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# Low-Hanging Fruit for Better (Global) Health?

**H**ealth is an area of great promise but also great frustration. There seems to be plenty of "low-hanging fruit" available, from vaccines to bed nets, that could save lives at a minimal cost, but all too few people make use of such preventive technologies. Government health workers, who are in charge of delivering basic health-care services in most countries, are often blamed for this failure, not entirely unfairly, as we will see. They, on the other hand, insist that plucking these low-hanging fruits is much harder than it seems.

In winter 2005 in the beautiful town of Udaipur in western India, we had an animated discussion with a group of government nurses. They were very upset with us because we were involved in a project that aimed to get them to come to work more often. At some point in the proceedings, one of them got so exasperated that she decided to be blunt: The job was essentially pointless anyway, she announced. When a child came to them with diarrhea, all they could offer the mother was a packet of oral rehydration solution (or ORS, a mixture of salt, sugar, potassium chloride, and an antacid to be mixed with water and drunk by the child). But most mothers didn't believe that ORS could do any good. They wanted what they thought was the right treatment—an antibiotic or an intravenous drip. Once a mother was sent away from the health center with just a packet of ORS, the nurses told us, she never came back. Every year, they saw scores of children die from diarrhea, but they felt utterly powerless.

**O**f the 9 million children who die before their fifth birthdays each year, the vast majority are poor children from South Asia and sub-Saharan Africa, and roughly one in five dies of diarrhea. Efforts are under way to develop and distribute a vaccine against rotavirus, the virus responsible for many (though not all) of the cases of diarrhea. But three "miracle drugs" could already save most of these children: chlorine bleach, for purifying water; and salt and sugar, the key ingredients of the rehydration solution ORS. A mere $100 spent on chlorine packaged for household use can prevent thirty-two cases of diarrhea.[1] Dehydration is the main proxy cause of death from diarrhea, and ORS, which is close to being free, is a wonderfully effective way to prevent it.

Yet neither chlorine nor ORS is used very much. In Zambia, thanks to the efforts of Population Service International (PSI), a large organization that markets it at subsidized prices worldwide, chlorine is cheap and widely available. At the cost of 800 kwachas ($0.18 USD PPP), a family of six can buy enough bleach to purify its water supply, avoiding waterborne diarrhea. But only 10 percent of families use it.[2] In India, according to the United Nations Children's Fund (UNICEF), only one-third of children under five who had diarrhea were given ORS.[3] Why are some 1.5 million children dying every year of diarrhea, a disease that could often be avoided in the first place, and could often be treated with boiled water, sugar, and salt?

Bleach and ORS are not unique examples. There is other relatively "low-hanging fruit" with promise to improve health and save many lives. These are cheap and simple technologies that, if properly utilized, would save much in resources (in terms of extra days worked, less antibiotics used, stronger bodies, and

so on). They could pay for themselves, in addition to saving lives. But too many of these fruits are left unpicked. It is not that people don't care about their health. They do, and they devote considerable resources to it. They just seem to spend money elsewhere: on antibiotics that are not always necessary, on surgery that comes too late to help. Why does it have to be this way?

## THE HEALTH TRAP

In a village in Indonesia we met Ibu Emptat, the wife of a basket weaver. A few years before our first meeting (in summer 2008), her husband was having trouble with his vision and could no longer work. She had no choice but to borrow money from the local moneylender—100, 000 rupiah ($18.75 USD PPP) to pay for medicine so that her husband could work again, and 300,000 rupiah ($56 USD PPP) for food for the period when her husband was recovering and could not work (three of her seven children were still living with them). They had to pay 10 percent per month in interest on the loan. However, they fell behind on their interest payments and by the time we met, her debt had ballooned to 1 million rupiah ($187 USD PPP); the moneylender was threatening to take everything they had. To make matters worse, one of her younger sons had recently been diagnosed with severe asthma. Because the family was already mired in debt, she couldn't afford the medicine needed to treat his condition. He sat with us throughout our visit, coughing every few minutes; he was no longer able to attend school regularly. The family seemed to be caught in a classic poverty trap—the father's illness made them poor, which is why the child stayed sick, and because he was too sick to get a proper education, poverty loomed in his future.

Health certainly has the potential to be a source of a number of different traps. For example, workers living in an insalubrious environment may miss many workdays; children may be sick often and unable to do well in school; mothers who give birth there may have sickly babies. Each of these channels is potentially a mechanism for current misfortunes to turn into future poverty.

The good news is that if something like this is what is going on, we may only need one push, one generation that gets to grow up and work in a healthy environment, to set the trap loose. This is Jeffrey Sachs's view, for example. As he sees it, a large proportion of the world's poorest people, and indeed entire countries, are stuck in a health-based poverty trap. Malaria is his favorite example: Countries in which a large fraction of the population is exposed to malaria are much poorer (on average, countries like Côte d'Ivoire or Zambia, where 50 percent or more of the population is exposed to malaria, have per capita incomes that are one-third of those in the countries where no one today gets malaria).[4] And being so much poorer makes it harder for them to take steps to prevent malaria, which in turns keeps them poor. But this also means, according to Sachs, that public health investments aimed at controlling malaria (such as the distribution of bed nets to keep the mosquitoes at bay during the night) in these countries could have very high returns: People would be sick less often and able to work harder, and the resulting income gains would easily cover the costs of these interventions and more. To put it in terms of the S—shaped curve in Chapter 1, African countries where malaria is endemic are stuck in the left part of the curve, where their malaria-weakened labor force is too unproductive and hence too poor to be able to pay for malaria eradication. But if someone did them the favor of financing malaria eradication, they would end up on the right part of the curve, on the road to prosperity. The same argument could be made about other diseases that are prevalent in poor countries. This is the core of the optimistic message of Sachs's book *The End of Poverty.*

Skeptics have been quick to point out that it is not clear whether malaria-infested countries are poor because of malaria, as Sachs assumes, or perhaps their inability to eradicate malaria is an indicator of the fact that they are poorly governed. If it is the latter, then the mere eradication of malaria may achieve very little, as long as governance remains weak.

