efforts is being conducted by Facebook.

The company recently announced that it was using artificial intelligence to scan posts and live video streams on its social network for signs of possible suicidal thoughts. If the system detects certain language patterns — such as friends posting comments like "Can I help?" or "Are you O.K.?" — it may assign a certain algorithmic score to the post and alert a Facebook review team.

In some cases, Facebook sends users a supportive notice with suggestions like "Call a helpline." In urgent cases, Facebook has worked with local authorities to dispatch help to the user's location. The company said that, over a month, its response team had worked with emergency workers more than 100 times.

Some health researchers applauded Facebook's effort, which wades into the complex and fraught realm of mental health, as well intentioned. But they also raised concerns. For one thing, Facebook has not published a study of the system's accuracy and potential risks, such as inadvertently increasing user distress.

"It's a great idea and a huge unmet need," Dr. Steinhubl said. Even so, he added, Facebook is "certainly right up to that line of practicing medicine not only without a license, but maybe without proof that what they are doing provides more benefit than harm."

For another thing, Facebook is scanning user posts in the United States and some other countries for signs of possible suicidal thoughts without giving users a choice of opting out of the scans.

"Once you are characterized as suicidal, is that forever associated with your name?" said Frank Pasquale, a law professor at the University of Maryland who studies emerging health technologies. "Who has access to that information?"

Will Nevius, a Facebook spokesman, said Facebook deleted the algorithmic scores associated with posts after 30 days. The cases involving emergency responders are kept in a separate system that is not tied to users' profiles, he said.

Facebook said it had worked with suicide prevention



groups when developing the effort. Mr. Nevius added that publishing a useful study would be complex because of the difficulty in removing personal data and “the delicate nature of the posts.”

### Detecting Depression in Clicks

Therapists traditionally diagnose depression by observing patients and asking them how they feel. Mindstrong Health, a mental health start-up in Palo Alto, Calif., is observing people’s smartphone use.

The company has developed a research platform to continuously monitor users’ phone habits, looking at changes in taps and clicks for hints about mood and memory changes associated with depression.

“We are building digital smoke alarms for people with mental illness,” said Dr. Thomas R. Insel, a Mindstrong co-founder and a former director of the National Institute of Mental Health.

Mindstrong’s research app tracks 1,000 smartphone-related data points — like how long it takes someone to scroll through a contact list and click on a name. The start-up recruited 200 volunteers to participate in pilot studies. Dr. Insel said a few of the signals, like changes in users’ keyboard accuracy and speed, correlated with similar motor skills changes that researchers could measure in lab tests.

Now the company is participating in a large government-funded study of trauma patients. Part of it involves using the Mindstrong platform to study whether patients who go on to develop post-traumatic stress disorder also develop corresponding changes in their smartphone use.

“We’ve got these really interesting statistical signals with very high correlations,” Dr. Insel said. “But whether that’s going to work in the real world of clinical care is something we’re looking at right now.”

He added that Mindstrong had tapped law and ethics experts to help examine the implications of its technology and develop ethical frameworks for using it.

“You want to think through all the unintended consequences early on,” Dr. Insel said, “so they don’t come back to bite you.”

### Vetting Calls for Signs of Stress

The traditional use of a phone — talking — is also being examined for health clues. Sharecare, a digital health company based in Atlanta, offers a wellness app with an optional feature that analyzes users’ stress levels during phone calls.

The system uses pattern recognition technology to categorize users’ speech, the company said. After each call, the system delivers reports like “you seemed anxious” or “you seemed balanced.” It also characterizes users’ relationships with the people they call in terms of attitudes like “dominance” or “affection.”

Jeff Arnold, a co-founder of Sharecare, described the voice scan as “an emotional selfie.”

“If I can tell you your stress level in real time, it will in itself change your behavior,” said Mr. Arnold, who previously founded WebMD.

Health insurers and self-insured companies use Sharecare

Natasha Singer



**Dominance, Confidence, Imagination**

Relationship Driven By

7 Calls | 30min Total Talk Time

*Sharecare says its voice analysis feature does not record users’ phone calls, but it sends a notice after every call analyzing Sharecare users’ relationships — without informing people on the other end of the call that the app is doing so.*

to promote wellness and manage health care costs. Sharecare is working with the Georgia Institute of Technology to study the effectiveness of its voice analysis service.

Jiten Chhabra, a health tech researcher at the university’s Interactive Media Technology Center, said volunteers who tried the voice-scanning feature reported feeling less stressed afterward. But he said it was too soon to tell whether the stress analysis itself directly caused the change — or whether volunteers had simply become more relaxed in their daily lives.

The company does not record the content of the calls it scans, it said. But the app did collect phone numbers for people on the other side of calls from Sharecare users, according to an analysis by The New York Times. The service did not inform people on the phone with Sharecare users that their relationships were being analyzed.

Jennifer Martin Hall, a spokeswoman for Sharecare, said the way the company protected data “makes it practically impossible for any Sharecare employees to access a phone number in the call information.” She added that characterizing users’ voice “analysis in terms of ‘relationships’ helps contextualize the relevance of their stress and enables them to be more mindful day to day.”

Other researchers said such pervasive scanning could also have the opposite effect — increasing stress on otherwise healthy people.

“It’s like we’re in school forever,” Professor Pasquale said, “and we’re being graded in all these ways forever by all the companies that have the most data about us.”

*Aaron Krolik contributed reporting.*

*A version of this article appears in print on February 26, 2018, on Page B1 of the New York edition with the headline: Scouring Our Clicks For Clues To Our Health.*

*New York Times, February 25, 2018*

# How To Ensure Safe Medicines in Asia

By: Deepa Arora, Vice President and Global Head, Drug Safety & Risk Management at Lupin Limited



The Asian pharmaceutical market is expected to grow at over 9 percent a year from 2016-2021. Photo: Franck Fife /AFP

The pharma industry is expanding rapidly across Asia, but there are concerns about whether drug safety measures are keeping pace. The strength of pharmacovigilance (PV) systems in a country is an indication of the advancement of its pharmaceutical regulations.

PV is crucial for public health protection, and all regulated markets have strong PV systems. At a global level, the World Health Organization plays a key role in promoting and supporting PV systems in developing countries and encourages them to develop strong PV systems and become members of the WHO Programme for International Drug Monitoring (IDM). WHO defines PV as “the science and activities relating to the detection, assessment, understanding and prevention of adverse effects or any other drug-related problem.” In simple words, PV is the process of monitoring the safety of blood products as well as pharmaceutical products, including medicines, devices, vaccines, and biologicals.

In ASEAN, the PV systems are diverse, and the lack of harmonization is a key challenge for companies and other stakeholders in the pharma industry, which is growing rapidly.

## A \$2 Trillion Market

Today, pharma companies are focusing on ASEAN countries to plan their next stage of growth, mainly because of its largely untapped economic potential and ongoing economic growth. The Asian pharmaceutical market is expected to grow at an annual growth rate of 9.1 percent from 2016-2021, and markets in Southeast Asia are among those that will drive this trend.

Moreover, the establishment of the ASEAN Economic Community (AEC) in 2015 was a major milestone toward regional economic integration and is likely to boost the pharma industry, among others. The AEC offers opportunities in the form of a market worth \$2.6 trillion and 639 million people, making it the world's third largest market in terms of consumer base and the fifth largest economy in terms of GDP.

However, with AEC, there were expectations of a single registration process for new pharmaceutical products to get approvals in all 10 countries. It was also expected that there would be uniform regulations, including uniform PV regulations.

Unfortunately, this is not the case, and there are significant differences in PV regulations among ASEAN countries.

## The PV Landscape in Asia

Of the 10 ASEAN countries, nine have a national policy or legal framework for implementing PV systems and are members of the WHO Programme for IDM. PV has yet to start in Myanmar, which is not a member of IDM. As per regulatory authority websites, seven countries (excluding Brunei Darussalam, Laos and Myanmar) seem to have clear PV regulations. In eight countries (barring Laos and Myanmar) it is mandatory that companies holding licenses for pharmaceutical products regularly report about their side effects to authorities. However, these reporting requirements differ across economies, too.

## Challenges for PV in ASEAN

There's a lack of clear communication from regulatory authorities, and gaps exist in written regulations and actual enforcement. Moreover, ASEAN countries are at different levels of economic growth, and all the regulatory authorities may not be equipped sufficiently to provide technical inputs for PV. They are also faced with challenges such as the scarcity or quality of labor and technical resources.

Furthermore, most ASEAN countries have their own systems of traditional medicine, which are not covered under PV and which make it difficult to evaluate drug-drug interactions. There is also a lack of awareness among health care professionals regarding the reporting of side effects, and the importance of

Country	Mandatory Reporting <sup>1</sup>	Case Reporting Requirements	Periodic Reports Requirements	Risk Management <sup>2</sup>	Signal Management <sup>3</sup>
Cambodia	Mandatory only for MAH <sup>4</sup>	Yes, foreign reports not required on expedited basis	Yes	No	Yes
Indonesia	Yes (partly mandatory for HCP <sup>5</sup> )	Yes, foreign reports also need to be reported	Yes	Yes	Yes
Malaysia	Mandatory for MAH as well as HCP	Yes, foreign reports not required	Yes	Yes	Yes
Thailand	Mandatory only for MAH	Yes, only local cases	Yes	Yes	Yes
Singapore	Mandatory only for MAH	Yes, only local cases	Yes	Yes	Yes
Vietnam	Mandatory only for MAH	Yes, only local cases	Yes	Yes	Yes
Philippines	Mandatory only for MAH	Yes, foreign reports also to be reported	Yes	Yes	Yes

Exhibit: Summary of Key Activities

1 Compulsory reporting as per regulation

2 Risk management: the process of identifying and minimizing risks (side effects) associated with a drug

3 Signal management: early identification and management of risks associated with a drug

4 MAH: Marketing authorization holder; license holder

5 HCP: Healthcare professionals such as doctors, nurses, pharmacists

complete and good quality safety monitoring remains a major challenge.

*Pharma is expanding rapidly in ASEAN, but drug safety systems are still in the early development phase.*

While MNCs that are expanding in ASEAN countries may already have the technical know-how for PV, domestic companies that are aspiring for growth must develop adequate PV systems. MNCs that are expanding in the region with the help of local marketing partners and distributors may face an additional challenge of training them in order to create awareness among them for developing capabilities to receive reports of side effects and promptly transmit them to MNC partners.

### A Single Regulatory Body

To overcome these challenges, collective efforts are required from all stakeholders of PV. Preferably, AEC should consider developing a single regulatory body, such as the European Medicines Agency, by including the regulators of respective countries to have uniform pharmaceutical regulations across ASEAN. Clear guidelines and regulations regarding PV requirements will help in assuring compliance and safety monitoring. This can be achieved by collaborating with WHO along with agencies from regulated markets such as the U.S., Japan and the EU.

The problem of underreporting side effects by health care professionals and the poor quality of these reports can be addressed by increasing sensitization among health care professionals regarding the importance of PV. This is an area where the pharma sector and regulatory authorities can also collaborate, as pharma companies have the resources to interact with health care professionals.

### The Need for Harmonization

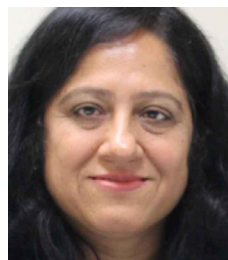
PV systems in ASEAN countries are in the early development phase. While basic elements of the PV system seem to be in place for most of the member states, they need to be more clear, unambiguous and stringent. There's a lack of harmonization of PV regulations among ASEAN countries. The implementation of PV regulations and poor allocation of resources for PV remain a challenge in most countries.

Despite the barriers in ASEAN PV systems, the national PV centers are putting efforts into training and information exchange. Collaborative efforts by all stakeholders to implement regulations and to create awareness among health care professionals regarding the importance of PV should help in the further evolution of the system.

### About Author

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Deepa Arora, MD, is Vice President of Pharmacovigilance and Global Head of Drug Safety and Risk Management with Lupin Limited. She is a physician with more than 18 years of experience in drug safety and clinical development in the pharma industry and academia. She has set up world-class pharmacovigilance systems for Lupin and Lupin subsidiaries in the U.S., Europe, Japan and Australia. She has authored a book, "Pharmacovigilance—An Industry Perspective," to help youngsters learn about pharmacovigilance.

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## Health and Safety in the Age of the Megacity

By BRINK Editorial Staff



*The Greater Tokyo Area is the most populous metropolitan area in the world, with a population of 13.5 million. As the share of city dwellers increases in almost every region of the world, questions about health and safety are coming to the fore.*

*Photo: Carl Court/Getty Images*

The rise of cities around the globe has ushered in great challenges and great opportunities for citizens and businesses. As the share of city dwellers increases in almost every region of the world, questions about health and safety in these dense environments becomes paramount.

By 2050, 68 percent of the world's population will be urban. The data points outlined below pull into focus a picture of the trends that are expected to unfold over the coming decades—from the implications of population growth for healthcare access to the exposure to risk that people and businesses face while living in urban environments.

The share of people living in cities is projected to rise in every region of the world. One in five of the world's

Urban and rural population of the world, 1950–2050

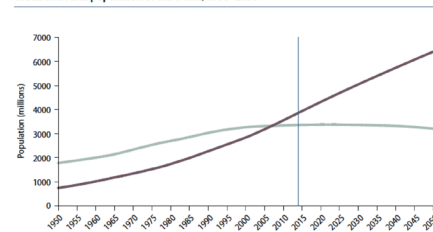


Exhibit 1: Urbanization Trends, 1950–2050

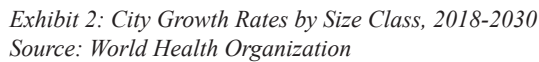
Source: UN, World Urbanization Prospects

urban dwellers live in a city with more than 1 million people. One in eight live in a megacity, defined as a city with more than 10 million inhabitants.

There are currently 33 megacities in the world; that number will rise to 43 by 2030, the UN predicts. By 2050,

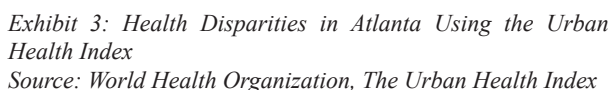


Urbanization is a product of migration as well as natural population growth within cities. It brings its own set of opportunities and challenges for the future of global welfare.

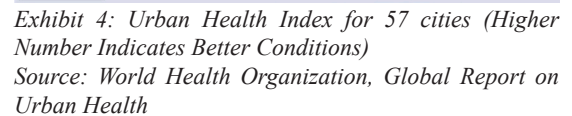


“Urban areas enjoy many advantages compared to rural areas when it comes to availability of resources that support good health,” notes the World Health Organization. With better basic infrastructure, health care service availability, and communication and educational opportunities, “urbanization is associated with economic and social development that provide better opportunities to achieve good health.”

The disparities can be measured using WHO’s “Urban Health Index,” which combines a variety of population health indicators in a single number to facilitate comparisons between different areas. Here’s a map showing index disparities within the city of Atlanta, with dark-red areas indicating areas that are severely disadvantaged and the lighter orange and yellow areas indicating less disadvantage.



The report found wide variations in health conditions between cities, even if they were located in the same region and had similar levels of national wealth. Very large cities may be especially hard to manage: On average, megacities (over 10 million population) had the worst conditions. Conditions were generally better in cities of less than 1 million.



Urbanization can increase vulnerability to disaster, especially when it is poorly planned. As the firm Control Risks has stated, “The concentration of human, physical, and financial capital in cities renders them especially vulnerable to both immediate devastation and lingering disruption to transport, commerce, and communications in the aftermath of major disasters.”

Fifteen percent of cities were vulnerable to two or more types of disasters. Twenty-seven cities—including the megacities of Tokyo, Osaka and Manila—faced risks from three or more types.



More than 80 percent of cities were located in areas with high risk of mortality or economic losses associated with at least one type of natural disaster. The risk was highest in larger cities and less-developed regions.

Floods were the most common natural disaster, followed by droughts and cyclones. These disasters also were the most devastating in terms of mortality and economic losses, the UN reported.

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## Japan Adopts Steps to Support Hospitals in Treating Foreign Tourists

By Reiji Yoshida, Staff Writer, Japan Times



*A medical interpreter is seen supporting foreign patients in February 2018 at a hospital near Niseko ski resort in Hokkaido. | KYODO*

A government working group adopted a set of policy measures on June 14, 2018 to support hospitals dealing with a surging number of foreign visitors to Japan, including recommending the purchase of travel insurance in advance and establishing assistance for hospital staff using medical translation services.

The government also plans to stop admitting foreign nationals who have a record of failing to pay high value medical expenses for treatment they received at hospitals in Japan. In recent years some foreign tourists, in particular those from developing countries, have found it difficult to pay medical fees here as they did not have insurance coverage during their stay. In many such cases emergency hospitals suffered financial losses, experts say.

“The number of foreign tourists to Japan is rapidly increasing,” said Hiroto Izumi, a special advisor to Prime Minister Shinzo Abe and the head of the working group. “Based on policy measures proposed today, we’d like to make preparations and quickly take action.”

The number of foreign visitors has more than quadrupled, from 6.79 million in 2009 to 28.69 million in 2017, partly thanks to the easing of tourist visa conditions for many countries, including China, Thailand, Malaysia, India, the Philippines, Vietnam and Indonesia.

On top of that, the government aims to boost the figure to 40 million in 2020 and to 60 million in 2030 — three times the 2015 level.

“Multilingual staffers are not necessarily available 24 hours a day even at hospitals that accept foreign tourists. We are facing language problems,” said Kazuo Yamada, an official in charge of inbound tourism at the Japan National Association of Travel Agents during the session of the working group on June 14,

2018.

Medical interpreting or translation for patients with serious diseases requires more advanced skills than those of a general translator at a hotel, for example. This also often poses problems, he said.

Hospitals and local governments have urged politicians to hammer out measures to help them deal with a surging number of foreign tourists, since the state has been aggressively promoting inbound tourism as a growth strategy in recent years.

According to a questionnaire conducted by the Japan Tourism Agency at three major airports from December to January 2017, 27 percent of 3,383 non-Japanese respondents who stayed in the country were not covered by any health insurance policy during their trip.

Experts say most financial issues involving foreign patients and hospitals can be resolved only if travelers have travel insurance with a certain guaranteed coverage.

A vast number of foreign patients suffer only minor sickness or injuries, they also say.

The policy measures adopted on June 14, 2018 are based on proposals compiled on April 27, 2018 by a project team of the ruling Liberal Democratic Party. The financial amount to be allocated for each measure has yet to be disclosed.

