

Benefits of informal health expertise

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A helpful reminder – something as simple as "Are you taking your medications?" – could conceivably prolong a life.

And now, a Stanford study provides novel, concrete evidence on the power of exposure to [health](#)-related expertise – not only in improving

mortality rates and lifelong health outcomes, but also in narrowing the vexing health gap between the rich and poor.

The study, detailed in a new working paper released today by the *National Bureau of Economic Research*, was co-authored by Petra Persson, an assistant professor of economics; Maria Polyakova, an assistant professor of health economics at Stanford School of Medicine; and Yiqun Chen, a doctoral student in [health economics](#) at Stanford School of Medicine. Persson and Polyakova are both faculty fellows at the Stanford Institute for Economic Policy Research (SIEPR).

Their study tackles the issue of health inequality and specifically examines the effects of having access to informal health expertise by having a doctor or nurse in the [family](#). It finds that those with relatives in the health profession are 10 percent more likely to live beyond age 80. They are also significantly less likely to have chronic lifestyle-related conditions, such as heart attacks, heart failure and diabetes.

Younger relatives within the extended family also see gains: They are more likely to have been vaccinated, and they have fewer hospital admissions and a lower prevalence of drug or alcohol addiction.

In addition, the closer the relatives are to their familial medical source – either geographically or within the [family tree](#) – the more pronounced the impact of the health benefits, according to the findings.

The researchers used data from Sweden, where lotteries were used in the early 2000s to break ties among equally qualified applicants for admission into medical schools. The researchers then compared the health of the family members of lottery winners against lottery losers – a setup similar to a randomized control trial.

The strong findings of health benefits funneled from a familial sphere of

medical knowledge suggest it would be worth ramping up access to health expertise in our [health care system](#), the researchers say.

A doctor, for instance, could prescribe statins – a type of drug known to lower the risk of heart attacks – but whether the patient continues taking it from day to day is a decision made at home.

"Our work shows that there is a lot of value in trying to improve people's decisions about their investment in their own health," Persson says.

"If the government and health care system, including public and private insurers, could mimic what goes on inside families, then we could reduce health inequality by as much as 18 percent," she says, referring to a main finding of the study.

Intra-family transmissions of health-related expertise might encompass frequent nagging to adhere to prescribed medications, get vaccinations or refrain from smoking during pregnancy, and "these behavioral changes are – from a society's perspective – simple and cheap," the study states.

Disparity despite access

The study also reveals limitations to the impact of equal access to medical care, underscoring the importance of other health efforts.

The researchers compared mortality data of Sweden – where there is universal access to health care – to the United States. They found the overall mortality was lower in Sweden but the level of health inequality largely mirrored that of the United States. In Sweden, despite its extensive social safety net, the rich also live longer and the poor die younger. Specifically, among people alive at age 55, more than 40 percent of individuals at the bottom of the income distribution in

Sweden will have died by age 80 – as opposed to fewer than 25 percent for those at the top of the distribution.

"This health inequality appears to be extremely stubborn," Persson says. "We can throw a universal health insurance system at it and yet substantial inequality persists. So, is there anything else that can help us close that health gap between rich and poor?"

According to their latest research, yes.

Health effects from having a medical professional in the family were substantial and occurred across the income spectrum, according to the study. And because the effects from the exposure to medical expertise was often even stronger for those at the lower half of the income distribution, the researchers estimated that information-driven behaviors could make a significant difference in getting rid of health disparities.

Closer ties, less churn

The study did not examine the complexity of family dynamics or specific actions that led to the positive health effects, but the researchers hypothesize that the mere presence of a medical professional in the family translates somehow to either a heightened health culture or, at least, having a coach of sorts to encourage healthy, good-patient behavior.

Although general public health campaigns (e.g., "Get Your Flu Shot Today!") may not carry the same level of influence as intimate dinner-table discussions or persistent prodding among family members, there could be other ways society can improve its exposure to medical expertise to lead to healthier, longer lives, the researchers say.

Community health worker or nurse outreach programs can perhaps lead

to more targeted, personalized communication efforts, they say. Digital nudges delivered through mobile phone apps could potentially make healthy dents.

Reminders of preventive care can also come by way of closer patient-doctor relationships and more consistent, longer-term ties to the same doctor.

"The idea of continuity of care and developing a true relationship with your doctor, who becomes someone who pays attention to you as an individual and sees you and your family over a long period of time, is well known," Polyakova says. "Today, it's what they might call old-fashioned primary care, where the whole family goes to the same doctor for many years. Many countries, the U.S. included, appear to be moving increasingly away from this model, and our results suggest that we might want to do the reverse."

The finding of how a closer family connection or closer proximity leads to even stronger health outcomes helps substantiate the potential difference a closer bond between any doctor and patient could make – improvements that would be hard to glean from rushed and infrequent medical appointments, Persson and Polyakova say.

Communication-focused health initiatives don't have to come with hefty price tags either, they say.

"We pour a lot of resources into getting even fancier machines inside hospitals, but the things that are making a difference here are not that expensive," Persson says of their findings. "These are cheap, easily scalable preventative investments that are translating to gains in longevity, which is remarkable."

Sweden's medical school lotteries

Using large-scale data from Sweden, the researchers focused on quantifying the role of informal exposure to health expertise via a [medical professional](#) in the family while avoiding results that would be muddled with other differences between individuals with and without a doctor in the family.

The researchers used two different approaches. First, they took advantage of the fact that in some years, lotteries were used to break ties among equally qualified applicants to Sweden's medical schools. This allowed the researchers to use [medical school](#) application records and track the health of family members of applicants who won and lost the lottery.

The researchers looked at more than 30 years of continuous health and tax records spanning four generations of family members, and examined health-related outcomes of the extended family members of newly trained doctors and nurses – including their siblings, parents, grandparents, children, aunts, uncles, cousins and in-laws.

Second, researchers sought to double-check whether higher income and higher social status associated with the medical profession had anything to do with the positive health benefits they found.

One of the ways they did this was to draw a comparison to lawyers, a similarly paid profession. The parents of doctors, they found, were 16 percent more likely to be alive than the parents of lawyers 20 years after their children matriculated. The parents of doctors also faced lower prospects of lifestyle-related chronic diseases.

In addition to the higher likelihood of their parents living past age 80 and the lower likelihood of heart diseases, the relatives of health professionals showed higher levels of preventive behaviors, including purchases of heart and blood-thinning medications, and vaccinations for

HPV, or human papillomavirus. Younger family members also had fewer hospital admissions and addiction cases.

"People with health professionals in the family essentially make preventative investments that everyone should be doing," Persson says.

More information: The Roots of Health Inequality and The Value of Intra-Family Expertise. *NBER*. [DOI: 10.3386/w25618](https://doi.org/10.3386/w25618)

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