Whose story—the activists' or the skeptics'—does the evidence support? Successful campaigns to eradicate malaria have been studied in a number of different countries. Each of these studies compares high-malaria-prevalence regions in the country with low-prevalence regions and checks what happens to children born in these areas before and after the campaign. They all find that life outcomes (such as education or earnings) of children born after the campaign in areas where malaria was once prevalent catch up with those of children born in low-incidence areas. This strongly suggests that eradicating malaria indeed results in a reduction in long-term poverty, although the effects are not nearly as large as those suggested by Jeffrey Sachs: One study on malaria eradication in the U.S. South (which had malaria until 1951)[5] and several countries in Latin America[6] suggests that *a child who grew up malaria-free earns 50 percent more per year, for his entire adult life*, compared to a child who got the disease. Qualitatively similar results were found in India,[7] Paraguay, and Sri Lanka, although the magnitude of the gain varies from country to country.[8]

This result suggests that the financial return to investing in malaria prevention can be fantastically high. A long-lasting insecticide-treated bed net costs at most $14 USD PPP in Kenya, and lasts about five years. Assume conservatively that a child in Kenya sleeping under a treated net has 30 percent less risk of being infected with malaria between birth and age two, compared to a child who doesn't. In Kenya, an adult makes on average $590 USD PPP a year. Thus, if malaria indeed reduces earnings in Kenya by 50 percent, a $14 investment will increase incomes by $295 for the 30 percent of the population that would have gotten malaria without the net. The average return is $88 every year over the child's entire adult work life—enough for a parent to buy a lifetime supply of bed nets for all his or her children, with a chunk of change left over.

**T**here are other examples of highly effective health investments. Access to clean water and sanitation is one of them. Overall, in 2008, according to estimates by WHO and UNICEF, approximately 13 percent of the world's population lacked access to improved water sources (typically meaning a tap or a well) and about one-fourth did not have access to water that is safe to drink.[9] And many of these people are the very poor. In our eighteen-country data set, access to tap water at home among the rural extremely poor varied from less than 1 percent (in rural Rajasthan and Uttar Pradesh in India) to 36.8 percent (in Guatemala). The numbers tend to be much better for richer households, though they vary a lot from country to country (from less than 3.2 percent in Papua New Guinea to 80 percent in Brazil, for the rural middle class). They are higher in urban areas, both for the poor and the middle class. Decent sanitation facilities are even rarer among the poor—42 percent of the world's population live without a toilet at home.

Most experts agree that access to piped water and sanitation can have a dramatic impact on health. A study concluded that the introduction of piped water, better sanitation, and chlorination of water sources was responsible for something like three-fourths of the decline in infant mortality between 1900 and 1946 and nearly half the overall reduction in mortality over the same period.[10] Moreover, repeated bouts of diarrhea during childhood permanently impair both physical and cognitive development. It is estimated that by piping uncontaminated, chlorinated water to households, it is possible to reduce diarrhea by up to 95 percent.[11] Poor water quality and pools of stagnant water are also a cause of other major illnesses, including malaria, schistosomiasis, and trachoma,[12] any of which can kill children or make them less

productive adults.

Nevertheless, the conventional wisdom is that today, at $20 per household per month, providing piped water and sanitation is too expensive for the budget of most developing countries.[13] The experience of Gram Vikas, an NGO that works in Orissa, India, shows, however, that it is possible to do it much more cheaply. Its CEO, Joe Madiath, a man with a self-deprecating sense of humor who attends the annual meeting of the world's rich and powerful at the World Economic Forum in Davos, Switzerland, in outfits made from homespun cotton, is used to doing things differently. Madiath's career as an activist started early: He was twelve when he first got into trouble—for organizing the labor on the plantation that his father owned. He came to Orissa in the early 1970s with a group of left-wing students to help out after a devastating cyclone. After the immediate relief work was over, he decided to stay and see if he could find some more permanent ways to help the poor Oriya villagers. He eventually settled on water and sanitation. What attracted him to the issue was that it was simultaneously a daily challenge and an opportunity to initiate long-term social change. He explained to us that in Orissa, water and sanitation are social issues. Madiath insists that every single household in the villages where Gram Vikas operates should be connected to the same water mains: Water is piped to each house, which contains a toilet, a tap, and a bathing room, all connected to the same system. For the high-caste households, this means sharing water with low-caste households, which, for many in Orissa, was unacceptable when first proposed. It takes the NGO a while to get the agreement of the whole village and some villages eventually refuse, but it has always stuck to the principle that it would not start its work in a village until everyone there agreed to participate. When agreement is finally reached, it is often the first time that some of the upper-caste households participate in a project that involves the rest of the community.

Once a village agrees to work with Gram Vikas, the building work starts and continues for one to two years. Only after every single house has received its tap and toilet is the system turned on. In the meantime, Gram Vikas collects data every month on who has gone to the health center to get treated for malaria or diarrhea. We can thus directly observe what happens in a village as soon as the water starts flowing. The effects are remarkable: Almost overnight, and for years into the future, the number of severe diarrhea cases falls by one-half, and the number of malaria cases falls by one-third. The monthly cost of the system for each household, including maintenance, is 190 rupees, or $4 per household (in current USD), only 20 percent of what is conventionally assumed to be the cost of such a system.

There are even cheaper ways to avert diarrhea, such as adding chlorine to water. Other very inexpensive medical or public health technologies with proven effectiveness include ORS, getting children immunized, deworming drugs, exclusive breast-feeding until six months, and some routine antenatal procedures such as a tetanus shot for the would-be mother. Vitamin B against night blindness, iron pills and iron-fortified flour against anemia, and so on are other examples of low-hanging fruit.

The existence of these technologies is the source of both Jeffrey Sachs's optimism and his impatience. As he sees it, there are health-based poverty traps, but there are also ladders we can give to the poor to help them escape from these traps. If the poor cannot afford these ladders, the rest of the world should help them out. This is what Gram Vikas does in Orissa, by helping to organize the villages, and by subsidizing the cost of the water systems. A few years ago, Joe Madiath told us he felt he had to turn down funding from the Bill & Melinda Gates Foundation when the grant officer insisted that the villagers should pay the full cost of what they were getting (fortunately, the foundation subsequently changed its view on this question). He argued that villagers simply cannot afford 190 rupees per month, even though it is true that the health benefits are potentially worth far more—Gram Vikas only asks villagers to pay enough money into a village fund to be able to keep the system in good repair and be able to add new households as the village grows. The rest the NGO raises from donors all over the world. In Sachs's view, this is

how things should be.