The policy measures adopted by the government include:

- \* Creation of prefectural-level liaison bodies between hospitals, local governments, hotels and other tourism-related establishments

- \* Creation of a one-stop consultation body for hospitals and other related parties

- \* Publication of more information on hospitals with multilingual staff that can accept foreign patients

- \* Distribution of tablet computers that can translate words and phrases in order to communicate with foreign patients

- \* Guidelines for medical institutions calculating fees for foreign patients not covered by any insurance policy

- \* Publication of manuals for hospitals and local governments to deal with issues involving foreign tourists

- \* Training of medical translators and coordinators who are familiar with the customs and insurance systems of other countries

# Crisis of Skill: Will Supply Meet Demand for Healthcare Jobs?

By Matt Stevenson, Senior Workforce Strategy Consultant at Mercer

As populations age in the developed world, the benefits and challenges of longevity come into sharp relief. Advances in medicine and an emphasis on wellness and prevention are net positives, as life expectancy rises and more people maintain their health and workforce productivity.

At the same time, health care systems around the world are faced with more people to care for—and, inevitably, the supply of skilled professionals must keep up with the demand.

In the United States, health care jobs will be among the fastest-growing through 2026, accounting for about 2.3 million new jobs, according to recent projections released by the Bureau of Labor Statistics.

But will health providers have access to enough skilled workers to meet this growth?

## Where Are the Gaps?

In many states, the projected supply of health care workers will be unable to fill demand, according to Mercer's recent U.S. health care labor market analysis, which compares future supply and demand of workers to project workforce availability across 50 health care occupations through 2025.

More than half of the new jobs forecasted by BLS—about 1.6 million combined—will come from employment of personal care aides, home health aides, and registered nurses, driven by an American population that's trending older, sicker, and more sedentary.

It's in precisely these high-growth jobs where our analysis shows likely gaps in demand and supply of workers.

Take home health aides, for example. According to BLS figures, employment is expected to grow 47 percent by 2026. However, our analysis shows that providers might find it tough to fill all these roles, with each state facing a likely gap of 2,000 workers on average by 2025.

Although workforce availability gaps are highly likely across the country in key occupations, our analysis shows vast differences by location, requiring providers to take a closer look at workforce trends in their state and municipality for the clearest picture.

Nurses will continue to be in high demand, and it's widely known that health systems are facing a nursing shortage across the country.

*In addition to considering external labor market risks, providers must also understand the flow of employees in and out of its organization.*



*A nurse waits for a kidney transplant operation to begin. Health care systems around the world are faced with more people to care for, and may not have enough staff to meet demand. Photo: Brendan Smialowski/AFP/Getty Images*

## Will There Be a Nursing Shortage?

According to an article in the professional journal Nursing Economics, titled "State of the Registered Nurse Workforce as a New Era of Health Reform Emerges," registered nurses could see a 35 percent increase in demand by 2030. One-third of nurses are baby boomers, who will retire by 2030, taking their knowledge with them.

However, when we take into account projected supply and demand by state, this story changes depending on where you look.

In fact, our analysis shows that in some states, the projected supply of nurses is likely to exceed demand.

So while Texas might expect to be short nearly 40,000 nurses by 2025, Illinois is likely to have a surplus of 15,000 in the same time period.

An even more detailed look within states shows that, even in states where there's a projected surplus—such as in Illinois—workforce gaps are still likely, due to uneven economic and demographic growth in rural and urban areas.

Cook and Will counties, which include Chicago and some of its suburbs, are likely to see a surplus of 12,000 nurses through 2025—though much of this surplus will be nursing assistants. Communities in rural south-central Illinois, however, are likely to see a gap of nearly 1,000 nurses during the same time period.

## Provider Implications

These potential gaps in availability of key workers will greatly impact providers as they consider the future-ready workforce that they need in order to deliver quality patient care. A few things for providers to consider:

1. Understand full exposure to potential workforce risks—both external and internal. In addition to considering external labor market risks, providers must also understand the flow of employees in, through, and out of its organization for the full picture. They need to know if any internal workforce gaps are likely to develop and why and how these internal gaps align with the projected external gaps presented in our analysis.

2. Be proactive to mitigate the impact of workforce risks. Providers can't control what's happening in the external labor market, but our research suggests that effectively managing internal labor markets—through an optimized rewards strategy that retains workers, for instance—can help them at least mitigate their exposure to these risks.

3. Determine how proposed workforce changes will



impact patient health and satisfaction. Before making large investments, providers can use data and analytics to better understand the likely impact of changes on patient metrics. For example, our research suggests that human capital factors, such as pay or staffing, can have statistically significant impact on patient readmission rates in some clinical settings.

The good news is that much of this work relies on data that health care systems are already collecting. So it's not a matter of getting new data, but rather better leveraging data to develop empirical insights that will drive strategic workforce planning.

By supplementing this internal data with an analysis

of the external labor market, which we've already completed, providers will get a clear view of the labor risks they face and the actions they need to take build a future-ready workforce.

*Brink*



**About Author**  
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**Consultant at Mercer**

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## Nepal's Medical Drones Bring Health Care to the Himalayas

*Thomson Reuters Foundation*



*(Below) A drone carrying a package of medicine takes flight in Myagdi, Nepal, on April 9, 2018. | KAMAL PUN*

*(Above) Nepali engineers pose beside their drone used to supply medicine to remote villages in Myagdi on April 9, 2018. | KAMAL PUN*



When Nepali laborer Om Bahadur Purja sprained his leg in his remote village he would have faced a four-hour trek to the nearest medical center if not for a pioneering project to bring health care to the Himalayas.

Instead, the 60-year-old father of three received the treatment he needed in his home village thanks to the recent arrival of a drone carrying basic medicine and equipment.

"This saved me a lot of trouble, time and money," Purja said in Ramche, a Himalayan village 250 km (150 miles) northwest of the Nepali capital Kathmandu.

Thousands of people living in remote areas of Nepal have no access to proper health care facilities, which means they have to walk or be carried long distances if they fall ill.

The poor Himalayan country has just over 2,600 doctors — less than one for every 10,000 people — and many of the 2,000 village health posts meant to provide urgent treatment lack basic medicines as supplies often take months to reach them.

That means many Nepalese resort to traditional healers or even go without any medical care.

Enter Mahabir Pun, a 63-year-old former teacher who won national fame more than a decade ago with an ambitious project to connect Himalayan villages like Ramche to the internet.

Pun's nonprofit National Innovation Center (NIC) has developed the country's first "medical drone," aiming to bring care to the remote mountain communities that need it most.

The machine, designed and assembled by young Nepali graduates, is the most effective way of bringing health services to people in difficult-to-reach areas, said Pun.

He also hopes the project can provide employment for talented young Nepalese who might otherwise move abroad for work.

"It was designed, fabricated and assembled by the innovative young college graduates in our lab to keep costs low," he said.

"This way I am trying to promote innovation among the young engineers and contribute to slow the trend of people leaving Nepal for jobs abroad."

The drone can carry samples of blood and other fluids to the nearest laboratory for tests, and deliver supplies, he added.

Pun won the Ramon Magsaysay Award — seen as Asia's Nobel — for his work connecting Himalayan villages in Nepal to the web.

At present it can only carry a 1-kg (2.2-pounds) load about 2 km (1.2 miles), but the team is working on improving the range so it can carry a heavier load over a longer distance.

The internet connection proved a lifeline for villages with no road access or mobile phone reception — an achievement all the more impressive as it was achieved during a 10-year Maoist insurgency that brought large swaths of Nepal to a standstill.

The country of 28.6 million people restricts drone use, so Pun is working with officials to ensure his project is a success.

"We must identify remote villages where drones are effective to carry medicines," said public health worker Roshan Neupane.

"Bigger drones should be designed and developed so heavier loads could be sent."

*Japan Times*

# Lao-Thai Medical Cooperation Boosts Critical Care, Anaesthesiology

By Phetphoxay Sengpaseuth



*Lao doctors will need to develop their skills in the use of new medical equipment for critical care patients and in anaesthesiology to improve health services in the country.*

The use of outdated equipment was no longer responding to the demands of the public so new technology and methods were required, a health official said.

President of the Lao Society of Anaesthesiologists and Head of the Anaesthesiology Division under Mahosot Hospital, Dr Traychit Chanthasiri made the remarks on April 21, 2018 at an academic workshop for critical care specialists and anaesthesiologists in Laos.

He said the workshop was aimed at allowing local

practitioners to share lessons with health experts from Thailand to better implement their health sector work, particularly critical care specialists and anaesthesiologists.

“We need development and technical assistance to improve the capacity of Lao health officials”, he said.

The workshop developed capacity and knowledge of anaesthesiology and critical care medicine including the utilisation of new medical equipment for patient monitoring and defibrillator use.

He explained that if doctors don’t understand how to use the medical equipment they will have difficulty in detecting, treating and monitoring patients’ conditions.

Representative of Department of Anaesthesiology, Faculty of Medicine, Chiang Mai University, Thailand, Prof. Dr Suraphong Lorsomradee said through the exchange of experiences about using new medical equipment in Laos, participants would introduce the technology and develop human resources in the field while strengthening healthcare facilities and services through higher quality treatment.

The workshop was attended by Director of CBF Pharma Co., Ltd Vientiane, Dr Chinda Vongsouly, representatives of Nihon Kohden, Thailand along with senior officials from hospitals in Vientiane.

*Vientiane Times*

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## Cancer Researcher Sets Up Web Portal for Japan’s smoke-free eateries

Kyodo

With Japan still reluctant to ban smoking in eateries and bars outright, a cancer researcher has launched a website to make it easier to find those few establishments that have declared themselves smoke-free — and encourage other such businesses to take the same step.

The site, which is called Quemlin and is published in Japanese, enables users to search for smoke-free restaurants, cafes and bars by type of cuisine and location. It introduces each establishment and also features information about how their nonsmoking policies have positively impacted their business.

Yuri Ito, 40, chief researcher at the Osaka International Cancer Institute, likes to dine out and has been posting photos on her Facebook page of nonsmoking

establishments she has visited since 2015. But what inspired her to launch the search site for smoke-free restaurants and bars was the fact that many such venues had maintained their popularity after going smoke-free.

Ito believes the website, launched last fall, can also provide valuable information to proprietors, helping them take the plunge. “I want to encourage their decision” to become smoke-free establishments, she said.

Based on World Health Organization standards, Japan is among the lowest-ranked countries in terms of tobacco control.

While over 50 countries including Britain, Canada and Russia have already banned indoor smoking at all eight types of public facilities — such as schools, medical institutions and restaurants — Japan has no

smoke-free law covering all indoor public spaces.

The anti-smoking plan recently unveiled by the Japanese government shows some progress, with efforts to prevent passive smoking in public places, but has also sparked an outcry from lung cancer patients and other activists as it backpedaled from its initial goal of a total indoor smoking ban in public places, due to tobacco industry resistance.

According to a draft bill approved by the ruling Liberal Democratic Party in February 2018, smoking will be basically banned within the premises of hospitals, schools and government offices. But for restaurants and bars, smoking will be permitted in facilities with customer seating areas of up to 100 square meters and capital of up to ¥50 million (\$470,000), as long as they display a sign indicating



*Yuri Ito (far left), a cancer researcher who created a website where users can search for smoke-free restaurants, enjoys drinking at a smoke-free, standing-only bar in Osaka's Umeda district. | KYODO*

where smoking, in designated sections or otherwise, is permitted.

The Health, Labor and Welfare Ministry had originally planned to exempt eateries only with a floor space of up to 30 square meters from the smoking ban.

As a result of the backpedaling, the ministry estimates that customers at some 55 percent of all restaurants and bars will be able to carry on lighting up, raising questions about the smoking ban's effectiveness.

Ito's website currently lists around 160 eating and drinking establishments mainly in the Kansai region, centering on Osaka.

She plans to expand the website's coverage throughout Japan, by soliciting members to search and post information about nonsmoking eateries in each region.

Based on information she is gathering from shops, Ito is also conducting research on the relationship between the number of nonsmoking eateries and the death toll linked to smoking in each region.

"Society is now shifting toward being smoke-free," Ito said. "I hope Quemlin will help (proprietors) to take a step toward better considering their own health and customer satisfaction, and recognizing that there won't be a negative effect on sales."

*Japan Times*

## Robots Making Inroads in Japan's Elder Care Facilities; Costs Still High

*By Malcolm Foster, Reuters*

Paro the furry seal cries softly while an elderly woman pets it. Pepper, a humanoid, waves while leading a seniors' exercise group. The upright Tree guides a disabled man taking shaky steps, saying in a gentle feminine voice, "right, left, well done!"

Robots have the run of Tokyo's Shintomi nursing home, which uses 20 different models to care for its residents.

Allowing them to help care for the elderly — a job typically seen as requiring a human touch — may be a jarring idea in the West. But many Japanese see robots positively, largely



*A resident claps to call Aibo, a robotic dog, at Shintomi nursing home in Tokyo. | REUTERS*

because they are depicted in popular media as friendly and helpful.

"These robots are wonderful," said 84-year-old Kazuko Yamada after the exercise session with SoftBank Robotics Corp.'s Pepper, which can carry on scripted dialogues. "More people live alone these days, and a robot can be a conversation partner for them. It will make life more fun."

But plenty of obstacles may hinder a rapid proliferation of elder care robots: high costs, safety issues and doubts about how useful — and user-friendly — they will be.

The government, which hopes Shintomi can serve as a model in harnessing the country's robotics expertise to cope with a graying population, has been funding the development of elder care robots to help fill a projected shortfall of 380,000 specialized workers by 2025. Despite steps to allow foreign workers in for elder care, obstacles to employment in the sector, including exams in Japanese, remain. As of the end of 2017, only 18 foreigners held nursing care visas, a new category created in 2016.

But authorities and companies here are also eyeing a larger prize: a potentially lucrative export industry supplying robots to places such as Germany, China and Italy, which face similar demographic challenges now or in the near future.

"It's an opportunity for us," said Atsushi Yasuda, director of the robotic policy office at the Ministry of Economy, Trade and Industry (METI). "Other countries will follow the same trend."

More than 100 foreign groups have visited Shintomi in 2017. A few products are trickling out as exports: Panasonic Corp. has started shipping its robotic bed, which transforms into a wheelchair, to Taiwan. Paro is used as a "therapy animal" in about 400 Danish senior homes.



*Yoichi Suzuki shows Aibo to his bed-ridden mother at his house in Takahagi, Ibaraki Prefecture, on February 6, 2018. | REUTERS*





A resident reads a book during a session with Paro, a robotic seal, at the Shintomi nursing home in Tokyo. | REUTERS

### Still tiny

The global market for nursing care and disabled aid robots, made up of mostly Japanese manufacturers, is still tiny: just \$19.2 million (¥2 billion) in 2016, according to the International Federation of Robotics. But METI estimates the domestic industry alone will grow to ¥400 billion (\$3.8 billion) by 2035, when a third of Japan's population will be 65 or older.

"It's potentially a huge market," said George Leeson, director of the Oxford Institute of Population Ageing. "Everyone is waking up to their aging populations. Clearly robotics is part of that package to address those needs."

To nurture the industry, the government is using a two-pronged approach. METI is promoting development, providing ¥4.7 billion in subsidies since 2015. The labor ministry is spearheading the spread of robots, and spent ¥5.2 billion to introduce them into 5,000 facilities nationwide in the year that ended in March 2017. There are no government data about how many care facilities use robots.

Government officials stress that robots will not replace human caregivers.

"They can assist with power, mobility and monitoring. They can't replace humans, but they can save time and labor," Yasuda said. "If workers have more time, they can do other tasks."

### That's a robot?

Most of the devices look nothing like the popular images of a robot. By the government's definition, each has three components — sensors, a processor, and a motor or apparatus.

Panasonic used government aid to develop Resyone, a bed that splits in two, with one half transforming into a wheelchair.

Cyberdyne Inc.'s HAL — short for Hybrid Assistive Limb — lumbar type is a powered back support that helps caregivers lift people. Those needing walking rehabilitation can grab hold of Tree, made by unlisted Reif Co., which crawls along the ground, showing where to place the next step and offering balance support. SoftBank's Pepper is used in about 500 elder care homes for games, exercise routines and rudimentary conversations. But some workers find Pepper difficult to set up, said Shohei Fujiwara, a manager at SoftBank Robotics. They'd like Pepper to respond to voice commands and move around independently — functions that SoftBank hopes to introduce in 2018, he said.

### A costly solution

Cute, furry and responsive, Paro reacts to touch, speech and light by moving its head, blinking its eyes and playing



Residents follow moves made by the humanoid robot Pepper during an afternoon exercise routine at the Shintomi nursing home in Tokyo on February 2, 2018. | REUTERS

recordings of Canadian harp seal cries.

"When I first petted it, it moved in such a cute way. It really seemed like it was alive," giggled 79-year-old Saki Sakamoto, a Shintomi resident. "Once I touched it, I couldn't let go."

Paro took more than 10 years to develop and the project received about \$20 million in government support, said its inventor, Takanori Shibata, chief research scientist at the National Institute of Advanced Industrial Science and Technology. About 5,000 are in use globally, including 3,000 in Japan.

But Paro, like most robots, is expensive: ¥400,000 in Japan and about €5,000 in Europe. Panasonic's Resyone bed costs ¥900,000 and Cyberdyne's HAL lumbar exoskeleton costs ¥100,000 a month to rent. Most facilities using them, including Shintomi, have relied on local and central government subsidies to help cover the costs. Individuals can also use nursing care insurance to help cover approved products, but those numbers are tiny. And so far, the robots have not reduced Shintomi's personnel costs or working hours.

"We haven't gotten that far yet," said Kimiya Ishikawa, president and CEO of Silverwing Social Welfare Corp., which runs Shintomi. "We brought them in mostly to improve the working environment, keep staffers from getting back injuries and make things safer."

What they have done, he said, is boost the morale of both staff and residents. "That's brought a peace of mind among the staff and the residents feel supported."

*Japan Times*

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## The Elderly are Dominating Japan's Fitness Clubs

*By Takamitsu Sawa*

Going to a fitness club for physical exercises is my favorite pastime. I go to a gym in Kyoto about three times a week and spend around two hours there each time, doing muscle training and fast walking.

When I was a visiting professor at the University of Illinois in the United States for three years from 1975, I frequented its swimming pool. That university was fully equipped with physical exercise facilities, like other American universities.

After returning to Japan late in 1978, I found a newly opened fitness club in Kyoto. I registered with it as a member and

started swimming there once or twice a week. After new training facilities were added, my exercise shifted from swimming to muscle training and fast walking.

It was in my late 30s that I started going to the gym. In those days, the average age of gym members was around 30 and there were virtually no elderly members, apparently because gyms were thought to be a place for the young to improve their physical strength. Since I retired from my full-time job in 2016, I have been able to go to the gym three times a week — not only on weekends but also in the daytime on weekdays. I have discovered a number of things through this new experience.

