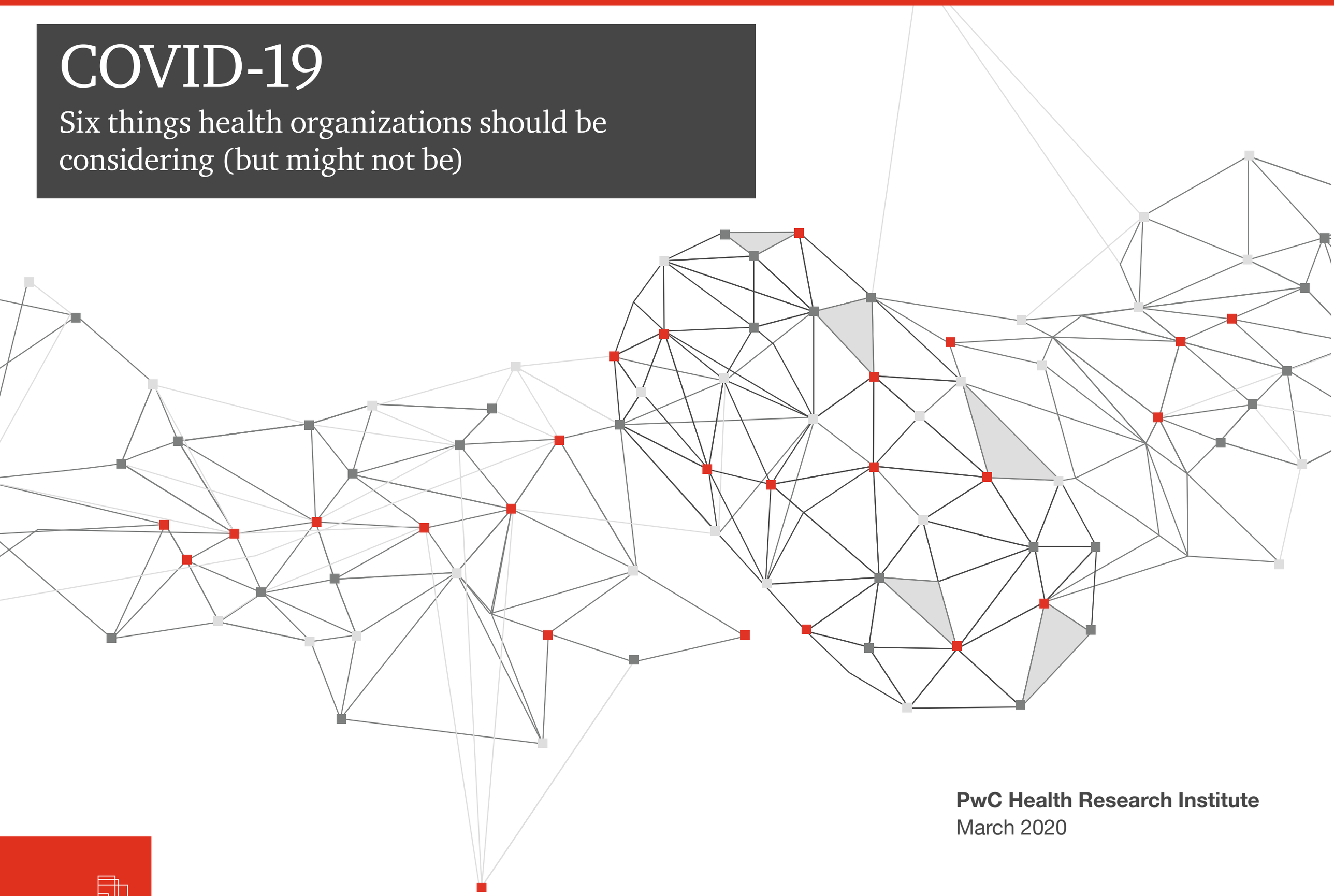
COVID-19

Six things health organizations should be considering (but might not be)



PwC Health Research Institute

March 2020

pwc

www.pwc.com/hri



The US healthcare system is about to be tested as a pandemic washes through it, flooding its emergency rooms, intensive care units, physician offices, urgent care clinics and telehealth lines with patients suffering from the symptoms of COVID-19: fevers, dry coughs and shortness of breath. Payers likely will experience waves of calls from members wondering whether certain care will be covered, certain tests will cost them money, certain prescriptions will be filled.

Pharmaceutical and life sciences companies are being called upon by the world to develop—very quickly—diagnostic tests to find new cases, therapeutics to treat COVID-19 patients, vaccines to help prevent millions from being infected and medical surgical equipment to protect healthcare workers. Employers are making difficult decisions about telework, an economic slowdown and employees calling in sick or staying home to take care of their children because of school closures.

The entire US healthcare system is planning, preparing, scenario modeling and collaborating. It is grappling with serious questions around capacity, testing and equipment, including whether the nation has enough ventilators and protective gear. In this report, PwC's Health Research Institute (HRI) will not attempt to lay out what the US healthcare system should do in great detail. Plans are being made and executed. Rather, this report aims to describe six considerations for healthcare organizations as they make and execute their short- and long-term plans for handling the pandemic.

HRI's report draws from years of research on vulnerable populations, the rise of new ways of delivering care and shifts in the pharmaceutical and life sciences industry, including at the policy level. One perspective that becomes clear is that, in some ways, the US health industry is more equipped now than in 2009—when the novel influenza virus, H1N1, infected

millions of Americans—to handle patients needing different levels of care. Some of the most useful tools the industry will have to manage the pandemic are ones that have developed in recent years, as the industry has digitized and moved toward more retail-focused, value-based models.