## WHY AREN'T THESE TECHNOLOGIES USED MORE?

### *Underutilized Miracles*

There is one wrinkle with Sachs's theory that poor people are stuck in a health-based poverty trap and that money can get them out of it. Some of these technologies are so cheap that everyone, even the very poor, should be able to afford them. Breast-feeding, for example, costs nothing at all. And yet fewer than 40 percent of the world's infants are breast-fed exclusively for six months, as the WHO recommends.[14] Another good example is water: Piping water to homes (combined with sewerage) costs 190 rupees per month, or 2,280 rupees per year, as we saw, which in terms of purchasing power is equivalent to about 300,000 Zambian kwachas. It is likely that poor villagers in Zambia cannot afford that much. But for less than 2 percent of that, a Zambian family of six can buy enough chlorine bleach to purify their entire drinking water intake for the year: A bottle of Chlorin (a brand of chlorine distributed by PSI) costs 800 kwachas ($0.18 USD PPP) and lasts a month. This can reduce diarrhea in young children by up to 48 percent.[15] People in Zambia know about the benefits of chlorine. Indeed, when asked to name something that cleans drinking water, 98 percent mention Chlorin. Although Zambia is a very poor country, 800 kwachas for a bottle that lasts a month is really not a lot of money—the average family spends 4,800 kwachas ($1.10 USD PPP) per week just on cooking oil. Yet only 10 percent of the population actually uses bleach to treat their water. When, as part of an experiment, some households were offered a discount voucher that would entitle them to a bottle of Chlorin for 700 kwachas ($0.16 USD PPP), only about 50 percent wanted to buy it.[16] This fraction went up sharply when the price was lowered to 300 kwachas ($0.07 USD PPP), but remarkably, even at this reduced price one-fourth of the people did not buy the product.

Demand is similarly low for bed nets. In Kenya, Jessica Cohen and Pascaline Dupas set up an NGO called TAMTAM (Together Against Malaria), to distribute free mosquito nets in prenatal clinics in Kenya.[17] At some point, PSI started distributing subsidized, but not free, nets in the same clinics. Cohen and Dupas wanted to find out whether their organization was still needed. They set up a simple test: They offered nets at various prices in different clinics, chosen at random. The price varied from free in some places to the (still subsidized) price charged by PSI in others. Much as in the case of Chlorin, they found that the purchase of nets was indeed very sensitive to the price. Almost everybody took a free net home. But the demand for nets fell to very close to zero at the PSI price (about $0.75 USD PPP). When Dupas replicated the experiment in different market towns but gave people the time to go home and collect cash (rather than having to buy on the spot), more people bought at the PSI price, but demand still went up by several times when the price was brought down toward zero.[18]

Even more troubling is the related fact that the demand for bed nets, though very sensitive to price, is not very sensitive to income. To get on the right part of the S—shaped curve and start a virtuous circle where improved health and increased income reinforce each other, the increase in income coming from one person avoiding malaria should be enough to make it very likely that his or her children buy a net and avoid malaria as well. We argued above that buying bed nets to reduce the risk of getting malaria has the potential to raise annual incomes by a substantial 15 percent on average. However, even though a 15

percent increase in income is far more than the cost of a bed net, people who are 15 percent richer are only 5 percent more likely to buy a net than others.[19] In other words, far from virtually ensuring that the next generation sleeps under a net, distributing free bed nets once would only increase the number of children in the next generation sleeping under a net from 47 percent to 52 percent. That is not nearly enough to eradicate malaria.

What the lack of demand underscores is perhaps the fundamental difficulty of the problem of health: The ladders to get out of the poverty trap exist but are not always in the right place, and people do not seem to know how to step onto them or even want to do so.

### *The Desire for Better Health*

Since they do not seem to be willing to sacrifice much money or time to get clean water, bed nets, or for that matter, deworming pills or fortified flour, despite their potentially large health benefits, does that mean the poor do not care about health? The evidence suggests the opposite. When asked whether there was a period of a month in the recent past when they felt "worried, tense, or anxious," roughly one-fourth of the poor in both rural Udaipur and urban South Africa said yes.[20] This is much higher than what we see in the United States. And the most frequent source of such stress (44 percent of the time in Udaipur) is their own health or that of their close relatives. In many of the countries in our eighteen-country data set, the poor spend a considerable amount of their own money on health care. The average extremely poor household spends up to 5 percent of its monthly budget on health in rural India, and 3 percent to 4 percent in Pakistan, Panama, and Nicaragua. In most countries, more than one-fourth of the households had made at least one visit to a health practitioner in the previous month. The poor also spend large amounts of money on single health events: Among the poor families in Udaipur, 8 percent of the households recorded total expenditures on health of more than 5,000 rupees ($228 USD PPP) in the previous month, ten times the monthly budget per capita for the average family, and some households (the top 1 percent spenders) spent up to twenty-six times the average monthly budget per capita. When faced with a serious health issue, poor households cut spending, sell assets, or borrow, like Ibu Emptat, often at very high rates: In Udaipur, every third household we interviewed was currently repaying a loan taken out to pay for health care. A substantial proportion of those loans are from moneylenders, at rates that can be very high: The standard interest rate is 3 percent per month (42 percent per year).

### *Money for Nothing*

The issue is therefore not how much the poor spend on health, but what the money is spent on, which is often expensive cures rather than cheap prevention. To make health care less expensive, many developing countries officially have a triage system to ensure that affordable (often free) basic curative services are available to the poor relatively close to their homes. The nearest center typically does not have a doctor, but the person there is trained to treat simple conditions and detect more serious ones, in which case the person is sent up to the next level. There are countries where this system is under severe strain for lack of manpower, but in many countries, like India, the facilities do exist, and the positions are filled. Even in Udaipur District, which is particularly remote and sparsely populated, a family needs to walk only a mile and a half to find a subcenter staffed with a trained nurse. Yet we have collected data that suggest that this system is not working. The poor mostly shun the free public health-care system. The average adult we

interviewed in an extremely poor household saw a health-care provider once every two months. Of these visits, less than one-fourth were to a public facility.[21] More than one-half were to private facilities. The remainder were to *bhopas*—traditional healers who primarily offer exorcism from evil spirits.