First, eight or nine out of every 10 people doing muscle training and fast walking are over 60. Their average age appears to be around 65. Second, these fitness buffs carry themselves more youthfully than the average Japanese men and women of middle to advanced ages, and many of them can walk fast on the machine — at more than 6 km per hour — for nearly an hour.

Third, a fairly large number of them come to the gym almost every day. Most of those who come to the gym during the daytime must be over 65 because nowadays many people who have reached the traditional retirement age of 60 are re-employed until they become 65. The gym's monthly dues are about ¥10,000. These gym members spend about three hours in a leisurely manner — 2½ hours doing muscle training and fast walking and another half an hour bathing. Repeating this schedule every day is not boring and the fee at the daily rate of ¥300 is quite reasonable.

Fourth, even on weekends and during the late hours of weekdays, the average age of those at the gym falls just by 10 years to around 55 and those in their 20s and 30s are rarely seen. Presumably the younger generations are not seriously concerned about metabolic or locomotive syndromes and would rather do things other than spending two or three hours at a gym on their way home from work.

Fifth, gyms have become arenas for socializing for elderly people. Many retired elderly members can be seen chatting with each other after finishing exercises.

To sum all this up, fitness clubs are almost totally monopolized by people of middle and advanced ages, especially those over 65, and have become indispensable arenas for their socializing. I have checked my observations against statistics. The Ministry of Economy, Trade and Industry has conducted a survey tracing changes in the memberships and gross sales of fitness clubs since 2000. In 2000, there were 1.42 million members, which rose sharply to 2.07 million in 2006 — representing an average annual increase of 6.6 percent. This was followed by two consecutive years of decline. The number hit the bottom of 2.01 million in 2008 and thereafter started climbing again to reach 2.51 million in 2016 — at an average annual increase of 2.8 percent.

The combined gross proceeds of all fitness clubs rose at an average annual rate of 3.2 percent from ¥187.4 billion in 2000 to ¥328.2 billion in 2016. They employ 4,810 workers, but only

18 percent of them are full time. The steep rise in membership between 2000 and 2006 presumably coincided with growing enthusiasm among the elderly about performing physical exercise to prevent metabolic syndrome and lifestyle-related illnesses.

Although Japan is said to be in a fitness club boom, the number of gym members and full-time employees and gross proceeds are small, contrary to expectations. The size of the entire industry is no more than that of a medium-size company listed on the first section of the Tokyo Stock Exchange. Let us explore why Japan's gym industry is so small in scale.

Comparisons with the U.S. show staggering differences. In Japan, a mere 3.3 percent of adults are members of a privately run fitness club. The corresponding figure for the U.S. is 17.6 percent. In the U.S., the number of privately run fitness gyms in urban areas is overwhelmingly large. In addition, many U.S. universities and businesses have their own fitness centers.

Furthermore, Japanese and Americans have different attitudes toward sports. Both young and elderly Japanese are fond of golf, tennis and skiing. These sports have three things in common: They are not physically hard, they are good for socializing and they are suited for competing in fashion.

At a gym, on the other hand, there hardly is any need to chat with other members. Days and time for exercising can be chosen freely and fashion is of little importance. Muscle training, fast walking and swimming at gyms — all are fairly hard.

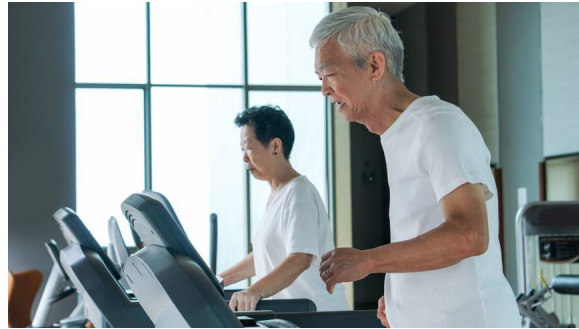
The most popular sport among young American gym rats is probably squash, followed by jogging, swimming and muscle training. They like intensive sports that can be done alone without taking much time. The high medical fees in the U.S. may also be one of the reasons why one out of every six American adults go to gyms. Another possible reason is that they tend to lack exercise in daily life because many of them drive cars.

What future lies ahead for the fitness club industry in Japan? Today, Japan's postwar baby boomers are around 70. It would be no exaggeration to say that they constitute at least 20 percent of all gym members. The average age of gym members is expected to rise for the foreseeable future. It would also be safe to say that Japan's fitness club business is supported by health-conscious elderly people. The monthly dues of about ¥10,000 may be too expensive for salaried workers under 60 or young mothers busy raising children, both of whom can only manage to go to the gym once or twice a week.

At least on the surface, many gym members appear to be free from metabolic or locomotive syndromes. This is a good sign that gyms are contributing to reducing the nation's medical expenditures and promoting public health and longevity. For this very reason, fitness clubs in Japan will remain outside the interest of the younger generations.

*A longtime contributor to The Japan Times, Takamitsu Sawa is a distinguished professor at Shiga University.*

*Japen Times*



*A steep rise in gym memberships by senior citizens has coincided with growing enthusiasm among the elderly to prevent metabolic syndrome and lifestyle-related illnesses.*

| GETTY IMAGES

# Japan Made Gains in 'Healthy Life Expectancy' from 2013 to 2016, Survey Shows

Kyodo, Jiji

Japan's "healthy life expectancy" stats rose for both men and women between 2013 and 2016 as people focused on taking better care of themselves, the government said on March 9, 2018. The term refers to the average period one can live without nursing care or becoming seriously ill.

Men averaged 72.14 years of healthy living, almost a year more than the previous survey in 2013, while women averaged 74.79 years, up just over six months. A health ministry official attributed the rise to more people placing importance on better nutrition and exercise.

The Health, Labor and Welfare Ministry releases the data on healthy life expectancy every three years. It has been promoting healthy living to close the gap between healthy and standard life expectancy. The survey began in 2010.

The disparity has been shrinking. In 2016 it stood at 8.84 years for men and 12.35 years for women.

The results are based on data from the ministry's latest Comprehensive Survey of Living Conditions, which covered some 710,000 people in 289,470 households. The healthy life span was estimated by analyzing answers to a series of questions, one of which asked whether respondents had health problems in their daily lives.

Yasuhiro Yuki, professor of social security studies at Shukutoku University in Chiba, said shrinking the gap between life



*The healthy life expectancy for both men and women in Japan is rising as more people focus on dieting and exercise. | GETTY IMAGES*

expectancy and healthy life expectancy will reduce the need for medical and nursing care and minimize social security costs.

"With medical advancements, the number of healthy elderly is expected to increase. We will have to design a framework to boost the quality of individuals' lives by securing job opportunities and facilitating social participation for people as old as their 70s," he said.

By prefecture, Yamanashi ranked first in terms of male healthy life expectancy at 73.21 years, while Aichi Prefecture topped the female healthy life

expectancy list at 76.32 years, the data show.

Yamanashi saw a high cancer screening rate, while Aichi has trained citizens as health promotion volunteers.

No data was available for Kumamoto Prefecture because of disruptions caused by the string of powerful earthquakes in April 2016.

Akita Prefecture scored the lowest on the survey for men at 71.21 years, while Hiroshima Prefecture came in last for women at 73.62 years.

Under a 10-year health promotion plan introduced in fiscal 2013, the ministry is working to extend healthy life expectancy by setting numerical targets for death rates caused by lifestyle-related diseases, including smoking and drinking.

*Japan Times*

## Eggs Healthier Alternative to Meat: Dietary Guideline

*By Lee I-chia /Staff reporter*



*A woman holds a copy of the Health Promotion Administration's latest dietary guidelines handbook at its launch in Taipei / Lin Yen-tung*

*UNBALANCED DIET: A poll by the HPA has found that nearly all of respondents' daily intake of milk or dairy foods fell short of the recommended 1.5 cups per day*

The Health Promotion Administration (HPA) issued on March 13, 2018 a revision to the Dietary Guideline of Taiwan, including a suggestion that eggs are a healthier source of protein than meat.

Three changes were made to the guideline: the title "whole grains and ground provisions" was changed to "whole grains and miscellaneous grain crops"; a food group name was changed from "beans, fish, meat and eggs" to "beans,

fish, eggs and meat" to reflect that eggs are a healthier protein source than meat; and the recommendation of "low-fat dairy foods" was changed to "dairy foods."

HPA Community Health Division head Lin Li-ju said using the phrase "miscellaneous grain crops" instead of "ground provisions" would allow the public to understand that other types of crops, such as red beans, green beans, lima beans, chestnuts and water chestnuts are also included in this food group.

Studies suggest that egg consumption does not directly increase blood cholesterol or risk of cardiovascular disease as previously thought, HPA



Director-General Wang Ying-wei said.

Eggs are rich in nutrients, are a good source of protein and easy for elderly people to chew, so the recommendation priority has been changed, Wang said.

Studies suggest that consuming whole milk or whole-fat dairy products do not increase the risk of obesity or cardiovascular disease more than consuming low-fat milk or dairy products, so consuming either are both recommended, as they are both main sources of calcium, Nutrition Society of Taiwan chairperson Wang Guoo-Shyng said.

Meanwhile, the HPA's Nutrition and Health Survey in Taiwan found that 99.8 percent of respondents' daily intake of milk or dairy foods fell short of the recommended 1.5 cups per day, while 91 percent did not consume sufficient nuts and seed products, falling short of the recommended one serving per day.

The poll found that 86 percent of respondents' daily food intake fell short of the recommended three servings of vegetables per day and two servings of fruit per day.

However, 53 percent of respondents had excessive daily intake of beans, fish, meat, eggs and non-dairy protein sources, exceeding the recommended six servings per day.

Forty-nine percent consumed too much grains, in excess of the recommended three bowls per day, and 39 percent consumed excessive amount of oil and fat, surpassing the recommended five teaspoons per day.

The survey suggests that most Taiwanese do not maintain a daily balanced diet that contains the proper amounts of the six main food groups, the HPA said.

The survey was conducted on people aged from 19 to 64 between 2013 and 2016.

*Taipei Times*



*Research involving nearly 60,000 Japanese showed a link between eating speed and obesity. | GETTY IMAGES*

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## Eat Slower and Chew More to Lose Weight, Japanese Study Suggests

Agence France-Presse (AFP)-JIJI

People who wolf down their food could lose weight simply by chewing longer and pausing between bites, study results suggested earlier this week (February 12, 2018).

Research involving nearly 60,000 Japanese showed a link between eating slower or faster and losing or gaining weight. "Changes in eating speed can affect changes in obesity, BMI and waist circumference," a research duo from Japan's Kyushu University wrote in the journal *BMJ* Open.

"Interventions aimed at reducing eating speed may be effective in preventing obesity and lowering the associated health risks."

BMI stands for body mass index, a ratio of weight to height used to determine whether a person falls within a healthy range.

WHO considers someone with a BMI of 25 overweight and 30 or higher obese.

In line with recommendations by the Japanese Society for the Study of Obesity, however, a BMI of 25 was taken as obese for Japanese populations for the purposes of the study.

The researchers analyzed health insurance data from 59,717 individuals diagnosed with Type 2 diabetes — a form of the disease that generally hits in adulthood as a result of being overweight.

The participants had regular checkups from 2008 to 2013.

Data captured included their age and gender, BMI, waist circumference, blood pressure, eating habits, alcohol consumption and tobacco use.

From the outset, the slow-eating group of 4,192 had a smaller average waist circumference, a mean BMI of 22.3 and fewer obese individuals — 21.5 percent of the total.

By comparison, more than 44 percent of the fast-eating group of 22,070 people was obese, with a mean BMI of 25.

The team also noted changes in eating speed over the six years, with more than half the trial group reporting an adjustment in one direction or the other.

"The main results indicated that decreases in eating speeds can lead to reductions in obesity and BMI," they found.

Other factors that could help people lose weight, according to the data, included to stop snacking after dinner, and not to eat within two hours of going to bed.

Skipping breakfast did not seem to have any effect.

Limitations of the study included that eating speed and other behaviors were self-reported. There were also no data on how much participants ate or whether they exercised.

Commenting on the research, Simon Cork of Imperial College London said it "confirms what we already believe, that eating slowly is associated with less weight gain than eating quickly."

This may be due to the fact that the satiety signal takes some time to travel from the stomach to the brain, and may arrive only after the fast eater has already consumed more than enough. But he said that relying on the participants themselves to score whether they eat slowly or fast was "considerably subjective" and may skew the data.

Katarina Kos, an obesity researcher from Exeter Medical School, said similar research has to be conducted in nondiabetic people to rule out a potential role for diabetes medication in weight loss or gain.

*Japan Times*

# Mie and Gifu Take Delivery of Mobile Pharmacy Vehicles to Improve Medical Provision in the Wake of Natural Disasters

By Chunichi Shimbun



*An RV modified to operate as a mobile pharmacy is seen in Tsu, Mie Prefecture, loaded with medicine and pharmacy equipment. | CHUNICHI SHIMBUN*

Demonstrations were held in the week of February 5, 2018 allowing residents in the city of Tsu, Mie Prefecture, to explore new mobile pharmacy vans delivered to the prefecture at the end of 2017.

Gifu prefecture also received a delivery of the vans, which are equipped with pharmaceutical supplies and equipment, making the service available for the first time in the Chubu region. The orders were made based on lessons learned through the 2011 Great East Japan Earthquake, when pharmacies and hospitals sustained significant damage.

The mobile pharmacy is a modified recreational vehicle, or RV, loaded with medicine and pharmacy tools, which allows pharmacists to head to disaster-stricken areas and attend to the injured. The vehicles are expected to play an important role in responding to emergencies going forward.

The vans were developed after the pharmacists association in Miyagi Prefecture, which experienced heavy damage in the March 2011 earthquake, approached Vantech Inc., an RV manufacturer based in Tokorozawa, Saitama Prefecture, in 2012.

The company modified a small truck into an RV. The sleeping space was left as is, but medicine shelves, pharmaceutical packaging machines, and devices to prepare medicine in a bacteria-free environment were installed in the galley area.

Vantech has already delivered mobile pharmacy vans to all seven pharmaceutical associations in Japan, and the product demonstrated its capabilities following the earthquakes in Kumamoto Prefecture two years ago. After the quake, Tatsuya Kobayashi, 42, a pharmacist registered with Mie Pharmacists Association, was deployed to help the village of Minamiaso in the Aso district using a mobile pharmacy van from Wakayama Prefecture. He stationed the van next to a gym that served as an evacuation center, and provided medicine to victims of the earthquakes based on prescriptions given by the medical team.

In addition to prescribing medicine to those suffering from high blood pressure or diabetes, who routinely take medication, the facility also served an important role in treating patients with

norovirus or influenza quickly to prevent them from spreading their ailments at the shelter. “(The mobile pharmacy) had the basic equipment needed to operate as a pharmacy,” reflected Kobayashi.

Mie Prefecture expects heavy damage if a Nankai Trough megaquake occurs, so the prefecture’s pharmacists association purchased the van in December 2017. It cost approximately ¥14 million, with the prefecture providing a 50 percent subsidy. When a natural disaster strikes, cooperating pharmacies in the prefecture will load the vehicle with the necessary medicines and a team of three pharmacists will head to the affected area.

The prefecture held a training session in January 2018 for approximately 20 pharmacists who will be deployed in the event of an emergency. The training provided necessary information on topics such as using the batteries for emergency power supply and servicing the van properly.

In the Chubu region, Gifu Pharmaceutical University also purchased one unit in December 2017, becoming the first university in the nation to operate a mobile pharmacy.

“Pharmacists need to bring a large amount of medicine to areas that suffer catastrophic damage,” said professor Tetsuji Yae from Suzuka University of Medical Science.

The mobile pharmacy makes it possible to prescribe powder medications and injections, which were previously difficult to provide in disaster-affected areas because they require special equipment.

“A mobile pharmacy is like an emergency ambulance for pharmacists and we will see more organizations purchasing them in the future, so we need to teach students to operate from them as pharmacists as well,” he added.

*This section, appearing Tuesdays, features topics and issues from the Chubu region covered by the Chunichi Shimbun. This used to be called Chubu Connection. The original article was published January 31, 2018.*



*Inside the vehicle is a variety of medicines and related equipment, allowing pharmacists to head quickly to disaster areas and tend to those in need. | CHUNICHI SHIMBUN*

Japan Times

# Japanese Chemist Finds Way to Improve Production of Clean Energy Using Egg Whites

Agence France-Presse (AFP)-JIJI

A Japanese scientist says his team has hatched a way to improve production of carbon-free energy by using proteins taken from egg whites.

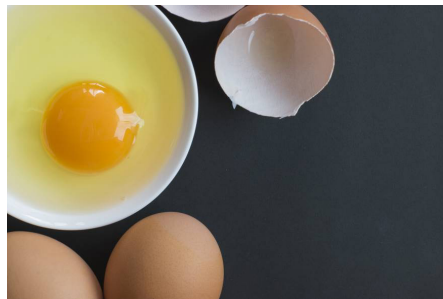
Yusuke Yamada, a professor at Osaka City University, said his team found a way to use the protein as a “tool” for producing hydrogen, a powerful source of clean electricity.

The new method “brings us closer to our ultimate goal of producing hydrogen from water,” Yamada said on February 15, 2018.

“This lays the groundwork for the clean production of hydrogen in the future,” the scientist added.

The fuel cell is known as a zero-emissions technology because only water and heat are released by the hydrogen and oxygen involved in the electrochemical process behind it.

Hydrogen is currently mass-produced using natural gas or fossil fuels, which themselves produce harmful emissions. But it can also be produced in labs without fossil fuels, and scientists have traditionally done this by initiating a special interaction of the molecules in liquid, explained Yamada.



*Japanese scientist Yusuke Yamada has discovered a way to use the protein in egg whites to produce hydrogen. | ISTOCK*

But free-moving molecules and particles in the fluid can interfere with the process of producing hydrogen, and scientists have long searched for a way to immobilize them.

Yamada’s team used a protein found in egg to build crystals with lots of tiny holes to trap these particles. The change brought a sense of traffic control to the molecular interactions and improved the efficiency of clean hydrogen production, Yamada said.

“If you use hydrogen as an energy source, it only releases water in the environment. It is extremely environmentally

friendly,” he said.

“We found protein was a useful tool” to generate hydrogen in a lab without using a fossil fuel, the professor said.

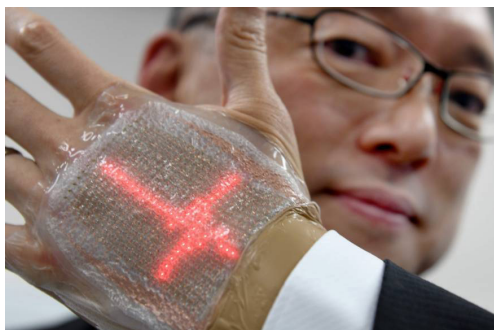
The world’s leading companies see hydrogen as the ultimate clean energy to power everything from cars to office buildings in the future, and are trying to ditch the fossil fuels that cause global warming.

