The Coming Eldercare Tsunami

TWO YEARS FROM NOW, Japan will become the first society in the world in which more than 40 percent of the population will be older than 65. China, after 36 years of a “one-child policy,” will soon follow. There the absolute numbers are staggering: the count of those over 65 is already larger than the combined elderly populations of Japan, Germany, the United Kingdom, France, and Australia. By 2040, a quarter of China’s population—more than a third of a billion people—will be over 60. “We’ve never seen societies like this,” says Rabb professor of anthropology Arthur Kleinman, who is also a professor of psychiatry and medical anthropology at Harvard Medical School (HMS). But there will be plenty of them in the decades ahead.

Such impending demographic distortions are often framed in economic terms. In China, for example, four workers currently support each retiree; by 2040, there will be fewer than two. But the social question that engages cross-disciplinary scholars like Kleinman (he helped introduce the modern anthropological perspective to the deployment of technology) is how societies will care for all their elderly.

Four years ago, the leaders of the Jiangsu Industrial Technology Research Institute (JITRI), an organization in Nanjing that bridges research and commercialization (it drills for oil in the South China Sea, builds the software that runs China’s rapid trains, and develops biotechnology), “foresaw an enormous issue of frail elderly not being able to care for themselves,” says Kleinman. They approached him to see “if there might be a way in which technology could come together with anthropology and other social sciences to help elderly populations who are frail, isolated, or suffering from dementia.”

Kleinman has been skeptical of technological solutions to social problems—they rarely take social and cultural mores into account, he points out—so bringing an anthropological perspective to the deployment of technology intrigued him. And he has experienced personally the physical and mental challenges of caring for elderly patients (see “Find My Real Husband,” an excerpt from The Soul of Care, his book about tending his wife as she succumbed to Alzheimer’s disease, September-October 2019, page 58). With funding from JITRI, he assembled a transdisciplinary group of researchers from Harvard’s schools of engineering, design, medicine, business, and public health and three Chinese universities to develop “socially and culturally appropriate technological solutions to improve care for frail and demented elderly in China.”

At the same time, then-Harvard president Drew Faust funded a student research program, led by HMS assistant professor of psychology Hongtu Chen, in which students of engineering, medicine, anthropology, and other social sciences could collaborate with each other locally and with Chinese students to develop eldercare solutions. How could they make robots, sensors, cellphone apps, and exoskeletons effective in practice for elderly Chinese? And what could they learn from each other and their faculty advisers?

Kleinman, who co-led that program, says the first year was deeply engaging and pedagogically effective because the interdisciplinary nature of the work pushed the participants to think differently. Daria Savchenko, a postdoctoral fellow who studies the anthropology of technology, explains that the anthropologists were trained to observe and interview patients to discern their most important needs, the “medical students knew more about physiology and the healthcare system,” and the engineers brought an understanding of technologies like exoskeletons” that the others didn’t have. Yidi Wang, whose M.D./Ph.D. studies in the HMS Pathways program bridge clinical medicine, research, and policy, and who
Ready to Start Venture Investing?

Smart, simple venture portfolios. Exclusive to Harvard alums.

Sophisticated alums like you have a venture portfolio.

- 30* top-tier investments per portfolio
- $50k minimum

Learn more

www.theyardventures.com/alumni
invest@theyardventures.com

Important Disclosure: The Manager of The Yard Ventures 4 is Alumni Ventures Group (AVG), a venture capital firm. AVG and the fund are not sponsored by, affiliated with, or otherwise endorsed by Harvard University. AVG’s funds are very long-term investments that involve substantial risk of loss, including loss of all capital invested. For informational purposes only, offers of securities are made only to accredited investors pursuant to a fund’s offering documents, which describe the risks, fees and other information that should be considered before investing. Examples of prior portfolio company investments are provided for illustrative purposes only; there is no guarantee that the fund will invest in or achieve the same exposure to, or quality of, companies held by any existing fund. The lead venture capital firms listed are provided for illustrative purposes only; there is no guarantee that any fund will invest alongside of any other venture capital firm. Contact Michael Madden at Michael@TheYardVentures.com for additional information.

* The Yard Ventures 4 is expected to hold between 25 and 35 investments.
was raised by her grandparents in China until she was 10 (a common practice there), joined the program because she wanted to understand the perspectives of engineers, anthropologists, and designers. Jessica Ding ’20 recalls that the business students always wanted to know, “What’s the deliverable?” That really kept us accountable.” By the end of the year, the students had developed a kit of 10 low-cost physical interventions (from alert dongles and medication-reminder aids to raised toilet seats) to improve the lives of senior citizens.

The faculty group, meanwhile, focused on the results of a needs assessment performed by Jing Jun, Ph.D. ’94, a former Kleinman student who is now a professor of anthropology at Tsinghua University. “From an anthropological perspective, the issue for frail elderly is really their isolation and loneliness, and desire for mobility,” says Kleinman. “They’ll tell you, ‘I want to be with my friends, I want to be with other people.’”

Furthermore, in many Chinese families, “adult children feel that they are breaking a Confucian expectation” to take care of their parents at home if they put them into group care. “Here again, the anthropology is very interesting,” says Kleinman, “because it turns out that a fair number of Chinese elderly would prefer to be in assisted living or nursing homes with people their own age.” Why? “Picture yourself in a small apartment in Shanghai, living with husband, wife, and child. The husband and wife leave for work, the child goes to school, and you are left alone from breakfast to dinner time. And after school the adolescent child plays music and video games that are completely out of the experience” of the elderly person.

“We found if we could do things to help people who feel isolated,” he says, “that would speak to both the mobility problems and cognitive problems of not being able to get together socially.” To that end, they showed Chinese seniors a remarkable exoskeleton for the legs designed by McKay professor of engineering and applied sciences Conor Walsh that enables people with the festinating gait of Parkinson’s disease, or are weak or recovering from a stroke, to walk again (see “Wearable Robots,” January-February 2014, page 14). The elderly Chinese responded that they would never use such a device. In China, where “crosswalks are a notional thing,” and even a stop light may be ignored, Kleinman explains, the seniors worried that walking would be too dangerous. An exoskeleton for the arms, however, that would help an aide or partner lift a patient into a wheelchair or a van to visit friends, he continues, showed how “technology and social science could come together to improve people’s lives.” He envisions effective, appropriate deployment of technology that is built directly into social systems: making such empowering devices and systems available even to low- and middle-income seniors who couldn’t otherwise afford them, and letting people use them in groups.

Kleinman says the programs’ work ties to many other important questions about how people live the last portion of their lives. What should the state provide for eldercare, and what should be provided by families, or even employers? He is exploring the possibility of extending the study beyond China to existing eldercare collaborations in Thailand and Vietnam. But his interest also extends to the United States, where 16 percent of the population is already older than 65, and where he sees an opportunity for community-health workers to provide low-level psychotherapeutic interventions critical for responding to depression among the elderly. “My feeling,” he says, “is that what we learn in the Chinese setting may very well have an application here.”

~JONATHAN SHAW

Eldercare Project Website: globalinstitute.harvard.edu/social-technology-eldercare-china-transdisciplinary-collaborative-research-education