The poor in Udaipur seem to select the doubly expensive plan: cure, rather than prevention, and cure from private doctors rather than from the trained nurses and doctors the government provides for free. That might make sense if the private doctors were better qualified, but this does not seem to be the case: Just over half of the private "doctors" have a medical college degree (this includes unconventional degrees like BAMS [Bachelor of Ayurvedic Medical Science] and BUMS [Bachelor of Unani Medical Science]), and one-third have no college education whatsoever. When we look at the people who "help the doctor," most of whom also see patients, the picture becomes even bleaker: Two—thirds have no formal qualification in medicine at all.[22]

In the local parlance, unqualified doctors like these are referred to as "Bengali doctors," because one of the earliest medical colleges in India was in Bengal and doctors from Bengal fanned across northern India looking for places to practice medicine. That tradition has continued—people continue to show up in a village with little more than a stethoscope and a bag of standard medications and set up as Bengali doctors, irrespective of whether they are from Bengal or not. We interviewed one who explained how he became a doctor: "I graduated from high school and couldn't find a job, which is when I decided to set up as a doctor." He very graciously showed us his high school diploma. His qualifications were in geography, psychology, and Sanskrit, the ancient Indian language. Bengali doctors are not only a rural phenomenon. In the slums of Delhi, a study found that only 34 percent of the "doctors" had a formal medical degree.[23]

Of course, not having a degree is not necessarily synonymous with being incompetent: These doctors could very well have learned to treat easy cases and to refer the rest to a real hospital. Another of the Bengali doctors we talked to (who really was from Bengal) was very clear that he knew his limits—he gave out paracetamols (like Tylenol) and antimalarials, perhaps some antibiotics when the disease looked like it might respond to it. If it looked like a difficult case, he referred patients to the Primary Health Center (PHC) or to a private hospital.

However, this kind of self-awareness is unfortunately not universal. In urban Delhi, Jishnu Das and Jeff Hammer, two World Bank economists, set out to find out what doctors actually know.[24] They started with a sample of doctors of all kinds (public and private, qualified and unqualified) and presented each of them with five health-related "vignettes." For example, a hypothetical child patient arrives with symptoms of diarrhea: The recommended medical practice is for the doctor to first ask enough questions to figure out whether the child has been running a high fever or vomiting, and if the answer is no, so that more serious conditions are ruled out, to prescribe ORS. Another vignette involves a pregnant woman arriving with the visible symptoms of preeclampsia, a potentially fatal condition that requires immediate referral to a hospital. The doctors' answers and the questions they chose to ask were compared to the "ideal" questions and responses to form an index of each doctor's competence. The average competence in the sample was remarkably low. Even the very best doctors (the top twenty out of 100) asked fewer than half the questions they should have, and the worst (the bottom twenty) asked only one-sixth of those questions. Moreover, the large majority of these doctors would have recommended a course of action that, based on the assessment of an expert panel of doctors, was more likely to do harm than good. The unqualified private doctors were by far the worst, particularly those who worked in poor neighborhoods. The best were the qualified private doctors. The public doctors were somewhere in the middle.

There was also a clear pattern in the errors: Doctors tended to underdiagnose and overmedicate. In our health survey in Udaipur, we found that a patient was given a shot in 66 percent of the visits to a private

facility and a drip in 12 percent of the visits. A test is performed in only 3 percent of the visits. The usual form of treatment for diarrhea, fever, or vomiting is to prescribe antibiotics or steroids, or both, usually injected.[25]

This is not only unnecessary in most cases, but potentially dangerous. First, there is the issue of sterilizing needles: Some friends of ours used to run a primary school in a small village on the outskirts of Delhi, where there was a doctor of unknown credentials but with a flourishing practice. Outside his dispensary was a huge drum that was always kept filled with water, with a little tap attached to it. After every patient left, the doctor would come outside and make a show of washing his needle with water from the drum. This was his way of signaling that he was being careful. We do not know whether he actually infected anyone with his syringe, but doctors in Udaipur talk about a particular doctor who infected an entire village with Hepatitis B by reusing the same unsterilized needle.

The misuse of antibiotics increases the likelihood of the emergence of drug-resistant strains of bacteria.[26] This is particularly true if, as many of these doctors are wont to do to save their patients money, the advised course is shorter than the standard regimen. Across the developing world, we are seeing a rise in antibiotic resistance. Similarly, incorrect dosage and poor patient compliance explain the emergence, in several African countries, of strains of malaria parasites that are resistant to mainstream medications, which has the makings of a public health disaster. [27] In the case of steroids, the damage from overuse is even more insidious. Any researchers of age forty or older who have surveyed the poor in countries like India can recall an occasion when they were surprised to discover that someone they thought was much older than they were was in fact significantly younger. Premature aging can result from many causes, but steroid use is definitely one of them—and it is not just that affected individuals look older, they also die sooner. Yet because the immediate effect of the medicine is to make the patient feel rapidly better and she is not told what might happen later, she goes home happy.

What is going on here? Why do the poor sometimes reject inexpensive effective sanitation—the cheap and easy way to dramatically improve people's health—in favor of spending a lot of money on things that don't help and might actually hurt?

### *Are Governments to Blame?*

A part of the answer is that a lot of the cheap gains are in prevention, and prevention has traditionally been the area where the government is the main player. The trouble is that governments have a way of making easy things much less easy than they should be. The high absenteeism rates and low motivation among government health providers are certainly two reasons we don't see more preventive care being delivered.

Government health centers are often closed when they are supposed to be open. In India, the local health posts are supposed to be open six days a week, six hours a day. But in Udaipur, we visited over 100 facilities once a week at some random time during working hours for a year. We found them closed 56 percent of the time. And in only 12 percent of the cases was this because the nurse was on duty somewhere else near the center. The rest of the time, she was simply absent. This rate of absence is similar elsewhere. In 2002–2003, the World Bank conducted a World Absenteeism Survey in Bangladesh, Ecuador, India, Indonesia, Peru, and Uganda and found that the average absentee rate of health workers (doctors and nurses) was 35 percent (it was 43 percent in India).[28] In Udaipur, we found that these absences are also unpredictable, which makes it even harder for the poor to rely on these facilities. Private facilities offer the assurance that the doctor will be there. If he isn't, he won't get paid, whereas

the absent government employee on a salary will.