Yamada’s method was published in the February edition of the scientific journal Applied Catalysis B.

*Japan Times*

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## Japanese Team’s Bandage-Like Health Monitor and Messaging Display Could Revolutionize Medical Care



*A man holds an ultra-thin elastic display equipped with light-emitting diodes in the week of February 12 developed by professor Takao Someya of the University of Tokyo. | AFP-JIJI*

Agence France-Presse (AFP)-JIJI

Palm reading could take on a whole new meaning thanks to a new invention from Japan: an ultra-thin display and monitor that can stick directly to the body.

The Band-Aid-like device is just 1 millimeter thick and can monitor important health data as well as send and receive

messages, including emojis.

Takao Someya, the University of Tokyo professor who developed the device, envisions it as a boon for medical professionals with bed-ridden or far-flung patients, as well as for families living far from their relatives.

“With this, even in home-care settings, you can achieve seamless sharing of medical data with your home doctors, who then would be able to communicate back to their patients,” he said.

Slapped onto the palm or back of a hand, it could flash reminders to patients to take their medicine, or even allow far-away grandchildren to communicate with their grandparents.

“Place displays on your skin, and you would feel as if it is part of your body. When you have messages sent to your hand, you would feel emotional closeness to the sender,” Someya said.

“I think a grandfather who receives a message saying ‘I love you’ from his grandchild would feel the warmth, too.”

The invention could prove particularly useful in rapidly graying Japan by replacing the need for in-person checkups with continuous, noninvasive monitoring of the sick and frail, Someya said.

The display consists of a 16-by-24 array of tiny light-emitting diodes and stretchable wiring mounted on a rubber sheet.



It also incorporates a lightweight sensor composed of a breathable “nanomesh” electrode, and a wireless communication module.

“Because this device can stretch, we now can paste a display on things with complex shapes, like skin,” Someya said.

It can be placed on the human body for a week without causing skin

inflammation, and is light enough that people might even forget they are wearing it.

Along with medical applications, Someya hopes the device will eventually lead to wearable displays for joggers so they can monitor their pulse and running routes. He also imagines laborers using the displays to consult manuals on their arms

while working.

The device will be showcased at the annual meeting of the American Association for the Advancement of Science in Texas over the weekend.

Someya created the device in partnership with Japanese printing giant Dai Nippon Printing, which hopes to put it on the market within three years.

Japan Times

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## Japan’s Shocking Decline of Rural Doctors

Medical doctors specializing in internal medicine and surgery are fast disappearing from many rural municipalities. Such a nightmare may be hard to believe, but it is becoming a reality due to a new system for certifying specialist medical doctors that will take effect this spring.

The new system, initiated jointly by the Japanese Medical Specialty Board (JMSB) and the Health, Labor and Welfare Ministry, is causing an increasing number of young and talented doctors to turn away from internal medicine and surgery, and to seek work in ophthalmology and otorhinolaryngology instead.

This is because doctors will not get certified as specialists until after they reach the age of 30 and they will be required to work in remote areas before receiving such certifications in internal medicine and surgery. Although the JMSB and the health ministry claim that the new system is aimed at producing skilled specialists, it will in fact ruin Japan’s medical services and unless something is done, deprive residents in rural communities of chances to receive proper medical care.

An analysis of data compiled by the JMSB has revealed shocking facts. In the nine prefectures of Akita, Fukui, Kagawa, Tokushima, Tottori, Shimane, Yamaguchi, Kochi and Miyazaki, the number of new doctors specializing in internal medicine will dwindle to 15 or less each during fiscal 2018, which begins in April. Similarly, the 14 prefectures of Aomori, Gunma, Yamagata, Fukui, Yamanashi, Nara, Shimane, Yamaguchi, Tokushima, Ehime, Kagawa, Kochi, Saga and Miyazaki will each have five or less new surgeons. Of them, Gunma, Yamanashi and Kochi will have only one each.

Should this trend continue, medical services in rural areas will fall apart and a growing number of people will lose the opportunity to be treated properly, making the government’s pet slogan of “resuscitation of rural areas” a pie in the sky.

The root cause of this crisis is the JMSB. Until now, specialist certifications have been issued independently by the Japanese Society of Internal Medicine and the Japan Surgical Society. Because of some disparities in the certification standards



*A new system to certify doctors as specialists in internal medicine and surgery, which is time-consuming and requires them to work in remote areas, is causing an increasing number of young physicians to shun these fields.*

| BLOOMBERG

between the two societies, a call has come for unifying the standards by a neutral third party. Thus the JMSB has been created with the task of certifying specialists in 19 principal fields.

Those seeking specialist certification are usually young doctors who have just completed early clinical training. It is only natural for most of them to try to find employment in Tokyo and other metropolitan areas where many medical institutions are eager to hire them.

A downside of the new scheme is conspicuous in internal medicine and surgery, both of which cover wide fields. For example, those who want to get specialist certification

in internal medicine are required to be trained in 12 specialized fields, including gastroenterology and neurology, in addition to general internal medicine. These fields were added at the insistence of experts in each field. With these and other requirements, the age at which doctors are certified as specialists will be 32 at the earliest.

Another problem has surfaced. After being criticized that the new certification system will further aggravate an uneven geographical distribution of doctors, the JMSB has made it mandatory for specialist certification candidates to receive training in remote corners of the country. This has led medical institutions in remote rural areas to have excessive expectations over specialists of internal medicine and surgery, which are the core medical services in those areas. Many of the young doctors seeking to become specialists in internal medicine and surgery have resented this and shifted their area of specialization to other fields.

In November 2017, the JMSB closed the filing of applications for training for specialist certification for fiscal 2018. The number of those who were accepted stood at 7,791, or about 90 percent of those who will have completed their early clinical training. That meant that with the exception of a few who seek to engage in basic medical studies and administrative work, most young doctors decided to apply for the certification.

For this spring, 2,527 have applied for training for

certification as specialist internal medicine doctors, down by about 20 percent from an average of 3,224 for the past three years. The comparable figures for surgery are 767, down 6 percent from the fiscal 2010-2014 average of 820 who were chosen for training for specialist certification.

In stark contrast, the number of those aspiring to serve in such “minor” medical fields as ophthalmology is increasing. The number of applicants for specialist certification in ophthalmology is 60 more than the previous year’s 228, or an increase of more than 20 percent. This is despite the fact that there already are more eye doctors than needed.

This situation has caught the JMSB off guard because things were moving in a direction completely opposite the board’s express goal of evening up the distribution of medical doctors among different fields. According to an insider of a university hospital in central Japan, the JMSB suddenly asked it to reduce from 10 to seven the fixed number of young doctors applying for specialist certification in ophthalmology. Unable to resist the pressure, the university persuaded three young doctors to postpone their training for specialist certification till next year.

Benefiting from the new system are hospitals attached to prominent universities in Tokyo, where the number of internal medicine doctors is increasing. This spring, 520 will start receiving training to be certified as specialists in internal medicine in Tokyo. This represents an increase of 15 percent over 450 who sat for exams in Tokyo to get specialist certification in internal medicine in fiscal 2016.

Tokyo has 3.8 internal medicine doctors per 100,000 residents — 5.5 times higher than the lowest prefectural figure of 0.7 in Kochi. A characteristic feature in Tokyo is the high percentage of doctors who receive training for specialist certification at university hospitals. Of the 520 young doctors in Tokyo seeking to get specialist certification in internal medicine, 387 — or more than 70 percent — are to receive the training at such hospitals, surpassing the national average of 63 percent.

As more and more young doctors want to be trained in Tokyo, its two neighboring prefectures of Saitama and Chiba have felt an adverse impact. Saitama has 67 and Chiba 82 young doctors who will start receiving training for specialist certification in internal medicine this spring, down from the 79 and 102, respectively, doctors who took exams to receive the certification in fiscal 2016, and the third and ninth smallest figures, respectively, among the nation’s 47 prefectures.

The blueprint for this new system was drawn up by bureaucrats at the health ministry specializing in medicine. The JMSB, tasked with implementation of the system, is in fact a “mutual aid society” of professors of medicine at universities, according to a journalist well-versed in medical services. A scandal involving a pharmaceutical firm, Novartis Pharma, in 2012 caused a sharp fall in monetary contributions from the pharmaceutical industry to professors in medicine. With the introduction of the new system by the JMSB, says the journalist, well over ¥1 billion will start pouring in annually under the guise of fees for renewing specialist certification and for certifying hospitals as fit for giving specialist training.

The same journalist says that the JMSB has hired 16 staffers and rented office space at the Tokyo International Forum complex near Tokyo Station. Its budget for fiscal 2016 included

¥15.55 million for rent, ¥37.08 million for business trips, ¥33.57 million for dispatch of lecturers and ¥7 million for conferences. The reason why the JMSB expends so much money without much business to do lies in the fact that the board has become a “lucky mallet of good fortune” for university professors, according to the journalist.

In April 2017, the Japan Association of City Mayors issued a statement expressing serious concerns over the new specialist certification system for doctors. The plea was ignored, and the new system detrimental to the nation’s medical services will start functioning very soon. This will undoubtedly become an overture to the collapse of medical services in rural areas.

*This is an abridged translation of an article from the January issue of Sentaku, a monthly magazine covering political, social and economic scenes. More English articles can be read at [www.sentaku-en.com](http://www.sentaku-en.com).*

*Japan Times*

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## More Japanese Clinics to Be Cleared for New Blood-Based Prenatal Screening Test



*A new system to certify doctors as specialists in internal medicine and surgery, which is time-consuming and A pregnant woman holds an ultrasound photo in this undated photo. Japan is set to allow more institutions to conduct blood-based prenatal testing for chromosomal abnormalities linked to disorders such as Down syndrome. | GETTY IMAGES*Increasing number of young physicians to shun these fields. | BLOOMBERG

Kyodo

More medical institutions will soon be allowed to conduct blood-based prenatal screenings instead of amniotic fluid tests to detect chromosomal abnormalities such as Down syndrome amid growing demand in a country where more women are delaying pregnancy, a medical group said.

The new type of test, introduced to Japan in 2013, has sparked a bioethics debate because more than 90 percent of women diagnosed with fetus abnormalities have opted for abortion.

The guidelines, set by the Japan Society of Obstetrics and Gynecology, restrict the screenings to designated facilities with counseling services. However, due to growing demand, uncertified medical facilities have started providing the test as well.

The group also limits screenings to pregnant women 35 and older or those with a history of fetal chromosomal abnormalities. Uncertified institutions must carry out the test without such restrictions and claim the ability to distinguish whether the fetus is male or female — a practice that violates the guidelines.

The blame for such practices has been ascribed to the shortage of certified medical institutions with proper counseling services. To remedy this, the group plans to expand the scope of official testing

coverage, sources close to the matter said.

At a board meeting in March, the group is expected to discuss the incorporation of prenatal testing in general practice, as well as the easing of screening prerequisites, the sources said.

Since the introduction of prenatal diagnoses, the number of certified facilities conducting the blood-based test nationwide has grown from 15 to 89, and roughly 45,000 people had taken it as of March 2017.

The screening is conducted by taking the mother's blood at an early stage of pregnancy — after 10 weeks — and analyzing the fetal DNA fragments within to determine whether trisomy 21 (Down syndrome), trisomy 18 (Edwards syndrome) or trisomy 13 (Patau syndrome) are present.

The latter two disorders involve a combination of birth defects. Most babies born with these syndromes die in their first year.

With most women opting for abortion when fetuses test positive for chromosomal abnormalities, there has been criticism that the new screening method is being used too casually by parents-to-be, given its easy access, and that it could end up promoting the concept of eugenics.

One study conducted after the blood-based test was introduced showed that women chose to have abortions due to lack of confidence in giving birth and raising children with chromosomal anomalies, in addition to anxiety about planning for their future.

*Japan Times*

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## Global Cancer Survival Up, but Progress Uneven: Study

*AFP-JIJI, Staff Report*



Cancer survival is increasing across the world but large gaps endure between nations, while some cancers remain hard to treat everywhere, according to a major review released on January 31, 2018.

In Japan, the five-year lung cancer survival rate went from 23 to 33 percent, among the biggest improvements worldwide. The country also boasted the highest survival rate for esophageal cancer, at 36 percent.

Globally, progress and the gap between nations are especially large for childhood cancers, according to the Concord-3 study covering 71 nations and 18 types of cancer, published in the medical journal *The Lancet*.

For children with brain tumors, for example, five-year survival has improved across the board from 54 percent for the period 2000-2004, to more than 60 percent for 2010-2014.

In the United States, Denmark, Sweden and Slovakia, the survival rate progressed to 80 percent or better. In Mexico and Brazil, however, less than 40 percent of children diagnosed with brain tumors survived in the 2010-2014 period.

Similarly, five-year survival for the most common type of childhood cancer — acute lymphoblastic leukemia — rose to higher than 90 percent in Canada, the United States and nine European countries, but remained below 60 percent in China and Mexico.

“This likely reflects the availability and quality of diagnostic and treatment services,” the authors said in a statement.

The world has seen across-the-board progress on breast cancer, the study showed.

For women diagnosed with the disease in the United States and Australia between 2010 and 2014, five-year survival was 90 percent. In 16 western European countries, the rate improved to 85 percent, and stood at 71 percent for eastern European nations. In India, breast cancer survival improved during those five years to 66 percent.

Liver and lung cancers remain quick killers in both rich and developing countries, but the last 20 years have seen some progress.

Between 1995 and 2014, liver cancer survival increased in South Korea (from 11 to 27 percent), Sweden (5 to 17 percent), and Portugal (8 to 19 percent).

Similarly, lung cancer survival went up by 5 to 10 percent in 21 countries, including Britain. The most progress, in addition to Japan, was seen in China (from 8 to 20 percent) and South Korea (10 to 25 percent).

Pancreatic cancer remained highly lethal everywhere,





with five-year survival rates typically under 15 percent.

“Greater international efforts are needed to understand the risk factors for this rapidly lethal cancer,” said co-author Michel Coleman, a researcher at the London School of Hygiene & Tropical Medicine.

Led by Claudia Allemani from the London School of Hygiene & Tropical Medicine, the Concord-3 study marshaled hundreds of experts and more than 300 cancer registries covering 37.5 million cancer cases — three-quarters of all the cancers diagnosed worldwide from 2000 to 2014.

Thirty-one European countries were included, along with 17 from Asia and 13 from Latin America. Only six African countries were included, due to a lack of data.

“Despite more than 20 years of advocacy for ... fully functional cancer registries, both political and financial support remains woeful,” said Richard Sullivan, a professor at Kings Health Partners Comprehensive Cancer Centre in London.

*Japan Times*

## Japan to Aim at ‘Ageless Society’ with More Healthy Seniors Working



Japan should aim at becoming an “ageless society” where people aged 65 or older will not be automatically regarded as seniors but will be encouraged to stay healthy and work, a draft

of a revised government policy on the elderly said on January 17, 2018.

The draft, marking the first revision in five years of the country’s policy on the elderly, also said people should be allowed to delay the age to start receiving public pensions to over 70, with the government hoping they will continue to be part of the labor force even after retirement.

Currently, the elderly start receiving pensions from 65 in principle, but can choose the starting age from between 60 to 70. The amount of monthly pension increases the more the starting age is delayed.

The ruling Liberal Democratic Party’s related committee broadly approved the draft on Wednesday, with the Cabinet of Prime Minister Shinzo Abe set to endorse it within this month (January 2018).

“The general trend of uniformly seeing those aged 65 or over as elderly is losing credibility,” an outline of the new policy said. “The government will review the (current) standardization by age bracket and aim at creating an ageless society where people of all generations can be active according to their wishes,” the outline says.

The new policy is being formulated as Japan is experiencing an unprecedented population aging with declining birthrates. In 2025, one in every three people in Japan is expected to be 65 or older.

In such a super-aging society, the current social security system must be reformed, and the outline says the government will take steps to facilitate re-employment of the elderly, such as by supporting those who would like to start a business through offering loans by the government-affiliated Japan Finance Corp. and setting up a consultation desk at Hello Work public job placement offices for seniors looking for re-employment.

The outline contains a numerical target to increase the rate of employment among those aged 60 to 64 to 67 percent in 2020, up from 63.6 percent as of 2016.

The government will also promote measures to enhance seniors’ well-being and reduce their need for nursing care, while steps to prevent their being isolated in communities have also been included in the outline.



*Japan Times*

# Natural Therapy: Hong Kong's Mountain Warriors



*A woman posing for photos on Hong Kong's highest peak, Tai Mo Shan, on December 8, 2018. | AFP-JIJI*

AFP-JIJI

Wooded hillsides, craggy ridges and wheeling birds of prey are a world away from Hong Kong's famous skyscrapers but the city's country parks are a necessary balm for its stressed-out residents.

With some of the world's highest property prices, many can only afford tiny apartments, some living in infamous "cage homes" big enough only for a bed.

Hong Kong's fast-paced lifestyle and long working hours also take their toll.

Fortunately, within easy reach of the densely packed tower blocks and traffic, there is an extensive network of hiking trails which snake over hundreds of peaks across the territory and along its coastlines.

Forty percent of Hong Kong is protected country park and nature reserves, amounting to 443 square kilometers (274 square miles), drawing hikers, runners and campers year-round. For 29-year-old Dai-yu Cheung, those natural landscapes changed his life.

As a keen amateur photographer he decided to document some of the city's remoter areas, never having explored them before.

His discoveries led him to ditch long hours at his job as a graphic designer, during which he had developed a bad back, and



*Right: Dai-yu Cheung (right) and A.M. Renault chat on Hong Kong's highest peak, Tai Mo Shan, on December 8, 2018. | AFP-JIJI*

go part time as he sought a healthier, happier existence.

Cheung lives with his family and cut down his financial expenses so he could work three days a week, often hiking with friends.

"When we go hiking, we feel free, relax and forget our troubles," he said, carefully gathering scattered litter as he walked through tall grass to a rocky outcrop in the northern New Territories.

He and his friend A.M. Renault, 29, also a keen hiker, have set up Facebook and Instagram pages under the name Yamanaka Yuko, sharing photos and videos of their hill climbs in Hong Kong and abroad. They describe themselves as artists inspired by nature.

With a growing band of followers the pair are now regularly asked for tips about routes by local walkers and have teamed up for campaigns with environmental organizations and outdoor clothing brands.

"Our message is about protecting nature and the environment," says Renault, a freelance photographer.

He worries about the future of Hong Kong's trails — the housing shortage has sparked government proposals to build on the outskirts of the country parks.



*Dai-yu Cheung (right) and A.M. Renault walk on Hong Kong's highest peak, Tai Mo Shan, on December 8, 2018. | AFP-JIJI*

But with hiking becoming more popular, particularly among young people, he hopes those plans will fail.

"More and more people like hiking and go out and do it. Because of that there's more resistance to development than in the past," he said.

On a cool, sunny morning, Stone Tsang skips sure-footed along a shady path beneath Hong Kong's highest peak, Tai Mo Shan.

The city's most famous trail runner, Tsang, 39, regularly wins long-distance competitions and recently completed a grueling local hill race which saw him cover 298 kilometers (185 miles) in 54 hours, snatching naps when he could no longer keep his eyes open.

As a paramedic and father of two, he says getting out into these wide open spaces is a vital stress relief.

"When I come to the mountains it's like therapy for me," he said. "It's healing for my soul."

Hitting a dirt trail, rough with gnarled tree roots and scattered boulders, is part of the Hong Kong hill experience.



But over the years, many paths have been covered with concrete in an attempt to make them safer, a practice which Tsang is leading a popular Facebook campaign to stop.

He says former government technicians who helped establish paths using natural materials have now retired and contractors have little knowledge of how to do so.

Not only is the concrete alien to the natural environment, it also becomes slippery and causes soil erosion, says Tsang.

“Most mountain rescues are because inexperienced people get lost or dehydrated, there are very few injuries because of the trail conditions,” he explained.

Tsang is lobbying the government to stop pouring new concrete and has introduced them to international experts who are showing workers and members of the public how to refurbish paths naturally.

The agriculture, fisheries and conservation department said it would use natural materials “as far as possible.”

Tsang now wants to bring hiking tours into the country parks to foster a love of the mountains in the face of the threat of development.

“The country parks are a very valuable asset to Hong Kong, not just for us, but for future generations,” Tsang said.

“This kind of thing you cannot just see — you have to go out and feel it.”

*Japan Times*

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## Oton Glass CEO Looks to Help Those with Reading Disabilities and Ease Their Lives

*By Shusuke Murai / Staff Writer*

What would you do if you suddenly lost your ability to read, and the text you’re reading now became an incomprehensible jumble of letters?

That’s the world Keisuke Shimakage’s father faced after he experienced a stroke in 2012. Since then, Shimakage, 26, has been working to develop a product that helps patients like his father by using his own expertise — product design mixed with digital technology.

“Perhaps it’s difficult for us to imagine a world where things you were able to read before become suddenly incomprehensible. We forget about the days when we were unable to read, before growing older and becoming literate,” Shimakage, CEO of Tokyo-based startup Oton Glass, said during a recent interview with *The Japan Times*.

“It was after my father was hit by the stroke that I first realized our world is actually full of letters, and that being unable to read them may cause a significant disadvantage in our daily lives,” he said.

When his father started experiencing the reading disorder in 2012 after a cerebral infarction, Shimakage was a Tokyo Metropolitan University junior studying product design. While



*Keisuke Shimakage, CEO of Tokyo-based startup Oton Glass, wears a pair of glasses that can read aloud text in the wearer’s field of view. | YOSHIKI MIURA*

wondering what to do for his graduation project, he decided to develop a product that could support his father.

“Before developing the product, I asked my father’s doctor about the kind of symptoms he has. I also went out with my father and asked him how words on the street looked to him and what he couldn’t read,” he said.

After much trial and error, Shimakage came up with an idea in 2014 for an eyeglasses-type device that reads out text captured by camera. It was the very first prototype of Oton Glass — a pun combining two Japanese words: *oton* (dad) and *oto* (sound).

The idea crystallized when Shimakage accompanied his father to visit a doctor.

When his father had to fill out a form before receiving treatment, the doctor read it out for him because he couldn’t understand what was written.

“Seeing that, I realized it might be a great help for people who have difficulty reading if I develop a device that converts the text they see to speech so they can access various information without the help of others.”

But what made Oton Glass possible was the latest digital technologies.

When a user sees text with the device and presses a button on its frame, a camera inside sends the data to a separate computer the size of a pocket book, attached with a cable, that the user carries typically in a bag or suspended on a neck strap. The computer then sends the image to Google’s cloud platform to process the text. Amazon’s cloud service converts the text into speech, so that the device can read it aloud. The whole process takes just a few seconds.

Oton Glass, the frame of which is made using a 3-D printer, can also translate text written in one language into speech in another by using Google’s cloud translation engine. Although similar text-to-speech services have already been available as smartphone apps, Shimakage said glasses are the most suitable form for a device because “they can provide an experience that is the most natural for humans.”

“The key is how we can let users experience the device as a part of their own body,” he said. “Holding up a smartphone is not an instinctive human action, and it looks odd from the standpoint of other people as well. But seeing something through glasses is closer to people’s instinctive behavior. . . . People often start to feel like glasses are part of their body as they use them.”



Shimakage launched his own company in 2014, after he started studying at the Institute of Advanced Media Arts and Sciences in Gifu Prefecture as a graduate student, with hopes of delivering his product to more people who have symptoms like those of his father.

“People who establish their own startups often say they have always wanted to run their own company. But I’m rather driven by my curiosity about the research and desire to create my artwork,” he said.

“I needed money to develop the device before actually commercializing it. I also needed colleagues who could work together to realize it,” he said. “My company grew out of my motivation to fulfill social needs rather than business feasibility. But I believe business feasibility will follow after we produce a product that many people want, and so far we have received positive feedback from people who actually used it.”

Shimakage may have created the device first to help patients with reading disabilities. But now people with other visual disabilities and people with tired eyes are also finding the device useful.

The number of awards Oton Glass has received proves there are high hopes for the product. The invention won a James Dyson Award in 2016 for products with an innovative design to overcome social problems.

Then in October the Oton Glass project was selected for the internal affairs ministry’s initiative to sponsor innovations that may bring “disruptive changes” to society. The 21st Century Museum of Contemporary Art in Kanazawa Prefecture exhibited Oton Glass at its design gallery from April to July.

Shimakage currently sells Oton Glass on an experimental basis to people who have agreed to help improve the product. The price is ¥400,000, and about 15 units have been sold to individuals and organizations so far. The company plans to produce 100 units next year and cut its price in half, with a target to sell a total of 30,000 units by 2021.

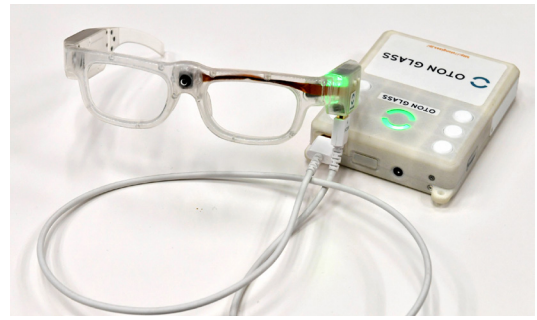
Shimakage also plans to push municipalities to officially recognize Oton Glass as a welfare device, which will allow users with disabilities to purchase it for as little as ¥20,000 and cover the rest with social insurance.

But Shimakage said a lot of things need to be done before his product can be commercialized. In fact, he left the current Oton Glass unfinished on purpose, so users can engage in the process to improve the product together. “I have many ideas and I can probably realize them if I spend time and money. But they may not be something that users want from my product,” he said.

Shimakage also made Oton Glass’s functions as simple as possible, focusing on just detecting text and reading it aloud for welfare purposes. This helped him avoid the privacy concerns presented by some smart glasses.

When Google Glass debuted in 2013, the versatile smart glasses became a target of public criticism over fears it would allow users to secretly record videos in public places without the consent of people on the street. The device is currently available only for business use.

“A device that can be used in many ways needs to overcome many hurdles before gaining widespread acceptance. We tried to make our device’s function as simple as possible, so people can easily accept it,” he said.



*Oton Glass, which comprises a pair of glasses and a small computer, allows users with reading difficulties to hear text in the wearer’s field of view by reading it aloud. | YOSHIAKI MIURA*

After five years, Shimakage’s father has regained his ability to read after making efforts toward rehabilitation. But Shimakage says his own endeavors will continue until his innovation becomes the go-to device for people who have difficulty reading text — an achievement that would restore greater freedom in their lives.

And the fact that Oton Glass is making a difference in someone’s life is a constant motivation to make the product better. Shimakage recalls a story about one of the users, a blind person, being able to play “Pokemon” on a Nintendo DS thanks to Oton Glass.

“I was very surprised, but also delighted to hear that,” he said. “I was confident Oton Glass could help people fulfill basic needs in their daily lives. But actually, it could make their lives more colorful by helping them do what they want.”

“Ultimately, I want Oton Glass to be a device that enhances the basic senses of human beings,” he said. “And I believe people who have difficulties in their lives are important partners for me to work with together toward that goal.”

*Japan Times*

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## In a Milestone Year, Gene Therapy Finds a Place in Medicine

*By Marilyn Marchione / Associated Press (AP)*

After decades of hope and high promise, this was the year scientists really showed they could doctor DNA to successfully treat diseases. Gene therapies to treat cancer and even pull off the biblical-sounding feat of helping the blind to see were approved by U.S. regulators, establishing gene manipulation as a new mode of medicine.

Almost 20 years ago, a teen’s death in a gene experiment put a chill on what had been a field full of outsized expectations. Now, a series of jaw-dropping successes have renewed hopes that some one-time fixes of DNA, the chemical code that governs life, might turn out to be cures.

“I am totally willing to use the ‘C’ word,” said the National Institutes of Health’s director, Dr. Francis Collins.

Gene therapy aims to treat the root cause of a problem



*Dr. Albert Maguire checks the eyes of 8-year-old Misa Kaabali, who received gene therapy treatment for a rare form of inherited blindness at age 4, at the Children's Hospital of Philadelphia on October 4, 2017. The U.S. Food and Drug Administration approved the therapy on December 19, 2017. | AP*



*Brian Madeux sits with his girlfriend, Marcie Humphrey, while waiting to receive the first human gene editing therapy at the UCSF Benioff Children's Hospital in Oakland, California. Madeux, who has Hunter syndrome. Gene editing therapy aims to treat the root cause of a problem by deleting, adding or altering DNA, rather than just treating symptoms that result from the genetic flaw. | AP*



*Jay Konduros (left) and his brother, Bill, are shown at Jay's home in Cambridge, Ontario. The brothers, who have hemophilia, were involved in a gene therapy study for their condition. Before the treatment, 'Even something as innocuous as reaching over your head to get something out of a closet, or reaching down to tie a shoe' could trigger trouble, Bill said. | AP*

by deleting, adding or altering DNA, rather than just treating symptoms that result from the genetic flaw.

The advent of gene editing — a more precise and long-lasting way to do gene therapy — may expand the number and types of diseases that can be treated. In November 2017, California scientists tried editing a gene inside someone's body for the first time, using a tool called zinc-finger nucleases for a man with a metabolic disease. It is like a cut-and-paste operation to place a new gene in a specific spot. Tests of another editing tool called CRISPR, to genetically alter human cells in the lab, may start next year.

"There are a few times in our lives when science astonishes us. This is one of those times," Dr. Matthew Porteus, a Stanford University gene editing expert, told a Senate panel discussing this technology last month.

It is a common path for trail-blazing science — success initially seems within reach, setbacks send researchers back to the lab, new understandings emerge over years, and studies ultimately reveal what is safe and effective.

The year started with no gene therapies sold in the U.S. and only a couple elsewhere. Then the Food and Drug Administration approved the first CAR-T cell therapies, which alter a patient's own blood cells to turn them into specialized cancer killers. They are only for certain types of leukemia and lymphoma now, but more are in the works for other blood cancers.

Last week, the FDA approved Luxturna, the first gene therapy for an inherited disease, a form of blindness. People with it can't make a protein needed by the sight-enabling retina, tissue at the back of the eye that converts light into signals to the brain. The therapy injects a modified virus containing a corrective gene into the retina so the cells can make the protein.

Children who received the treatment told what it was like to gain vision.

"Oh yikes, colors. Colors are superfun," said 13-year-old Caroline Carper of Little Rock, Arkansas. "And the sunshine is blinding."

Gene therapies also showed some promise against a variety of diseases including hemophilia, a blood clotting problem; "bubble boy" disease, where a flawed immune system leaves patients vulnerable to fatal infections; and sickle cell disease, a serious and painful blood disorder common among black people.

The news is not all good, though. The therapies don't work for everyone. They are shockingly expensive. And no one knows how long some results will last, though scientists say the aim is a one-time repair that gets at the root cause.

"The whole promise ... is to cure diseases. It's based on the rationale of fixing the problem," not just improving treatment, said Dr. Carl June, a University of Pennsylvania scientist who pioneered CAR-T therapy.

In mid-November 2017, Brian Madeux, a 44-year-old Phoenix man with a metabolic disease called Hunter syndrome, had just become the first person to try an experimental gene editing treatment.

"I believe in science," he texted The Associated Press after doctors sent viruses containing a corrective gene and an editing tool through an IV into his body. The hope is that the gene and the editing tool would enter some of his liver cells and insert the instructions needed to start making an enzyme he lacks.

It is not known yet if it worked. Sangamo Therapeutics Inc. is testing its therapy in several studies, and independent monitors will help decide when results are released.

"It's a pretty exciting milestone," Collins said, because it shows a way to treat more diseases than ones that can be addressed now by altering blood cells in the lab or injecting genes into the eye.

"You can imagine having a scalable approach to thousands of genetic diseases," he said.

As for what's next, topping Collins' list is muscular dystrophy and sickle cell. There has been so much progress that the NIH has modified an oversight panel that just a few years ago reviewed every gene therapy experiment in the U.S. Most are considered safe enough to go ahead without the Recombinant DNA Advisory Committee's review. The panel hasn't even met for a year.

When the panel was formed decades ago, "there was a lot of concern that a graduate student could take some of this home and create a monster in his basement," said one panel member, Boston scientist Dr. Howard Kaufman.

Those fears have eased, he said.

"There's no monsters that have materialized from this."

# Humans Can Spot Small Signs of Sickness at a Glance, Research Suggests

By Nicola Davis



*Obvious signs of illness such as sneezing and coughing are easy to spot, but more subtle cues such as pale lips or droopy eyelids may help humans to tell when another person is sick.*

*Photograph: Alan Thornton/Getty Images*

*Humans may use a host of facial cues – visible just hours after an infection starts – to avoid contracting illnesses from others, study indicates*

Coughing, sneezing and clutching the stomach might be obvious signs of sickness, but humans can also spot if someone is healthy simply from a glance at their face, new research suggests.

Scientists have found that signs of a person being acutely unwell – such as pale lips, a downward turn of the mouth and droopy eyelids – are visible just hours after an infection begins.

“We use a number of facial cues from other people and we probably judge the health in other people all the time,” said John Axelsson, a co-author of the research and a professor at the stress research institute at Stockholm University.

While previous work has shown that besides overt symptoms – such as sniffing – changes in skin colour can serve as a guide to health, experts say the latest study highlights the ways in which humans might use a host of early signals to avoid contracting infection from others.

Writing in the journal *Proceedings of the Royal Society B*, Axelsson and colleagues described how they injected 16 healthy adults with a placebo and, at a separate point in time, molecules from *E coli* which are known to rapidly trigger flu-like symptoms. The participants were unaware which injection they had received, and were photographed about two hours after each injection.

The team then showed the portraits to 62 participants who were asked to judge whether the pictured person was sick or healthy, with each picture shown for a maximum of five seconds.

The results reveal that the participants were able to spot a sick person slightly better than if they were guessing, correctly identifying someone as being unwell 52% of the time. However, more impressively, they correctly labelled individuals as being

healthy 70% of the time.

Axelsson said the judgement of whether someone was sick or healthy might vary depending on the people analysing the images, noting that people looking for a partner might be better at spotting signs of health, while those afraid of catching an infection might be better at noticing cues for sickness. “I think it depends a bit on the context you are in, on what you are sensitive for,” he said.

To delve deeper a new group of 60 participants were shown the photographs, without being told which injection had been given.

Individuals photographed after being injected with the *E coli* molecules were, on average, rated as looking more sick and more tired than in photos taken after they were given the placebo. They were also rated as having a more swollen face, redder eyes, less glossy and less patchy skin as well as a more drooping mouth, hanging eyelids and – in particular – paler lips.

However further analysis showed that just how sick a person was judged was most reliably linked to paler skin and droopier eyelids.

Professor Ben Jones of the Face Research Lab at the University of Glasgow welcomed the research. “This study adds to growing evidence for the existence of facial cues associated with acute sickness and help us understand how, unfortunately, social stigmas about people suffering illnesses might emerge,” he said.

But he noted that the study did not replicate real life, where faces can show many types of variation, even in the same person. Also, other studies have used the same set of photographs, meaning caution was needed against conclusions based on only a small group of individuals.

Dr Carmen Lefevre of the centre for behaviour change at University College London also raised concerns about the small number of people who had been photographed. Nonetheless, she said the research supports the idea that humans have developed a range of behavioural mechanisms to help avoid catching diseases. “This is the first study [to show] that illness [is detectable] shortly after onset,” she added.

Dr Rachel McMullan of the Open University said that it would be helpful to look at whether the results held for a wide range of ethnic groups and for different diseases, but added the results suggested ill individuals could be spotted soon after infection.

“Being able to quickly identify and avoid potentially sick, contagious individuals will certainly be an evolutionary advantage and this study is a good starting point for further research into the how we detect early signs of infection,” she said.

*The Guardian*



# The Aging Population Needs to be Planned for

By Sophie Tsou



According to DATA from the Ministry of the Interior, as of October 2017, people aged 65 and over accounted for 13.7 percent of Taiwan's total population, and the nation is expected to become an aged society this year as the figure exceeds 14 percent. Although this is lower than in neighboring Japan, it is estimated that one-third of the nation's population will be elderly by 2046, due to a serious decline in the birthrate. This would cause a variety of elderly care problems and the government would inevitably face financial strain as a result of falling tax revenue and increasing social welfare expenditures.

This problem is not limited to Taiwan. In 1992, the UN noticed that the global population was steadily becoming more aged and called on all nations to deal with the issue. There has been little chance for Taiwan to participate in international affairs after its removal from the UN and the government has failed to squarely face the issue.

Fortunately, Taiwan will not become a hyper-aged society — meaning that 20 percent of the population is 65 and above — until 2026, giving it a nine-year adjustment period. The government must seize the opportunity provided by this transitional period.

Since the nation's financial resources are limited, Taiwanese must start building mechanisms to relieve the financial burden an aged society will create. There are a few possible options.