Furthermore, even when government doctors and nurses are around, they do not treat their patients particularly well. Working with the same group of doctors who had responded to the vignette questions, one member of Das and Hammer's research team sat with each provider for a whole day. For each patient, the researcher recorded details about the visit, including the number of questions the doctor asked concerning the history of the problem, the examinations performed, medicines prescribed or given, and (for the private sector) prices charged. The overall sense we get from their study about health care in India, both public and private, is frightening. Das and Hammer describe it as the 3-3-3 rule: The median interaction lasts *three minutes;* the provider asks *three questions* and occasionally performs some examinations. The patient is then provided with *three medicines* (providers usually dispense medicine directly rather than writing prescriptions). Referrals are rare (fewer than 7 percent of the time); patients are given instructions only about half the time and only about one-third of doctors offer any guidance regarding follow-up. As if this is not bad enough, things are much worse in the public sector than in the private sector. Public providers spend about two minutes per patient on average. They ask fewer questions, and in most cases don't touch the patient at all. Mostly, they just ask the patient for a diagnosis and then treat the patient's self-diagnosis. Similar findings were discovered in several countries.[29]

So perhaps the answer is relatively simple: People avoid the public health system because it does not work well. This could also explain why other services that are provided through the government system, like immunizations and antenatal checks for prospective mothers, are underused.

But we know that this cannot be the whole story. Bed nets are not exclusively distributed by the government; neither is Chlorin for purifying water. And even when government nurses do come to work, the number of patients demanding their services does not go up. There was a period of about six months when a collaborative effort by Seva Mandir, a local NGO, and the district authorities was effective in sharply reducing absenteeism—the probability of finding someone in the health center went up from a dismal 40 percent to over 60 percent. But that had no effect on the number of clients who came to the facilities.[30]

In another Seva Mandir initiative, the NGO organized monthly immunization camps in the same set of villages. This was in reaction to abysmally low immunization rates in the area: less than 5 percent of the children had been receiving the basic package of immunizations (as defined by WHO and UNICEF) before the NGO got involved. Given the very broad consensus that immunization saves lives (2 to 3 million people are estimated to die from vaccine-preventable diseases every year) and the low cost (for the villagers, it is free), this seems like something that would be a priority for every parent. The low immunization rates, it was widely held, must have been the result of the delinquency of the nurses. Mothers would just get tired of walking all the way there with a young child and not finding the nurse.

To solve this problem, in 2003, Seva Mandir decided to start its own camps, which were widely advertised, held monthly on the same date, and as our data confirm, took place with clocklike regularity. This led to some increase in the immunization rate: In the camp villages, on average 77 percent of children received at least one shot. But the problem was in completing the course. Overall, from the 6 percent in a set of control villages, full immunization rates increased to 17 percent in the camp villages. But even with high-quality, privately provided free immunization services, available right at the parents' doorsteps, eight out of ten children remained without full immunization.

We must therefore accept the possibility that if people do not go to the public health centers, it is also in part because they are not particularly interested in receiving the services they offer, including immunizations. Why do poor people demand so much (bad) health care, but show such indifference toward these preventive services, and more generally toward all the wonderful, cheap gains that the

medical profession has invented for them?

# UNDERSTANDING HEALTH-SEEKING BEHAVIOR

### *Does Free Mean Worthless?*

If people do not take advantage of cheap preventive technologies to improve their health, could it be precisely because the cheap technologies are cheap?

This is not as implausible as it might seem. Plain vanilla economic rationality dictates that the cost, once paid or "sunk," should not have any effect on usage, but there are many who claim that as is often the case, economic rationality gets it wrong. In fact, there is a "psychological sunk cost" effect—people are more likely to make use of something they have paid a lot for. In addition, people may judge quality by price: Things may be judged to be valueless precisely because they are cheap.

All of these possibilities are important because health is one place where even free market economists have traditionally supported subsidies and, as a result, most of these cheap gains are made available at below-market prices. The logic is simple: A bed net protects not only the child who sleeps under it, but also other kids who are not getting malaria from that child. A nurse who treats diarrhea with ORS rather than antibiotics prevents the spread of drug resistance. The immunized child who avoids mumps helps protect his or her classmates as well. If making these technologies cheaper ensures that more people use them, everyone else will gain, too.

On the other hand, if people are subject to a sunk-cost effect, for example, these subsidies can backfire—usage will be low *because* the price is so low. In *The White Man's Burden*,[31] William Easterly seems to suggest that this is what is going on. He points to examples of subsidized bed nets being used as wedding veils. Others talk about toilets being used as flowerpots or, more graphically, condoms being used as balloons.

However, there are now a number of careful experiments that suggest that such anecdotes are oversold. Several studies that have tested whether people use things less because they got them for free found no evidence of such behavior. Recall Cohen and Dupas's TAMTAM experiments, which found that people are much more likely to buy bed nets when they are very cheap or free. Do these subsidized bed nets actually get used? To figure this out, a few weeks after the initial experiment, TAMTAM sent field officers to the homes of people who had purchased nets at the various subsidized prices. They found that between 60 percent and 70 percent of women who had acquired a net were indeed using it. In another experiment, over time usage went up to about 90 percent. Furthermore, they found no difference in usage rates among those who had paid for them and those who had not. The same kinds of results, which rule out the possibility that subsidies are to blame for low usage, have now been found in other settings.

But if subsidies are not the cause, what is?

### *Faith?*

Abhijit grew up in a family that came from two different ends of India. His mother was from Mumbai, and in her family no meal could be considered complete without the unleavened breads called *chapatis* and

*bhakris*, made from wheat and millets. His father was from Bengal, where people eat rice with pretty much every meal. The two regions also have very different views about how to treat fevers. Every Maharashtrian mother knows that rice aids in a fast recovery. In Bengal, on the other hand, rice is forbidden: When a Bengali wants to say that someone has recovered from a fever, he says that "he was allowed rice today." When a puzzled six-year-old Abhijit asked his Bengali aunt about this apparent contradiction, she said that it had to do with faith.

Faith, or to use the more secular equivalents, a combination of beliefs and theories, is clearly a very important part of how we all navigate the health system. How else do we know that the medicine that we were prescribed will make the rash better and that we shouldn't apply leeches instead? In all likelihood, none of us has observed a randomized trial where some people with, say, pneumonia were given antibiotics and others were offered leeches. Indeed, we do not even have any direct evidence that such a trial ever took place. What assures us is a belief in the way drugs get certified by the Food and Drug Administration (FDA) or its equivalent. We feel that an antibiotic would not be on the market if it had not gone through some kind of trial and, sometimes wrongly, given the financial incentives to manipulate medical trials, we trust the FDA to make sure the studies are reliable and the antibiotic is safe and effective.