First, Taiwan should increase the contribution rates for its pension programs. According to the spirit of the International Covenant on Civil and Political Rights, and the International Covenant on Economic, Social and Cultural Rights, a signatory state should pass legislation making it compulsory for its population to join an elderly pension program at a certain age.

Although Taiwan already has labor, civil servant and national pension programs, these programs will be paying out more than they receive in a few years due to low contribution rates.

The legislature should face the issue head-on and raise contribution rates. It should not protect early payers' rights to receive a pension, while people who have started to pay in later receive nothing as that would neglect the rights of the majority.

Second, it should combine trusts with elderly care. The government is promoting a "house-for-pension" policy that is mostly handled by banks through their credit businesses. However, it is generally difficult for elderly Taiwanese to accept that the ownership of their property will be transferred to a bank.

However, by combining the use of trusts with elderly care at nursing homes, senior citizens who own real estate could have their houses registered in a real-estate trust and transfer the profits of the trust to their nursing homes to pay for their care. By doing so, they could keep their home while receiving proper care.

Third, the government should develop elderly finance systems to free senior citizens from the threat of fraud. Apart from their real estate, they could also have their savings registered in a trust, so that they could engage in inheritance planning for tax-saving purposes and protect their fortune from being taken by fraudulent organizations.

Fourth, the government should view e-commerce for the elderly as a business opportunity. New e-businesses for shopping, cleaning and outings services could be created.

If the government could come up with possible solutions to Taiwan's aging problem in a timely manner, it would not only be possible to resolve the problem, but also to promote the development of an elderly industry.

Sophie Tsou is an associate professor at National Taipei University's Department of Real Estate and Built Environment.

*Translated by Eddy Chang*

*Taipei Times*



# Taiwan's Health Ministry Considers Recognizing Gaming Addiction as 1m Found at Risk

By Staff writer, with Central News Agency (CNA)



The Ministry of Health and Welfare of the Republic of China (Taiwan) is considering classifying Internet addiction and gaming disorders as mental disorders, the Chinese-language Liberty Times (sister newspaper of the Taipei Times) said on January 3, 2018.

The ministry would be following the WHO's lead, as the UN organization has said that it intends to classify "gaming disorder" as an official mental health condition in its International Classification of Diseases due to be published later this year.

Internet addiction is a growing problem in Taiwan, with an estimated 1.05 million Internet users aged 12 and older classified as at risk of becoming addicted, according to a report on Internet addiction released by the National Development Council in July 2017.

Among the Internet users at risk, 200,000 are high risk Internet users who had failed to engage in any outdoor activities or interact with friends for more than one month prior to being interviewed, the report said.

Meanwhile, the percentage of at-risk Internet users aged 12 and older increased from 3.5 percent in 2016 to 5 percent last year, it said.

At-risk Internet users spend an average of 4.8 hours per day online and believe that surfing the Web is a good way to relieve stress, achieve spiritual satisfaction and make new friends, the report said, adding that 54 percent are male and 46 percent female, while 40.9 percent hold a bachelor's degree.

People aged 30 to 39 had the highest proportion of at-risk users with 29.9 percent, followed by people aged 20 to 29 with 21.1 percent, those between 40 and 49-years-old with 17.1 percent, people aged 50 to 59 with 15 percent and people 12 to 19 years of age with 11.4 percent, the report said.

New Taipei City had the largest share of at-risk Internet users at 17.7 percent, followed by Taichung at 12.1 percent, Taipei at 11.8 percent, Kaohsiung at 11.7 percent and Taoyuan at 9.6 percent.

Service sector employees and salespeople accounted for the largest share of at-risk Internet users with 19.8 percent, followed by students at 16.8 percent.

The survey was conducted by telephone from June 16 to July 5 among 1,508 Internet users aged 12 and older.

*Taipei Times*



## Part II Education

### Schools in Japan Use Smartphone, Tablet Apps to Engage a New Generation



Educational smartphone and tablet apps are becoming increasingly used in Japanese schools as teachers look to capitalize on what has become many young people's preferred window to the world.

Such artificial intelligence-assisted apps have become prevalent in education, particularly in subjects many Japanese teachers struggle to teach well.

One subject in which Japanese educators need some help is in teaching children English, a task that is all the more important as English speaking skills are due to be included from the 2020 school year in the joint achievement test, part of the country's high-pressure university entrance exams.

Nippon Sports Science University Kashiwa High School in Chiba Prefecture, east of Tokyo, uses an app called TerraTalk to help students improve their English conversation skills.

The school introduced the app last summer for students wishing to study abroad, and it plans to expand its use to all students in order to prepare them for the new college entrance exam.

In early November, several students gathered after school to practice English conversation using the TerraTalk app.

An immigration officer in a mock airport customs scenario asks such questions as "May I ask your destination?" or "Do you have your ticket with you?"

After the students give their answers, they are displayed on the tablet screen so it can be checked whether they are correct, and pronounced correctly.

The students said they generally had a positive experience with the app as they do not feel the hesitancy they might when speaking to real native English speakers.

"I get nervous when I speak during a class but this (TerraTalk) makes me relax," a student said. "I feel as if I spoke

English in an actual situation," another student said.

For teachers, the app goes some way to making up for the lack of in-class English conversation with native speakers.

"We have an English conversation class taught by a native speaker, but each student is given only a few minutes to speak," an English-language teacher said. "The app is very effective."

Yoshiyuki Kakihara, president of Joyz Inc., the Tokyo developer of TerraTalk, said the app can help users improve their English because it displays the points at which the pronunciation of the user is different from native speakers.

Joyz released TerraTalk as an Android and iOS app for users wanting English lessons in 2016. It offers work and everyday life scenarios and allows users' to role-play conversations.

It has been used at some private high schools, Kakihara added.

Another area where apps could be of great help to teachers is in teaching computer programming with coding becoming essential for elementary school pupils from academic year 2020.

Internet firm DeNA Co. released in October Programming Zemi, a coding app for young children, and demonstrated to the media with a class of first graders who use the app at a primary school in Tokyo.

During the class, pupils assembled blocks displayed on a tablet to enable a virtual character to walk or jump across the screen.

Tomoko Namba, DeNA founder and executive chairwoman, says she hopes the app will help "children clear the psychological hurdles of using a computer (by learning coding)."

Such moves are part of a drive to promote the use of information and communication technology in education.

There were 1.95 million computers used by students at public elementary, junior high and senior high schools in Japan as



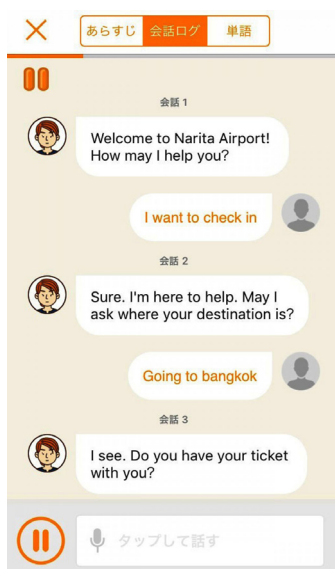
of March 2016, according to the Education, Culture, Sports, Science and Technology Ministry. The figure means there was one computer per 6.2 students.

Of the computers, 253,755 were tablets, nearly 10 times more than four years ago.

As well as the promotion of technology-assisted education, the introduction of apps varies depending on schools, but cram schools are big adopters.

Gakken Study et and Yoyogi Seminar are among the cram school operators using the Studyplus for School app that helps students manage their self-study programs.

Gakken Study et began using it at two of their schools in Saitama Prefecture



last year.

Via their smartphones, students input information on the subjects they study, how much time they spend on each and what reference materials they used.

The app has allowed the cram schools to get a better picture of their students' self-study habits, a Gakken Study et official said.

Gakken Study et plans to use Studyplus for School at all of its 40 locations.

Using the app, students can find out how much their fellow students are working, increasing their motivation to catch up or better their friends, a representative of the Studyplus app said.

*Kyoto News*

## A Chance Encounter Led Hiroki Watanabe to Dhaka, Where He Is Tackling Child Poverty Through Education

*By Magdalena Osumi / Staff Writer*



*Hiroki Watanabe, founder of Ekmattra, speaks during an interview in Ginza on November 20, 2017. | SATOKO KAWASAKI*



*Hiroki Watanabe — founder of Ekmattra, which offers education opportunities for street children in Bangladesh — plays with his students in Dhaka. | COURTESY OF HIROKI WATANABE*

It was a sight that presented such a stark contrast to his own fortune; a young boy standing at the entrance to a slum in Phuket, Thailand, as Hiroki Watanabe passed by in a luxury bus on his way to a yacht race.

Watanabe, now 37, remembers the encounter, which occurred in 2001, as a turning point in his life, and the trigger that has led him to helping children deprived of opportunities to develop their potential.

Today, Watanabe — now based in Bangladesh — is preparing for the opening of his third educational institution near Dhaka, with the aim of offering learning opportunities to underprivileged children in the developing country. He chose Bangladesh knowing how frequent natural disasters impact the country's economy and communities, and force children onto the streets.

“People are used to seeing children on the streets selling

things or begging for money since they're born, so it's part of the local landscape. It's so obvious that they don't regard it as a problem,” Watanabe said, in a recent interview with The Japan Times in Tokyo.

According to the Bangladesh Institute of Development Studies (BIDS), nearly one-third of the population of around 150 million lived below the national poverty line in 2012. The institute also projects the number of street children is likely to rise to some 1.61 million by 2024.

Watanabe wanted to ensure children from impoverished households had access to education, and he wanted to act fast. So he flew to Bangladesh with some ¥1.8 million he had saved as a student, and with only basic Bengali skills, willing to take a risk.

“If you start thinking about saving money or gaining experience, you'll always find excuses to postpone the move. You may still believe you're not ready after three, five or even 10



*Former street children from Dhaka enjoy a gathering at a shared community house run by Watanabe's group Ekmattrra. | COURTESY OF HIROKI WATANABE*

years,” Watanabe said of his decision to leave Japan for Dhaka in December 2002, three months after he graduated from Kanazawa University. “I was afraid I might miss the right time if all this enthusiasm I had faded away.”

During his first week in Dhaka, he toured about 10 teahouses per day to learn Bengali through conversation with locals.

He also enrolled in a four-year Bengali language studies program for foreigners at the University of Dhaka, which granted him a student visa and a chance to meet like-minded local youths who were aware of the nation’s social issues.

Together with eight friends he made, Watanabe began organizing open-air classes in 2003, hoping to draw street children’s interest in education.

They named the group Ekmattrra, which roughly translates as “one horizontal line.”

“We thought this line, like the one used to connect different characters in the Bengali alphabet, could connect people of various religious beliefs, different cultures, varied life philosophies, backgrounds and different economic situations,” Watanabe said.

In an attempt to draw children to the open-air lessons, they offered cultural classes where children could sing or dance.

“Children are very honest; they’ll leave if they find something boring but will stay if something interests them,” Watanabe explained.

They also struggled to convince the parents of those sent to the streets by their families to allow their children to attend.

Watanabe lamented that although children in Bangladesh can attend school for free until the fifth year in elementary school, many families are reluctant to send children to schools, knowing they will lose a source of income.

“It’s more convenient to send children to the street, because parents who have never been to school don’t understand how important education is,” Watanabe said. “The school is free but that doesn’t mean it’s accessible.”

In 2004, Ekmattrra opened “Children Home,” a shared community space where children are fed, clothed and housed, and learn social skills and ethical values to better integrate into society while attending local public schools.

The home’s staff help children with homework and share their knowledge on how to debate and speak in public. The residents can also receive training from professional dancers,



*Girls who grew up on the streets of Dhaka perform the country’s traditional dance, which they learned at Ekmattrra’s school. | COURTESY OF HIROKI WATANABE*

voice coaches and other specialists. The facility is now home to 50 children.

Ekmattrra has gradually earned a reputation as a place for children to grow.

Six months after the launch of the home its 15 residents received a standing ovation for their performance at a local festival, where the children sang, recited poems and spoke of their dreams with pride in front of an audience of several hundred.

“It was an unforgettable moment for me to see how they had changed and gained confidence,” Watanabe recalled, adding that the performance convinced other families to enroll their children as well.

About 30 percent of the cost of operating Children House is covered by donations from people who are registered as “foster parents” to finance children’s education and other supporters who assist with smaller payments.

Ekmattrra also generates income from other initiatives, including agricultural projects run on the group’s land on the outskirts of Dhaka, and sales of handicrafts made by children at the shelter.

The group also produces documentaries and promotional films for organizations operating in Bangladesh, including Japanese firms and groups.

Some of Ekmattrra’s films were also made to raise local awareness of the problems surrounding street children, Watanabe said, recalling the group’s initial struggle to get financial support from locals.

“We would often be told: ‘Bring money from abroad, why do we need to pay for it?’ ” he recalled.

Hoping to improve children’s chances for a positive future in areas outside the capital as well, Watanabe’s team is planning to open Ekmattrra Academy in Haluaghat, located 170 km north of Dhaka, next month.

“If we want to solve the problem of street children we shouldn’t be focusing just on Dhaka but should help change the economic situation in other areas as well, to prevent children in those regions from ending up on the streets of Dhaka,” Watanabe said.

The academy will serve as a boarding school for boys, where they will be able to gain professional skills in areas such as computer technology, film production, art and creative design, and English. The students will have a chance to learn about their environment and how to benefit from local natural resources, to



develop expression and planning skills, and to foster creativity and teamwork through a cultural program focusing on stage performances. The facility will be able to accommodate up to 160 children.

Watanabe has engaged local leaders from fields such as sports and music, to organize workshops and lectures that inspire and motivate the children.

“Through such encounters, students can learn about different lifestyles and mindsets,” he said.

The group hopes to raise about ¥11.1 million through crowdfunding to support children in the following months, and to engage more individuals and organizations in support for the street children.

Watanabe hopes the children schooled with Ekmattrra’s assistance

will develop a sense of responsibility for the country’s younger generations, and pass on what they learn to others.

Six of Ekmattrra’s first students are now attending local universities.

Among them is Dipu, 19, whose studies specialize in motion graphic design. He now works for Ekmattrra, teaching younger children. Nasrin, 18, wants to become a lawyer. Rajib, also 18, plans to become a journalist.

“They don’t hide their background; they feel proud of their achievements,” Watanabe said. “Their words will resonate more with the younger generations . . . and I’d like to pass this business on to them. I hope that other people will follow suit, and help solve similar problems in other countries.”

*Japan Times*



*Street children attend an open-air class in Dhaka, Bangladesh, run by Hiroki Watanabe and his group, Ekmattrra, which since 2003 has been offering educational opportunities to underprivileged children.*  
| COURTESY OF HIROKI WATANABE

## Rural High School Grads Bound for Tokyo Universities to be Coached on Finding Jobs Back Home



The government plans to give high school students advancing to universities in the Tokyo area more opportunities to learn about companies in other regions to encourage them to return to their home communities after graduation and find jobs there.

Among other initiatives, the central government, in cooperation with local governments and businesses, plans to offer job seminars for high school students just before they move to Tokyo, so they can find it easier to return to their hometowns for work after graduating from universities, sources said.

Details, including the timing of holding such events, will be discussed later, according to the sources.

Under its revised comprehensive strategy to overcome population falls and revitalize regional economies, the government aims to balance population flows from and into the greater Tokyo area by 2020 as part of measures to reduce the overconcentration of people and businesses in the capital.

The strategy also calls for boosting the attractions of regional universities and curbing the number of students at universities in Tokyo’s 23 wards.

Meanwhile, high school students in other regions choosing to attend university in the greater Tokyo area do not tend to have many opportunities to learn about regional companies or challenges facing their communities. Such students tend to find jobs in the metropolitan area and not return to their hometowns.

The government intends to offer job seminars and internships involving regional companies after the end of university entrance exams and in late March, when high school graduates move to the Tokyo area in preparation for their studies at universities from April, the sources said.

The government also plans to enable students to continue feeling close to the communities where they are from after relocating to the Tokyo area, partly by allowing them to receive email information about regional companies and have access to the associations of people who are from the same prefectures and currently live in Tokyo, the sources said.

“We hope that these measures will help students return to their home communities after studying for four years,” an official of the education ministry said, while noting that “it’s good that students gather in Tokyo from across the country and study hard by competing with one another.”

*Japan Times*





# Taiwan's Cabinet Rubber Stamps Language Development Bill

By Chen Wei-han/Staff reporter



Minister of Culture Cheng Li-chiun speaks about a national language development bill at the Executive Yuan in Taipei on January 4, 2018.  
Photo: Central News Agency (CNA)

**LINGUISTIC DIVERSITY:** The bill requires students to take national language courses throughout their pre-school, elementary and high-school years

The Cabinet of the Republic of China (Taiwan) has approved a national language development bill to protect linguistic diversity, with a Hoklo-language public television service to be established following legislative approval.

The bill recognizes local languages used on Taiwan proper and its outlying islands, such as Hoklo (also known as Taiwanese), Hakka and other Aboriginal languages, as well as Taiwanese sign language, as national languages.

It is the latest legal effort to preserve and develop Taiwanese and Aboriginal languages following the passage of the Aboriginal Language Development Act in May 2017 and the designation of Hakka as a national language in December 2017.

The bill requires special efforts to be made to preserve languages that are endangered, and that the revival, transmission and development of those languages should be prioritized.

A national language research mechanism would be established to develop and standardize writing systems to document and promote languages.

Under the bill, the government would establish a national language database and periodically publish a national language development report.

The bill requires national language courses throughout pre-school, elementary and high-school education, with local governments to allocate funds to hire language instructors and purchase learning materials.

Currently, mother-tongue education is only mandatory in elementary schools, while it is an elective course for high-school students.

The bill requires elementary and high-school students to learn at least one national language as part of compulsory education.

Local governments are authorized to designate a national language as a local official language to increase its usage, the bill said.

To promote national languages, a language proficiency

certification system should be introduced and integrated into the civil service reward mechanism to motivate workers to learn national languages to improve government services.

The Ministry of Culture said the bill was drafted to preserve languages whose development has been hindered due to historical reasons, namely the exclusive language policies of the Japanese colonial era and Chinese Nationalist Party (KMT) one-party rule.

“The passage of the bill would provide an adequate legal foundation for [the establishment of a Hoklo-language television service]. The government should ensure language equality and establish a Hoklo television station, as there are already Taiwan Indigenous TV and Hakka TV stations,” Minister of Culture Cheng Li-chiun said.

The ministry has earmarked a budget for the Public Television Service Foundation to make Hoklo-language programs this year, Cheng added.

Language and culture advocates have called for the establishment of a Hoklo-language television station to boost the visibility of the language, which, although a mother tongue of many Taiwanese, might have lost its relevance due to the lasting consequence of the language policies of the former regimes. Other minority languages face the same dilemma.