The point is not at all to imply that our decision to trust doctors' prescriptions is wrong, but rather to underscore the fact that a lot of beliefs and theories for which we have little or no direct evidence contribute to that trust. Whenever this trust erodes for some reason in rich countries, we witness backlashes against conventionally accepted best practices. Despite the continuous reassurance by high-powered medical panels that vaccines are safe, there are a number of people in the United States and the United Kingdom, for example, who refuse to immunize their children against measles because of a supposed link with autism. The number of measles cases is growing in the United States, even as it is declining everywhere else.[32] Consider the circumstances of average citizens of a poor country. If people in the West, with all of the insights of the best scientists in the world at their disposal, find it hard to base their choices on hard evidence, how hard must it be for the poor, who have much less access to information? People make their choices based on what makes sense to them, but given that most of them have not had rudimentary high school biology and have no reason, as we saw, to trust the competence and professionalism of their doctors, their decision is pretty much a shot in the dark.

For example, the poor in many countries seem to have the theory that it is important that medicine be delivered directly to the blood—this is why they want injectables. To reject this (plausible) theory, you have to know something about the way the body absorbs nutrients through the digestive tract and something about why proper sterilization of needles requires high temperatures. In other words, you need at least high school biology.

To make matters worse, learning about health care is inherently difficult not only for the poor, but for everyone.[33] If patients are somehow convinced that they need shots to get better, there is little chance that they could ever learn they are wrong. Because most diseases that prompt visits to the doctor are self-limiting (i.e., they will disappear no matter what), there is a good chance that patients will feel better after a single shot of antibiotics. This naturally encourages spurious causal associations: Even if the antibiotics did nothing to cure the ailment, it is normal to attribute any improvement to them. By contrast, it is not natural to attribute causal force to inaction: If a person with the flu goes to the doctor, and the doctor does nothing, and the patient then feels better, the patient will correctly infer that it was not the doctor who was responsible for the cure. And rather than thanking the doctor for his forbearance, the patient will be tempted to think that it was lucky that everything worked out this time but that a different doctor should be seen for future problems. This creates a natural tendency to overmedicate in a private,

unregulated market. This is compounded by the fact that, in many cases, the prescriber and the provider are the same person, either because people turn to their pharmacists for medical advice, or because private doctors also stock and sell medicine.

It is probably even harder to learn from experience about immunization, because it does not fix an existing problem, but rather protects against potential future problems. When a child is immunized against measles, that child does not get measles. But not all children who are not immunized actually contract measles (especially if others around them who are the potential source of infection are immunized), so it is very difficult to draw a clear link between immunization and the lack of disease. Moreover, immunization just prevents some diseases—there are many others—and uneducated parents do not necessarily understand what their child is supposed to be protected against. So when the child gets sick despite being immunized, the parents feel cheated and probably resolve not to go through with it again. They may also not understand why all the different shots in the basic immunization regime are needed—after two or three shots, parents might feel that they have done what they should. It is all too easy to get misleading beliefs about what might work in health.

### *Weak Beliefs and the Necessity of Hope*

There is potentially another reason the poor may hold on to beliefs that might seem indefensible: When there is little else they can do, hope becomes essential. One of the Bengali doctors we spoke to explained the role he plays in the lives of the poor as follows: "The poor cannot really afford to get treated for anything major, because that involves expensive things like tests and hospitalization, which is why they come to me with their minor ailments, and I give them some little medicines which make them feel better." In other words, it is important to keep doing something about your health, even if you know that you are not doing anything about the big problem.

In fact, the poor are much less likely to go to the doctor for potentially life-threatening conditions like chest pains and blood in their urine than with fevers and diarrhea. The poor in Delhi spend as much on short-duration ailments as the rich, but the rich spend much more on chronic diseases.[34] So it may well be that the reason chest pains are a natural candidate for being a *bhopa* disease (an older woman once explained to us the dual concepts of *bhopa* diseases and doctor diseases—*bhopa* diseases are caused by ghosts, she insisted, and need to be treated by traditional healers), as are strokes, is precisely that most people cannot afford to get them treated by doctors.

It is probably for the same reason that in Kenya, traditional healers and preachers have been particularly in demand to cure HIV/AIDS (their services are proudly advertised on hand-painted billboards in every town). There was not much that allopathic doctors could really do (at least until anti-retrovirals became more affordable), so why not try the traditional healer's herbs and spells? They were cheap and at the very least gave the patient a sense of doing something. And since symptoms and opportunistic infections come and go, it is possible to believe, at least for a little while, that they have an effect.

This kind of grasping at straws is not specific to poor countries. This is also what the privileged few in poor countries and the citizens of the First World do when they face a problem that they do not know how to remedy. In the United States, depression and back pains are two conditions that are both poorly understood and debilitating. This is why Americans are constantly going between psychiatrists and spiritual healers, or yoga classes and chiropractors. Since both conditions come and go, sufferers go through cycles of hope and disappointment, each time wanting to believe for a moment at least that the

new cure must be working.

**B**eliefs that are held for convenience and comfort may well be more flexible than beliefs that are held out of true conviction. We saw signs of this in Udaipur. Most people who go to the *bhopa* also go to the Bengali doctor and the government hospital and do not seem to stop to think about the fact that these represent two entirely different and mutually inconsistent belief systems. They do talk about *bhopa* diseases and doctor diseases, but when a disease persists they seem not to insist on this distinction, and are willing to use both.

The issue of what beliefs mean to people came up a lot when Seva Mandir was considering what it could do to improve immunization, after discovering that even its system of well-run monthly camps left four-fifths of children not fully immunized. Some local experts argued that the issue was rooted in people's belief systems. They claimed that immunization had no place in the traditional belief system—in rural Udaipur, among other places, traditional belief has it that children die because they catch the evil eye, and the way to catch the evil eye is by being displayed in public. This is why parents don't take their children outside for the first year of life. Given this, the skeptical experts argued, it would be exceedingly difficult to convince villagers to immunize their children without first changing their beliefs.