“Language is a carrier of culture and is essential to cultural development. From the point of view of language preservation and development, the bill is an important declaration of the government’s efforts to promote national languages,” the ministry said.

Taipei Times

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## English Vocabulary Lists for High Schools Reduced

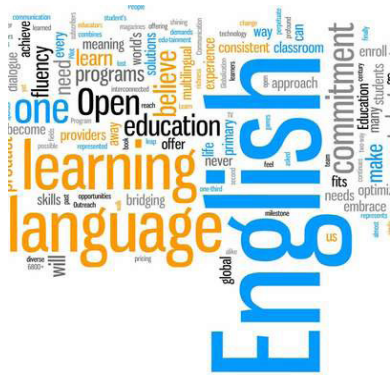
By Wu Po-hsuan and William Hetherington,  
Staff reporter, with staff writer

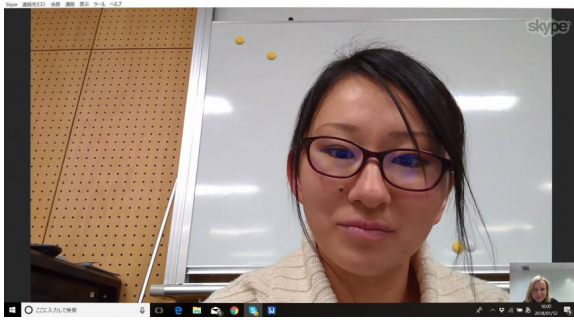


**CURRICULUM REVISIONS:** Current guidelines stipulate that students must know 7,000 words, but students at regular schools will now have to know just 4,500 words

The Ministry of Education of the Republic of China (Taiwan) changing the focus of its English-language curriculum for high-school students to prioritize listening and speaking skills over memorizing vocabulary.

The ministry’s Curriculum Evaluation Committee on





*English teacher Mio Horio, who has been nominated for this year's Global Teacher Prize, speaks about her efforts to raise her students' awareness of global issues by connecting them with children around the world via Skype. She is seen in a screenshot from a Skype interview with The Japan Times on January 12, 2018.*

which she sees as critical in international settings.

Her efforts have been recognized by the international education community, and in December, Horio was placed on a short list of 50 candidates for the Global Teacher Prize, known in the industry as the Nobel Prize for education.

Horio is the second Japanese teacher to be nominated for the prize in its four-year history. The winner is selected from over 30,000 candidates from 173 countries.

"People believe that teaching about global issues is impossible in rural areas, and they imagine a globally oriented approach to education as something taking place in big cities like Tokyo, Osaka or Kyoto," she told The Japan Times in a recent interview via Skype. "But you can find globally minded students in this kind of rural area."

Horio teaches a class of 40 students at her alma mater, Shiga Prefectural Maibara Senior High School, which offers a course focused on English. Her first group of students graduated in 2017.

Horio majored in English and speech communication at Kobe City University of Foreign Studies in Hyogo Prefecture. Although she never studied abroad, she believes that teaching English and educating Japan's youth about global challenges is vital to strengthen Japan's foreign relations.

"Japan has long been among the world's leading (economies) ... and now that Tokyo has been selected to host the Olympics in 2020, we will see the number of foreign visitors coming to Japan grow," she said. "Until now, many people have shied away from using English, but saying they lack an opportunity to travel abroad is just a bad excuse," given the ease of getting online across the globe.

However, she laments the tendency in the nation's English-language education system to emphasize theory over practice, which she says results in students developing a passive attitude toward their studies.

Horio engages students in discussions on world news and debates on topics such as whether only native speakers should teach English in Japanese schools or whether schools should switch their focus from English to Chinese.

Using Skype, she has so far connected her students with counterparts from 25 countries, including Vietnam, Kenya and Israel. Horio uses a questionnaire-based program meant to enable students to expand and test their general knowledge and also raise their awareness of global issues and cultural differences.



*Students from Shiga Prefectural Maibara Senior High School take part in an interactive session with overseas students as part of an English program using an original curriculum introduced by teacher Mio Horio. | COURTESY OF MIO HORIO*

"Students sometimes notice they had biased notions," she said, recalling a session with children from Israel during which the Japanese students were surprised to see Israelis leading an ordinary life despite reports on conflicts in the region.

She said the classes have helped motivate her students and she is happy to see them sometimes continue discussions in English afterward.

She quoted a first-grader who participated in a Skype call with Malaysian students in May as saying: "Even though Malaysians have different religions and different world views, we could understand each other. It made me think about how people around the world should make an effort to gain mutual understanding instead of fighting over differences in religion."

Being the first certified "Skype Master Teacher" in Japan — a title issued to educators who use Skype for global education — Horio said, "I want (my students) to realize that what they learn at school is mirrored in society and how it's linked to the world outside Japan."

On top of being named Skype Master Teacher of 2016 by Microsoft Corp.'s education unit, she was also recognized as a Microsoft innovative educator expert.

Since May, she has cooperated with the Japanese nonprofit group CBB, based in Cambodia, which operates language education facilities for the country's impoverished children and runs a project to help local children improve their English-language skills. Education, Horio said, is critical in impoverished regions to tackle poverty and other issues.

The winner of this year's Global Teacher Prize — worth \$1 million and sponsored by the Varkey Foundation, a United Arab Emirates educational charity — will be announced on March 18 in Dubai.

If she wins, Horio envisions using the money for various educational purposes in Japan and around Asia.

"There are children who have no access to education," she said, expressing her wish to help them.

Horio said she would also like to use the money to help rebuilding efforts in areas of Japan hit by disasters.

Having received queries on how to prepare for emergencies in the wake of disasters — Japan's safety measures sometimes serve as an example for other nations — Horio also wants to create a platform to share Japan's knowledge and raise awareness of disaster preparedness.

*Japan Times*



# Taiwan's Ministry to Launch Skills Training at Technical and Vocational Schools for New Immigrants' Children

By Lin Hsiao-yun and Sherry Hsiao / Staff reporter, with staff writer

The Ministry of Education of the Republic of China (Taiwan) announced on March 1, 2018 its draft guidelines for subsidizing a professional skills training program at technical and vocational schools aimed at children of new immigrants.

"New immigrant" is a term generally used to describe those who have settled in Taiwan through marriage or other means, most of whom come from China, Vietnam and Indonesia.

The training program prioritizes those who are willing to work at Taiwanese businesses abroad upon graduation from college.

The program was inspired by overseas Taiwanese businesspeople who hope that Taiwanese can become management-level talent in their overseas businesses, K-12 Education Administration Director Tsai Chih-ming said.

Through industry-academic collaboration, the international training program would bolster the professional and language skills of new immigrants' children who are needed in the

workplace, he said.

The program would give students an opportunity to be paid interns at the parent companies of overseas Taiwanese businesses in Taiwan while they are still in college and upon graduation, they would be assigned to the company's overseas production locations as first-line management, Tsai said.

The program is to begin in August when the next school year begins, he added.

Two classes are to be offered this year at Chung Shan Industrial and Commercial School and Cheng Shiu University in Kaohsiung, as well as Da Der Commercial and Technical Vocational School and Chienkuo Technology University in Changhua County, Tsai said.

Each class is to receive NT\$500,000 in ministry subsidies and there are to be places for 40 students per class, he added.

According to the ministry, there are 181,301 children of new immigrants enrolled in elementary, junior-high and high schools.

Taipei Times



## Why This Tech Executive Says Her Plan to Disrupt Education Is Different

By Adam Baidawi

At Lumineer Academy, a newly opened primary school in Williamstown, Australia, there is no homework. There are no classrooms, uniforms or traditional grades.

Instead, there are "creator spaces," "blue-sky thinking" sessions and "pitch decks."

If the school — furnished like a start-up with whiteboards and beanbag chairs — sounds like the idea of a Silicon Valley entrepreneur, that's because it is.

That entrepreneur is Susan Wu, 44, an American who has been called one of the "most influential women in technology" and who has advised or invested in companies that include Twitter, Reddit and Stripe.

Ms. Wu and her team believe they are starting an education revolution. They say they have created a new model for teaching children, called Luminaria, that promises to prepare them to become the architects of — rather than mere participants in — a future world.



Students at Lumineer Academy in Williamstown, Australia. The school uses an alternative learning model based on technology businesses. Credit Asanka Brendon Ratnayake for The New York Times

"Our current school models were built 100-plus years ago for the Industrial Revolution," said Ms. Wu. "What they cared about were homogeneous factories that produced a template of a kind of worker. The world has changed."

Critics, however, see Lumineer Academy as another in a series of attempts by Silicon Valley to apply the same techniques used to churn out successful apps to instead turn out successful children.

In the United States, as more tech executives have tried their hands at opening schools, education experts have debated, and in some cases warned about, the effects of corporate money and influence pervading

the classroom.

In recent years, schools and education programs have been founded by Elon Musk, the founder of Tesla; Reed Hastings, the chief executive of Netflix; and Marc Benioff, the founder of Salesforce.

Despite glittering launches and promises to disrupt



*Instead of classrooms there are “studios,” which contain no desks but often have beanbag chairs instead. Credit Asanka Brendon Ratnayake for The New York Times*



*“Our current school models were built 100-plus years ago for the Industrial Revolution,” said Susan Wu, a former tech entrepreneur who founded the school. Credit Asanka Brendon Ratnayake for The New York Times*

education, schools founded by tech executives have yet to demonstrate success. AltSchool, founded by the former Google executive Max Ventilla, announced last year that it would close several of its schools after a series of reported losses, despite raising \$175 million from investors like Mark Zuckerberg, and charging tuition fees of around \$28,000.

Ms. Wu is aware of the challenges her technology sector peers have faced, but she says her school’s model, team and location in Australia could set it apart.

Private education is much more common in Australia than in the United States. About a third of Australian children attend private schools — nearly three times the rate of American children — meaning there are fewer national sensitivities around unions, corporate influence and tuition. Like most independent Australian schools, Lumineer Academy is a nonprofit.

Ms. Wu says that she and her co-founders, Sophie Fenton and Amanda Tawhai, pack a one-two punch that combines her business acumen with their knowledge of education.

Ms. Fenton won Australian Teacher of the Year in 2013 and has written exams for the Victorian Certificate of Education — the final assessment required of students in the state of Victoria.

Though similar ventures by tech entrepreneurs have failed, Ms. Wu’s Silicon Valley peers said she was uniquely suited to founding a successful school.

“She brings new perspective to problems that have existed for a long time,” said Mike Curtis, vice president of engineering at Airbnb. “Almost any problem space — no matter how different it is from the last — she seems to be able to tackle.”

Lumineer Academy opened in January in a former customs house in a wealthy suburb of Melbourne. There are 130 students enrolled and tuition costs around 10,000 Australian dollars, or \$8,000.

Unlike most Australian private schools, students at the academy do not wear a required uniform. Instead, students are encouraged to build their own wardrobes within a prescribed palette. (In nautical stripes and khakis, many children resemble those in a J. Crew catalog.)

Classrooms in the school have been rebranded “studios.” There are no desks, but rooms include couches, beanbag chairs and tables to stand at while working.

The Luminaria model claims to balance hard S.T.E.M. subjects, like computer programming, with soft skills like emotional intelligence and teamwork that are increasingly sought by

employers. Ms. Wu said the model was based on a concept in physics known as first principles, in which ideas are reduced to their purest form, unencumbered by assumptions, analogies or biases.

Several recent studies have suggested that 30 to 50 percent of Australian teachers leave the profession within their first few years of work. Lumineer Academy has sought to capture some of them with a promise of freedom from strict curriculums.

“When I saw the job advertised, I thought, ‘This can’t be true,’” said Kim Staples, a 31-year-old teacher. “I was so frustrated in other systems, because they’re quite prescriptive.”

Ms. Staples said she would have stopped teaching if she hadn’t joined Ms. Wu’s school.

“I felt like I was too restricted,” she said. “I couldn’t give children the type of learning experiences that I knew was best for them.”

There is evidence of tech-world thinking throughout the school. In one studio, 8- and 9-year-olds worked on a project about socializing. The students outlined their thoughts using a multistep design process that could have been lifted straight from a start-up’s business plan: blue-sky thinking (thinking outside the box), scope (the work and resources required to get something done), MVP (minimum viable product), delivery and launch.

Outside observers say many of these tech-driven schools are giving new names to old pedagogical ideas.

“I was kind of impressed with the number of clichés and buzzwords that they packed into a short amount of marketing copy,” said Audrey Watters, whose blog, Hack Education, analyzes the intersection of education and tech. “In the case of Luminaria, they have everything, they have all the buzzwords: social and emotional learning, mind-sets, grit, S.T.E.M., mindfulness, authentic learning, global consciousness. I mean, pick two of those.”

Glenn Savage, an Australian education policy expert, said that it was difficult to see how the school’s lofty goals could fit within Australia’s “very structured” education system.

“It’s important that parents don’t work on the false assumption that sending students to a school that claims to do things radically different means that the students won’t be doing anything like students in other schools — because that’s just not the case,” he said.

One wall at the school displayed students’ work with the Asylum Seeker Resource Center, a nonprofit organization that



*Student-made decorations. Credit Asanka Brendon Ratnayake for The New York Times*

assists refugees hoping to resettle in Australia.

The students had created a “pitch deck” — tech jargon for a PowerPoint presentation — aimed at persuading the group to collaborate with them on a project (it worked). In a nearby “creator space,” students were working to build a profitable micro-farm. They have been assigned to grow and sell goods at the local farmers’ market by the end of the school year.

One student, Ines Morgan, 8, said she particularly liked a project in which her class observed an ant colony.

“Our hypothesis was, ‘What happens when an ant colony gets disrupted?’” she explained. “They lived in chaos for like a day or two, but then, a few days later, they stuck together and just all decided to rebuild again.”

The school’s website promises to remove the “stress and anxiety” students encounter at other schools.

But if students are shielded from emotional adversity in their early years, critics say, they may struggle to cope when they reach high school — where desks, traditional teaching methods and puberty await.

Ines, the 8-year-old ant colony disrupter, said she had seen “a little bit of bullying” but that it was dealt with as a collective.

When asked how the situation was resolved, another student, Noah Helu, 8, said, “Well, it’s like what Ines learned about the ant colony: Sticking together helped us stop the bullying.”

*The New York Times*

## The Challenges Facing Japan’s Universities

*By Haruaki Deguchi*

Last fall (2017), I was selected as president of Ritsumeikan Asia Pacific University by a committee open to public applications and nominations — perhaps the first such recruitment among Japan’s private universities.

There are three reasons I decided to take the job. First, APU is like a “Young United Nations.” Of some 6,000 students at the university, most of them are undergraduates and 51.4 percent are from 89 countries and regions outside Japan. No other educational environment in Japan is blessed with such diversity. Incidentally, about half the university’s teachers are foreign nationals.

Second, the university offers classes in both Japanese and English, which I think is uncommon in Japan and rare worldwide. After international students join the university, they acquire at minimum an intermediate level of Japanese by graduation. APU students will become familiar with at least two languages, and many will graduate speaking three or more.

Finally, I was impressed with the APU2030 Vision. Its aim is magnificent: Those who have studied at APU will spread across the world, find their places and missions, act on what they learned at the university and change the world for the better.

These three things prompted me to take on a new challenge in the world of education, switching from my previous field in business. I have since been thinking about university education and considering what an ideal university should be. Here are some of my thoughts about university education.

In the first place, what is a university? History has led

me to the three principles of Al-Azhar University in Cairo, one of the world’s oldest universities. The principles can be paraphrased as: (1) Students can come to the university when they want to study and take only the classes that interest them, (2) students can graduate at any time if they think they have studied sufficiently, and (3) students can come back to the university whenever they encounter new questions. These principles unequivocally embody the essence of university education. It was surprising to me that

the importance of continuing education was already recognized in the 10th century. Both Al-Azhar University and Paris University, which was the highest seat of education in medieval Europe, accepted students from the world over. This shows that universities were global institutions from the beginning and that the gates of a university must always be open to the world.

But to maintain a university that is open like this costs money. In the Islamic world, merchants with their financial contributions served as patrons of universities. In the Christian world, churches, kings and aristocrats filled

this role. In Japan, whose modernization process began 150 years ago with the Meiji Restoration of 1868, the government took on the role of supporting universities. Why? Government leaders probably thought that universities would serve as a leading indicator of Japan’s future. In other words, they thought that nurturing excellent youths would result in producing people who would play leading roles in the modernization of Japan. This can be taken to mean that Japan followed the model of the University of Naples, which was founded in the 13th century by Frederick II



*The ratio of education spending in the Japanese national budget is the lowest among OECD members. | GETTY IMAGES*



of the Hohenstaufen dynasty, a wise emperor of the Holy Roman Empire.

It is becoming difficult, however, for the Japanese government to adequately support universities as its fiscal conditions tighten. Today, the United States and China are believed to lead the world in the field of fundamental research for state-of-the-art technologies, and questions are often raised about the academic and research levels of Japanese universities. The ratio of education spending in the Japanese national budget is the lowest among OECD members. This fact cannot be ignored.

Establishing a solid financial foundation is a challenge that universities cannot avoid.

In Japan, there is an opinion that universities should put more emphasis on vocational education than on research. Such a view has a valid point, but what will really be useful in an uncertain future, with the spread of artificial intelligence, growing tensions between nations and the rise of global enterprise? I think it is the ability to question all preconceived notions in society, think independently, and put together and present your own ideas in your own words. A university is a place for students to cultivate the power to think.

When the factory model of the manufacturing industry drove society, it made sense to nurture workers who were obedient and excelled at cooperation. To use an extreme argument, uniform education was suitable for the requirement of the age. But the manufacturing industry now accounts for less than a quarter of Japan's gross domestic product. It is the nonmanufacturing sectors such as the service industry that will be the prime mover of future society. What is required in those sectors, above all else, are creative and unique ideas. The point is that education from now on must produce people of distinctive talent like Steve Jobs.

Schools that cultivate individuals with unique perspectives and the ability to think critically may not be considered useful in the real world of today or the immediate future. But this view is wrong. The world's most competitive universities are probably American institutions. More than 1 million international students study at American universities. Their tuition fees and the cost of living in the U.S. are very high. Supposing one international student spends ¥10 million a year in the U.S., a million students will generate ¥10 trillion a year in consumption. Having competitive universities is equivalent to having competitive export industries. There are large numbers of startup businesses in the U.S., and it is said that foreign students are involved in about half of them. American universities put priority on producing people with original perspectives and the ability to think.

What should be done to produce such individuals? What steps should be taken to strengthen the university's financial foundations? What is needed to beef up the institution's international competitiveness? These are the challenges that I hope to tackle every day as president of APU.

*Haruaki Deguchi is president of Ritsumeikan Asia Pacific University in Beppu, Oita Prefecture. A popular lecturer and author of more than 30 books, Deguchi worked at Nippon Life Insurance Co. for almost 35 years before founding Lifenet Insurance in 2008.*

*Japan Times*

## Young Japanese Turn to Financial Education to Prepare for Future of Uncertain Pensions



*Young Japanese are coming to realize they will need to invest wisely if they want a secure financial future. | GETTY IMAGES*

JJI

Education programs to help people make financial plans for their future are spreading as young Japanese face a bleak horizon of uncertain pension benefits.

Their worries are well-founded, given the aging population and low birthrate.

Japanese are often regarded as being reluctant about making investments, with cash and deposits accounting for more than half of about ¥1.8 quadrillion in financial assets held by households in Japan, according to the Financial Services Agency. Meanwhile, the share of stocks and investment trusts, including those indirectly owned through insurance and pension programs, is only around 19 percent.

In the United States, where many people engage in asset-building activities, households have some 46 percent of financial assets in stocks and investment trusts.

"There is an unfavorable image about investing," which is often considered identical to speculation in Japan, according to Hiroshi Nodomi, the senior general manager for financial literacy and education support at the Japan Securities Dealers Association. But stock prices have maintained an upward trend in recent years, creating an environment that encourages a shift in popular interest from deposits and savings to investment.

A 2016 survey conducted by the Central Council for Financial Services Information, which is affiliated with the government and the Bank of Japan, found that 62.4 percent of people aged 18 and older believe it necessary to conduct financial literacy education at schools, while 12.9 percent said there is no such need.

The FSA is also promoting "long-term tsumitate (accumulation) and diversified investment," an official said.

For example, the Tsumitate Nippon Individual Savings Account (NISA), a tax-exempt scheme for investment by individuals that was introduced in January, is designed for modest investing in financial instruments.

Amid the increasing awareness, Kyorin University in 2016 started teaching financial literacy — skills and knowledge allowing an individual to make effective decisions on financial resources — as a required course for first-year students in the social science department.

“I receive many after-class questions, suggesting that many students consider asset management a matter that concerns them,” said Nobuyuki Oda, a professor who, with two other teachers, holds about 30 classes per year on insurance, pensions, stocks and other financial issues.

During the first day in the class on financial education at Kyorin University, students are asked what kind of life they want to live. Students often recognize a wide gap between their envisioned lives and reality after they learn about lifetime income and other specific data, and become willing to acquire financial literacy, Oda said.

The university’s one-year financial education program is designed to give students knowledge required for the third, or lowest, grade of “certified skilled financial planning professional” credentials, a form of certification issued by the government.

Financial education should start in high school because it teaches “pension and other matters linked to our lives,” said Ayana Mineshima, who took the course at Kyorin University.

Under the government’s new curriculum guidelines for high school studies, financial education will be “considerably upgraded,” according to an official in the education ministry.

Expectations are increasing that the financial literacy of young people in Japan will improve in the coming years.

*Japan Times*

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## Kansai University to Accept Refugee Student Under United Nations Program

*By Kantaro Komiya / Contributing Writer*

Kansai University will begin accepting applications from refugees through a United Nations High Commissioner for Refugees program and plans to admit one student for the 2019 academic year starting in April 2018.

The Refugee Higher Education Program, which was launched in 2007 at Kwansei Gakuin University, has since expanded to seven other private universities in Japan. The schools pay entrance and tuition fees for the students and some universities offer additional scholarship stipends on a monthly basis. In the case of Osaka Prefecture-based Kansai University, it will offer a monthly stipend of ¥80,000.

The initiative supports individuals who have already been granted refugee or similar special status by the government and are seeking to complete a four-year undergraduate program.

By the 2018 academic year, the eight institutions had accepted approximately 50 students under the program, according to Japan for UNHCR, which manages the program together with the U.N. agency’s Tokyo office. Of the eight schools, four have provided courses conducted in English.



A Kansai University spokesman said the institution’s participation in the program will benefit refugees seeking higher education in western Japan, since all other participating schools — except Hyogo Prefecture’s Kwansei Gakuin — are located in Tokyo and its vicinity.

The school, which decided earlier in June 2018 to join the program based on a recommendation from Meiji University, one of the participating institutions, said it also aims to promote campus diversity by accepting refugees.

The university will accept applicants recommended by the Japan office of the UNHCR and conduct its own screening this fall for admission in the next academic year.

“It might be easy to raise the banner of ‘diversity,’ but it is not so common to have the actual opportunity to be involved in it,” said Mitsuo Ueda of Kansai University’s President Support Division.

Through the program, Ueda said, “We will foster better understanding of refugees among students as well as faculty and staff.”

Waseda University and Hiroshima City University are also preparing to join the program.

Waseda plans to become the first school to accept graduate students through the program, while the Hiroshima university will be the first public school to take part in the initiative.

But even with an increase in the number of schools accepting refugees, screening procedures remain as selective as Japan’s official refugee policy.

In the 2018 academic year, four refugee students enrolled at four different universities through the initiative, although up to 11 spots at eight universities were available, according to Japan for UNHCR.

A program manager with the nonprofit organization acknowledged there are “big hurdles for the application,” including the government’s strict refugee policy and Japanese language ability. Applicants also have to be legally living in Japan in order to participate.

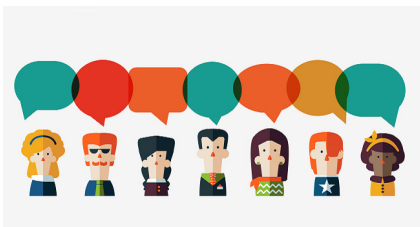
In addition to the UNHCR program, universities have been accepting Syrian refugees under an initiative unveiled by Prime Minister Shinzo Abe in 2016.

Through the initiative, known as the Japanese Initiative for the Future of Syrian Refugees, the government-linked Japan International Cooperation Agency recruited 19 Syrian students in 2017, the first year of the program. They enrolled as either master’s or research students in 11 universities in Japan. JICA is currently preparing to accept around 20 Syrians for the second year, which will start in September 2018. It plans to accept up to 100 students from the war-torn country in total over five years, while the education ministry also plans to accept 50 students.

*Japan Times*

# Southeast Asian Language Program Set for Fall 2019

By Ann Maxon/Staff reporter



To promote the native languages of new immigrants, elementary-school students will have to choose one of seven Southeast Asian languages to study, starting in the fall of next year, the Ministry of Education of Taiwan said on June 19, 2018.

The languages are Vietnamese, Indonesian, Thai, Burmese, Cambodian, Bahasa Malaysia and Filipino, and students would be required to take one class per week, the ministry said.

The K-12 Education Administration is creating four textbooks for each of the three language levels elementary school students are expected to study, it said.

The language classes would also be offered as elective subjects for junior-high students, with six books for the fourth level, the ministry said.

The textbooks would be created based on the ministry's guidelines and, to ensure that students learn the authentic language and culture, the contents would be based situations that take place in each respective nation, it said.

The textbooks would respect cultural differences and are designed to promote cultural diversity, it said.



The textbooks for level one are finished and approved, it said.

The books teach different ways to address people at school, exchange greetings and other useful phrases, and include six to eight nursery songs and lessons about differences between the respective nation and Taiwan, it said.

In level one, students would be expected to learn 50 words, but would also be introduced to 50 more that they would not be expected to memorize, it said.

The seven languages have been offered in 21 cities and counties under a trial program that began in August 2017, the ministry said.

Improvements would be made to the textbooks based on feedback from the 110 classes conducted since then.

The National Central University and the Institute for Information Industry have been working to digitalize the textbooks for level one so the public can access them online, and the project is expected to be completed by August 2018, it said.

*Taipei Times*

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## Diverse Yokohama School Aims to be Model for Bridging Cultural Gaps

By Chisato Tanaka



Tetsuo Fujimoto | Chisato Tanaka

Yokohama has been a cultural intersection between Japanese, foreign residents and visitors from overseas ever since opening its port to international trade in 1859, leading what was once a sleepy fishing village to become home to one of the first

foreign communities in the country and develop into a bustling city of nearly 4 million.

However, even in a city that has historically been so foreigner-friendly and was home to 9,129 foreign-born and multiethnic students last year, it's quite rare to find a public school like Minami Yoshida Elementary School, where 57 percent of the students have foreign roots.

With its unique events and local volunteer language assistants, the school has seen the number of foreign students surge by about 20 percentage points in the past seven years.

Its popularity among foreign residents lies in the multicultural events and language lectures, many of which are hosted by school principal Tetsuo Fujimoto, whose motto is, "Cherish your own identity, but speak Japanese in class."

Located just over 2 km west of Chinatown in Minami Ward, the school's student body of 748 now has 430 multiethnic Japanese and non-Japanese pupils hailing from 16 countries. Of



those students, about 70 percent have at least one Chinese parent. The school's ratio of students with foreign roots is the highest among all municipal elementary schools in the city, according to a Yokohama official.

To enhance mutual understanding among students of different nationalities, the school has been hosting events, including My World Lunch, where meals from a variety of international cuisines are served.

Another unique event, held on July 13, was a dumpling party where Chinese parents cooked their take on the dish alongside Japanese parents and their children. The event drew more than 100 people and was organized by Zhao Chunliang, a 37-year-old Chinese parent and a member of the school's parent-teacher association.

Zhao, whose 8-year-old daughter is in the second grade, also served as an interpreter for Japanese and Chinese participants whenever it was necessary for teachers and parents to give instructions or request information.

"There are so many Chinese parents who are afraid of participating in school events due to their poor Japanese skills. I wanted to do something for them, but I also wanted to show my appreciation to the school, which takes good care of my kid," Zhao said.

Fujimoto, who came up with the idea for a dumpling party, emphasized the importance of foreign parents taking charge in the organization of the event.

"The last time we held a dumpling party, with Japanese parents in charge, there weren't as many foreign parents participating and I also received some complaints that Japanese parents were overwhelmed in putting it together," Fujimoto said. "In order to prevent the event from becoming a one-off, it is crucial to have foreign parents like Zhao involved in planning the event and translating messages into Chinese."

The school had a very different atmosphere when Fujimoto took over as principal seven years ago, when non-Japanese or multiethnic pupils accounted for 34 percent of the student population.

The school was "engulfed by a dark melancholy atmosphere," filled with kids who could barely communicate in Japanese, Fujimoto said.

"There was a complete separation between Japanese and foreign students, and they seldom attempted to communicate with each other," Fujimoto added. "There were constant fights and arguments, and teachers were overwhelmed with the responsibility of taking care of kids who could barely speak Japanese."

The school's biggest challenge remains issues stemming from language barriers.

In Yokohama, where more than 1,600 pupils are said to need Japanese-language assistance, schools with more than five students with low levels of Japanese proficiency are required to have a language assistance class called an "international class," in which pupils learn Japanese while their peers take classes that

require high Japanese skills, such as literature and sociology.

A trained language teacher is normally sent to each school with five foreign students or more, while two teachers are dispatched to schools with more than 20 foreign pupils.

"However, two teachers were not enough for Minami Yoshida, which had more than 80 pupils who needed language assistance back then," said Fujimoto.

The principal asked the board of education for more teachers and now, with eight instructors available for international classes, the school is capable of holding lessons across three different Japanese proficiency levels — beginner, intermediate and advanced.

Fujimoto calls it a dream come true.

Wang Qinghong, the language coordinator at Tabunka Kyosei Lounge (Multicultural Co-existence Lounge) in Yokohama, an organization that provides volunteer translators to the school, knows how difficult it can be to determine each child's level of proficiency in Japanese.

"Almost every month, new foreign students join the school, and it's almost impossible for teachers to determine each kid's Japanese-language proficiency," Wang said. "What is even worse is that the kids in their first- or second-grade classes are not even fully fluent in their native languages."

Because of this, the school also holds one-hour lectures in Chinese, Korean and English after school every Wednesday in order to prevent foreign students from being "double-limited," or lacking fluency in both Japanese and their native language.

The classes, which were previously met with criticism for giving language lessons at a public school only to foreign kids, are now open to Japanese students who want to learn a foreign tongue.

"I tell my students, 'Keep your mother tongue, but speak Japanese in class.' As long as they live and work in Japan, they need to speak Japanese. However, since they might go back to their own countries eventually, they also should maintain their proficiency in their mother tongues," Fujimoto said.

Among Yokohama's 18 wards, Minami has 1,220 elementary and junior high school students with at least one parent who is non-Japanese — the second most in the city after the 1,262 students in Tsurumi Ward.

Of the ward's 942 foreign-born and multiethnic elementary school kids, about 45 percent attend Minami Yoshida. To be eligible to attend the school, children have to live within a certain district that covers a portion of both Naka and Minami wards. Yet with 30 or more new foreign students entering the school each year on average, the institution is becoming overwhelmed. The school is now running out of classroom space and work is underway to set up new classrooms.

"There are actually schools with a lot of vacancies in other districts," Fujimoto said. "But many foreign kids are determined to come to Minami Yoshida."



*Chinese children play a Japanese-language game during an 'international class' at Minami Yoshida on June 28, 2018. | Chisato Tanaka*

Hiroyuki Kimura, assistant director at the Yokohama Association For International Communications and Exchanges, attributes the popularity of the school among foreign families to lower rent in the area compared with other districts, easy access to Chinatown and the school's multicultural events.

"The cost of living is also cheap, and I heard that foreign people who have heard about Minami Yoshida by word-of-mouth move in one after another," Kimura said.

Tabunka Kyosei Lounge's Wang, who works with Kimura, said foreign children at Minami Yoshida are treated well, but that much more attention should be paid to foreign students that are a small minority at their schools.

According to a 2014 study by the education ministry, among the 73,289 foreign students who attended public elementary, junior high and high schools, about 40 percent were said to be in need of Japanese-language assistance. That figure had increased 1



*Chinese and Japanese parents make dumplings with their children at a party at Minami Yoshida Elementary School in Yokohama on July 13, 2018. | Chisato Tanaka*

½ times since 2004.

The mother tongues of such students included Portuguese, Chinese, Filipino, Spanish, Vietnamese, English and Korean.

Of the 6,864 schools with non-Japanese students who needed assistance with the language, only seven had more than 100 such pupils while about 76 percent of the schools had four or fewer. The data showed non-Japanese students were concentrated in certain areas.

"I have been engaged in trial and error for seven years at this school, and things are finally becoming functional, but there are still a lot of obstacles to overcome. Japan will soon be accepting more foreign workers, so soon my school won't be anything special anymore," Fujimoto said. "I'm hoping that my school will be a good model."

*Japan Times*

## Japanese Companies Work Together with Locals, Government to Promote "Living Labs"



*Kamakura Living Lab*



*Prof. Hiroko Akiyama, right, and Mathilda Tham, 2nd from right, at a conference held in Tokyo*

Companies, research institutes and local governments are working with people across Japan to find solutions to real-life problems, especially loneliness in old age, based on the concept of a "living lab" to promote regional growth.

Using a model that is spreading around the world, mainly from Europe, projects and experiments bring together the elderly and the young and involve them in helping to develop products and services intended for their use.

Itoki Co., a major office furniture company, recently ran trials of a desk prototype designed for easy home use. Participants who gathered at the company's facility in Kamakura, Kanagawa Prefecture, were invited to give their opinions.

"Kamakura Living Lab," which was launched in January last year, is a collaboration between Itoki, several other companies, Kamakura city hall, the University of Tokyo and the city's neighborhood association.

Companies other than Itoki are introducing research on

living support robots, next-generation means of transport and personal care products, among others.

A generation of people who migrated to the district in Kamakura-- a Tokyo bed town -- during the era of high economic growth in the mid-1950s to early 1970s, has grown old. Of around 5,000 residents in the district, 45 percent are 65 and older.

Masaaki Kuzuya, 57, a researcher at Itoki's Work Style Institute, said "Normally, the "maker" and "user" are separate, but here everyone is a developer," he said.

The desk is expected to go on sale within the year. "It's exciting because our opinions are reflected in the product," said a 49-year-old local housewife who helped with development.

The living lab concept is based on a "co-creation" approach integrating research and innovation within a public-private-people partnership. There are living labs all over the world, especially in Europe, where they are to be found at around 150 locations. Japan has living labs at some 30 locations, including Tsuruoka,

Yamagata Prefecture, and Matsumoto, Nagano Prefecture.

The Ministry of Economy, Trade and Industry is also giving its backing with subsidies to push the living lab concept.

Kamakura Living Lab has a tie-up with Sweden where the concept was first advanced. Sweden is developing living lab projects in both countries focused on active ageing.

Mathilda Tham, a professor of design from Linnaeus University who is leading the project between the two countries, said, "We are proposing addressing loneliness by connecting different generations. Loneliness among elderly people is a big problem in Sweden also. The living lab can provide platforms

where people can meet. We have noticed that all the people want to share their skills," Tham said.

Hiroko Akiyama, a specially appointed professor at the University of Tokyo's Institute of Gerontology where the project is being promoted, is suggesting that local governments get involved in forming policies that affect their own communities.

"It seems more effective to ask residents about their specific needs for their daily lives than a panel of experts. I want them to change this idea and be active in policy planning," Akiyama said.

*Kyodo News*

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It is a non-governmental organization serving as a forum for promoting the vital role of businessmen in the region, increasing regional business interaction, and enhancing regional economic growth. Since its establishment in 1996, CACCI has grown into a network of national chamber of commerce with a total now of 29 primary Members from 27 Asian countries and independent economies. It cuts across national boundaries to link businessmen and promote economic growth throughout the Asia-Pacific region. CACCI is a non-governmental organization (NGO) granted consultative status, Roster category, under the United Nations.

It is a member of the Conference on NGOs (CoNGO), an association of NGOs with UN consultative status.

Among the benefits of membership in CACCI are the following:

1. Policy Advocacy - CACCI aims to play a strong policy advocacy role in order to establish a business environment conducive to creating better opportunities for CACCI members.

2. Wide scope for networking - Participation in the various projects of CACCI will provide members the opportunity to expand their reach in Asia-Pacific by establishing contacts with the business communities of the region.

3. Participation in CACCI Annual Conferences and Training Programs - Members are invited to participate in the annual Conferences and various training programs which CACCI regularly conducts either on its own or in cooperation with other international organizations and member chambers.

4. Interaction in Products and Service Councils - Membership in CACCI allows participation in the activities of the various Product and Service Councils (PSCs) of the organization. PSCs are business groupings organized along product or service lines with a primary objective of promoting business cooperation, personal contacts, and technology transfer.

5. Access to CACCI publications - CACCI publishes the CACCI Profile, its monthly newsletter, and the CACCI Journal of Commerce and Industry, a bi-annual publication which features papers, speeches, and other articles pertaining to issues affecting the regional economy.

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