Notwithstanding these strong views, when Seva Mandir set up immunization camps in Udaipur, we managed to convince Neelima Khetan, Seva Mandir's CEO, to try something on a pilot basis: offer 2 pounds of dal (dried beans, a staple in the area) for each immunization and a set of stainless steel plates for completing the course. The doctor in charge of Seva Mandir's health program was initially quite reluctant to try this out. On the one hand, it seemed wrong to bribe people to do the right thing. They should learn on their own what is good for their health. On the other hand, the incentive we proposed seemed much too weak: If people do not immunize their children, given the huge benefits of doing so, they must have some strong reason behind it. If they believed, for example, that taking their children out would cause harm, 2 pounds of dal (worth only 40 rupees, or $1.83 USD PPP, less than half the daily wage earned by working in a public works site) was not going to persuade them. We had known people at Seva Mandir for long enough that we could persuade them that this was still an idea worth trying on a small scale, and thirty camps with incentives were established. They were a roaring success. The immunization rate in the village where the camps were set up increased sevenfold, to 38 percent. In all neighboring villages, within about 6 miles, it was also much higher. Seva Mandir discovered that offering the dal, paradoxically, actually lowered the cost per immunization by increasing efficiency, because the nurse, whose time was already paid for, was kept busy.[35]

Seva Mandir's immunization program is one of the most impressive we have ever evaluated, and probably the one that has saved the most lives. We are therefore working, with Seva Mandir and others, to encourage replications of this experiment in other contexts. Interestingly, we are running into some resistance. Doctors point out that 38 percent is far from the 80 percent or 90 percent required to achieve "herd immunity," the rate at which an entire community is fully protected: WHO targets 90 percent coverage nationally for the basic immunization, and 80 percent in every subunit. For some in the medical community, if full protection for the community is not going to be achieved, there is no reason to subsidize some households to do what they should do for their own good anyway. Although it would certainly be excellent to be able to get to full coverage, this "all or nothing" argument is only superficially sensible: Even if immunizing my own child does not contribute to eradicating the disease, it still protects not only my child but also others around him.[36] There is thus still a huge social benefit from increasing full immunization rates against basic diseases from 6 percent to 38 percent.

In the end, the mistrust of incentives for immunization comes down to an article of faith for both those on the right and the left of the mainstream political spectrum: Don't try to bribe people to do things that *you* think they ought to do. For the right, this is because it will be wasted; for the conventional left, which includes much of the public health community and the good doctor from Seva Mandir, this is because it degrades both what is given and the person who gets it. Instead, we should focus on trying to convince the poor of the benefits of immunization.

We think that both of these views are somewhat wrongheaded ways to think about this and other similar problems, for two reasons. First, what the 2-pounds-of-dal experiments demonstrate is that in Udaipur at least, the poor might appear to believe in all kinds of things, but there is not much conviction behind many of those beliefs. They do not fear the evil eye so much that they would pass up the dal. This must mean that they actually know they are in no position to have a strong basis to evaluate the costs and benefits of vaccines. When they actually know what they want—marrying their daughter to someone from the right caste or religion, to take an unfortunate but important example—they are not at all easy to bribe. So, although some beliefs the poor have are undoubtedly strongly held, it is a mistake to consider that it is always the case.

There is a second reason this is wrong. Both the right wing and the left wing seem to assume that action follows intention: that if people were convinced of the value of immunization, children would be immunized. This is not always true, and the implications are far-reaching.

### *New Year's Resolutions*

One obvious sign that resistance to immunization is not very deep is that 77 percent of children received the first vaccine in the villages where the camps did not offer dal: People seem to be willing to start the immunization process, even without any incentives. The problem is to get them to complete it. This is also why the full immunization rate does not go beyond 38 percent—the incentives make people come a few more times, but not enough to get the full five shots, despite the free stainless steel plates that wait for them if they complete the course.

It seems that this might have a lot to do with the same reason that, year after year, we have trouble sticking to our New Year's resolution to go to the gym regularly, despite knowing that it may save us from a heart attack down the line. Research in psychology has now been applied to a range of economic phenomena to show that we think about the present very differently from the way we think about the future (a notion referred to as "time inconsistency").[37] In the present, we are impulsive, governed in large part by emotions and immediate desire: Small losses of time (standing in line to get the child immunized) or petty discomforts (glutes that need to be woken up) that have to be endured right now feel much more unpleasant in the moment than when we think about them without a sense of immediacy (say, after a Christmas meal that was heavy enough to rule out all thoughts of immediate exercise). The reverse, of course, goes for small "rewards" (candy, a cigarette) that we really crave in the present; when we plan for the future, the pleasure from these treats seems less important.

Our natural inclination is to postpone small costs, so that they are borne not by our today self but by our tomorrow self instead. This is an idea that we will see again in future chapters. Poor parents may even be fully convinced of the benefits of immunization—but these benefits will accrue sometime in the future, while the cost is incurred today. It makes sense, from today's perspective, to wait for tomorrow. Unfortunately, when tomorrow becomes today, the same logic applies. Likewise, we may want to postpone the purchase of a bed net or a bottle of Chlorin until later, because we have better use for the

money right now (there is someone frying delicious conch fritters across the street, say). It is easy to see how this could explain why a small cost discourages the use of a life-saving device, or why small incentives encourage it. The 2 pounds of dal works because it is something that the mother receives today, which compensates her for the cost she bears for getting her child immunized (the couple of hours spent bringing her child to the camp or the low fever that the shot sometimes causes).

If this explanation is correct, it suggests a new rationale for mandating specific preventive health behaviors or for providing financial incentives that go beyond the traditional economic argument we have already suggested, which is that it makes sense for society to subsidize or enforce behaviors that have benefits for others. Fines or incentives can push individuals to take some action that they themselves consider desirable but perpetually postpone taking. More generally, time inconsistency is a strong argument for making it as easy as possible for people to do the "right" thing, while, perhaps, leaving them the freedom to opt out. In their best-selling book *Nudge: Improving Decisions About Health, Wealth, and Happiness*, Richard Thaler and Cass Sunstein, an economist and a law scholar from the University of Chicago, recommend a number of interventions to do just this.[38] An important idea is that of default option: The government (or a well-meaning NGO) should make the option that it thinks is the best for most people the default choice, so that people will need to actively move away from it if they want to. So people have the right to choose what they want, but there is a small cost of doing so, and as a result, most people end up choosing the default option. Small incentives, like giving dal for vaccines, are another way to nudge people, by giving them a reason to act today, rather than indefinitely postpone.

The key challenge is to design "nudges" tailored to the environment of developing countries. For example, the key challenge with chlorinating water at home is that you have to remember to do it: The bleach has to be purchased, and the right number of drops have to be put in before anyone drinks the water. This is what is so great about piped water—it comes chlorinated to our homes; we don't need to think about it. How does one nudge people to chlorinate their drinking water, where piped water is not available? Michael Kremer and his colleagues came up with one method: a (free) chlorine dispenser, called "one turn," installed next to the village well, where everybody goes to get water, which delivers the right quantity of chlorine at one turn of a knob. This makes the chlorination of water as easy as possible, and because that leads many people to add chlorine every time they collect water, this is the cheapest way to prevent diarrhea among all the interventions for which there is evidence from randomized trials.[39]

We were less fortunate (or, more likely, less competent) when we designed a program for the iron fortification of flour with Seva Mandir to deal with rampant anemia. We had tried to design the program with a built-in "default" option: A household had to decide once and only once whether it wanted to participate. The flour of a participating household would then always be fortified. But unfortunately, the incentive of the millers (who were paid a flat fee regardless of how much flour they fortified) was to start from the opposite default option: not to fortify unless the household required it. As we discovered, the small cost of having to insist on fortification was large enough to discourage most people.[40]

### *Nudging or Convincing?*

In many cases, time inconsistency is what prevents our going from intention to action. In the specific case of immunization, however, it is hard to believe that time inconsistency by itself would be sufficient to make people permanently postpone the decision if they were fully cognizant of its benefits. For people to continuously postpone getting their children immunized, they would need to be constantly fooled by

themselves. Not only do they have to think that they prefer to spend time going to the camp next month rather than today, they also have to believe that they will indeed go next month. We are certainly somewhat naïve and overconfident about our own ability to do the right thing in the future. But if parents actually believe in the benefits of immunization, it seems unlikely that they can keep fooling themselves month after month by pretending that they will do it next month until the entire two-year window runs out and it is too late. As we will see later in the book, the poor find ways to force themselves to save despite themselves, which requires a great deal of sophisticated financial thinking. If they really believed that immunization is as wonderful as WHO believes it to be, they would probably have figured out a way to overcome their natural tendency to procrastinate. The more plausible explanation is that they procrastinate *and* they underestimate the benefits.

Nudges may be especially helpful when, for whatever reason, households are somewhat dubious about the benefits of what is being proposed to them. This makes preventive care a doubly appropriate candidate for such policies: The benefits are in the future, and in any case, it is hard to understand exactly what they are. The good news is that nudges may also help with the convincing, which may jump-start a positive feedback loop. Remember the bed nets that were given to a poor Kenyan family? We argued earlier that, on its own, the income gain from the first bed net was not large enough to make the child who got one buy one for his own children: Even if the bed net led to an increase in income of 15 percent for a child, that income gain increases their probability to buy a net only by 5 percent. However, the income effect is not the whole story: The family may observe that when they use a net, their children are sick less often. Moreover, they may also learn that it is easier to use bed nets and less unpleasant to sleep under bed nets than they had initially believed. In one experiment, Pascaline Dupas tested this hypothesis by making a second attempt to sell bed nets to the families that were previously offered very cheap or free nets, as well as to the families that were offered nets at full price and mostly did not buy one.[41] She found that families that were offered a free or sharply reduced net were *more* likely to buy a second net (even though they had one already) than the families that were asked to pay full price for the first one. Moreover, she also found that knowledge travels: Friends and neighbors of those who were given a free net were also more likely to buy a net themselves.

## THE VIEW FROM OUR COUCH

The poor seem to be trapped by the same kinds of problems that afflict the rest of us—lack of information, weak beliefs, and procrastination among them. It is true that we who are not poor are somewhat better educated and informed, but the difference is small because, in the end, we actually know very little, and almost surely less than we imagine.

Our real advantage comes from the many things that we take as given. We live in houses where clean water gets piped in—we do not need to remember to add Chlorin to the water supply every morning. The sewage goes away on its own—we do not actually know how. We can (mostly) trust our doctors to do the best they can and can trust the public health system to figure out what we should and should not do. We have no choice but to get our children immunized—public schools will not take them if they aren't—and even if we somehow manage to fail to do it, our children will probably be safe because everyone else is immunized. Our health insurers reward us for joining the gym, because they are concerned that we will not do it otherwise. And perhaps most important, most of us do not have to worry where our next meal

will come from. In other words, we rarely need to draw upon our limited endowment of self-control and decisiveness, while the poor are constantly being required to do so.

We should recognize that no one is wise, patient, or knowledgeable enough to be fully responsible for making the right decisions for his or her own health. For the same reason that those who live in rich countries live a life surrounded by invisible nudges, the primary goal of health-care policy in poor countries should be to make it as easy as possible for the poor to obtain preventive care, while at the same time regulating the quality of treatment that people can get. An obvious place to start, given the high sensitivity to prices, is delivering preventive services for free or even rewarding households for getting them, and making getting them the natural default option when possible. Free Chlorin dispensers should be put next to water sources; parents should be rewarded for immunizing their children; children should be given free deworming medicines and nutritional supplements at school; and there should be public investment in water and sanitation infrastructure, at least in densely populated areas.

As public health investments, many of these subsidies will more than pay for themselves in the value of reduced illness and death, and higher wages—children who are sick less often go to school more and earn more as adults. This does not mean that we can assume that these will automatically happen without intervention, however. Imperfect information about benefits and the strong emphasis people put on the immediate present limit how much effort and money people are willing to invest even in very inexpensive preventive strategies. And when they are not inexpensive, there is of course always the question of money. As far as treatment is concerned, the challenge is twofold: making sure that people can afford the medicines they need (Ibu Emptat, for one, clearly could not afford the asthma medicine that her son needed), but also restricting access to medicines they don't need as a way to prevent growing drug resistance. Because regulating who sets up a practice and decides to call himself a doctor seems to be beyond the control of most governments in developing countries, the only way to reduce the spread of antibiotic resistance and the overuse of high-potency drugs may be to put maximal effort into controlling the sale of these drugs.

All this sounds paternalistic, and in a way, it certainly is. But then it is easy, too easy, to sermonize about the dangers of paternalism and the need to take responsibility for our own lives, from the comfort of our couch in our safe and sanitary home. Aren't we, those who live in the rich world, the constant beneficiaries of a paternalism now so thoroughly embedded into the system that we hardly notice it? It not only ensures that we take care of ourselves better than we would if we had to be on top of every decision, but also, by freeing us from having to think about these issues, it gives us the mental space we need to focus on the rest of our lives. This does not absolve us of the responsibility of educating people about public health. We do owe everyone, the poor included, as clear an explanation as possible of why immunization is important and why they have to complete their course of antibiotics. But we should recognize—indeed assume—that information alone will not do the trick. This is just how things are, for the poor, as for us.

# *Chapter 3*

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