Urgent care clinics have popped up throughout communities; many retail pharmacies, grocery stores and big-box retailers offer basic primary care. Most health plans include telehealth, at lower cost sharing. These different sites of care can help absorb patients with less acute needs, including those not suffering from COVID-19, leaving hospitals to treat the most seriously ill.

The industry also has more data about us, which means much more information and insight into the populations of people most vulnerable to becoming seriously ill or dying with COVID-19. For example, HRI's own research shows that the "frail elderly"—who are at highest risk to suffer severe complications or die from the disease—have more doctor visits and fill more prescriptions per capita than any other large population segment, meaning they are more likely to be exposed to the coronavirus that causes COVID-19 while sitting in waiting rooms and in pharmacy lines.[1]

Payers and providers hoping to protect these patients would be well advised to find ways to help minimize these in-person visits, replacing as many as possible with home visits, video visits and home delivery of medications and even groceries. Retail pharmacies, located within a short distance of most Americans, can be critical "last mile" links in the healthcare system.

The healthcare industry's focus in recent years on the social determinants of health also could help identify ways to care for people more effectively as the pandemic interrupts people's lives. This broader portrait of the challenges people face can help protect the most vulnerable and keep people as healthy as possible.

The life sciences industry, in this crisis, can respond to needs as they arise, as they already have. Companies already are working on candidates for therapeutics, although success is never assured. Even now, some vaccine candidates are in early-stage trials.[2] The FDA has made it clear it is willing to simplify the regulatory pathway for products that can help.[3]

The agency's Emergency Use Authorizations for diagnostic tests and respirators are good examples of the sorts of actions the regulator is willing to take to fill needs. However, the crisis also may have a negative impact on an industry dependent upon global supply chains. The FDA has stopped most inspections of foreign manufacturers through April, and that may slow product reviews for companies with new drug applications for drugs manufactured overseas.[4]

This is an unusual moment in which tens of millions of Americans will lean in some way on the health industry at once. The industry's response to this crisis may highlight its weaknesses, but also its many strengths, as the weight of millions of bears down on it. As planning, preparation and execution get underway, the industry has more tools at its disposal, and these tools—from understanding fragile populations in a deeper way to responding quickly to regulatory calls for help in meeting needs—may help the nation through this pandemic.

1

Understand the care patterns of the populations most at risk—the frail elderly and those with respiratory diseases.



Several months into the pandemic, it is becoming clear who is most at risk for dying or suffering serious illness—the frail elderly, those with chronic conditions such as respiratory or heart disease, and those who are considered obese. Healthcare providers and payers should understand the special needs and characteristics of these populations in order to help them through the pandemic.

About 6.5 million people, or 2% of the US population, meet HRI's definition of frail elderly.[5] These are people over the age of 75, often living at home but sometimes in nursing homes, and in poor health. As a population segment, these individuals are the heaviest utilizers of care, spending $123 billion a year, and have the highest per capita spending of any group, according to HRI's research.

These individuals have an average of 30 healthcare visits a year and fill 35 prescriptions a year (see Figure 1 on page 5). Because of their heavy interaction and reliance on the healthcare system, the frail elderly also are at great risk for exposure to the novel coronavirus and, in a pandemic, interruptions to necessary management of their health.

Figure 1: The frail elderly, for whom COVID-19 poses the greatest risk, already are heavy utilizers of the healthcare system

	Number of people *in millions*	Average age	Annual spending *in millions*	Visits per capita	Prescription drugs per capita
Frail elderly Over the age of 75, living at home, facing health issues related to falls or dementia and suffering generally poor health	6.5	81	122,798	30.3	35.0
Healthy adults and children Healthy adults and households with healthy dependent children younger than 18	118.0	30	160,722	3.2	0.80

Source: PwC Health Research Institute analysis of the 2017 Medical Expenditure Panel Survey

The more than 22 million non-elderly American adults living with respiratory diseases such as chronic obstructive pulmonary disease and the 75.6 million considered obese also appear to be at higher risk for developing severe pulmonary problems from COVID-19; nearly 50 million non-elderly adults each year contract a respiratory-related infection such as pneumonia, flu or acute bronchitis; their respiratory systems may be compromised.[6]

Payers, employers and providers that are able to segment the populations they serve and can understand their unique needs and preferences may be better prepared to proactively and more effectively direct communications and services to high-risk populations. They also can help target members with chronic conditions using analytics, provide faster follow-up on abandoned prescriptions and more. These organizations should consider taking a regional view within their influence networks, setting up outbound call centers and other tactics that can help protect the most vulnerable.

For example, frail elderly patients likely would benefit from time spent with care navigators who can help coordinate services on their behalf, set up clinician house calls and call in community paramedics trained to provide home-based medical care.[7] These actions can help prevent unnecessary trips to emergency departments and physician offices busy with infected patients.

And if these patients do have to travel to the doctor's office, offering vouchers for a taxi or ride-hailing service could help them avoid crowded public transit. Payers might persuade these populations to switch to mail-order pharmacies or home delivery of prescriptions to avoid having to pick up medications in person. They may help coordinate delivery of groceries, even, and basic items to help keep vulnerable people at home.

Many healthcare providers have broadened the makeup of their primary care teams to better address patient needs and create access. Instead of in-person visits with a single primary care physician, many now see a broader team of caregivers such as nurse practitioners, pharmacists, nutritionists, mental health specialists and community health workers (see Figure 2).[8]

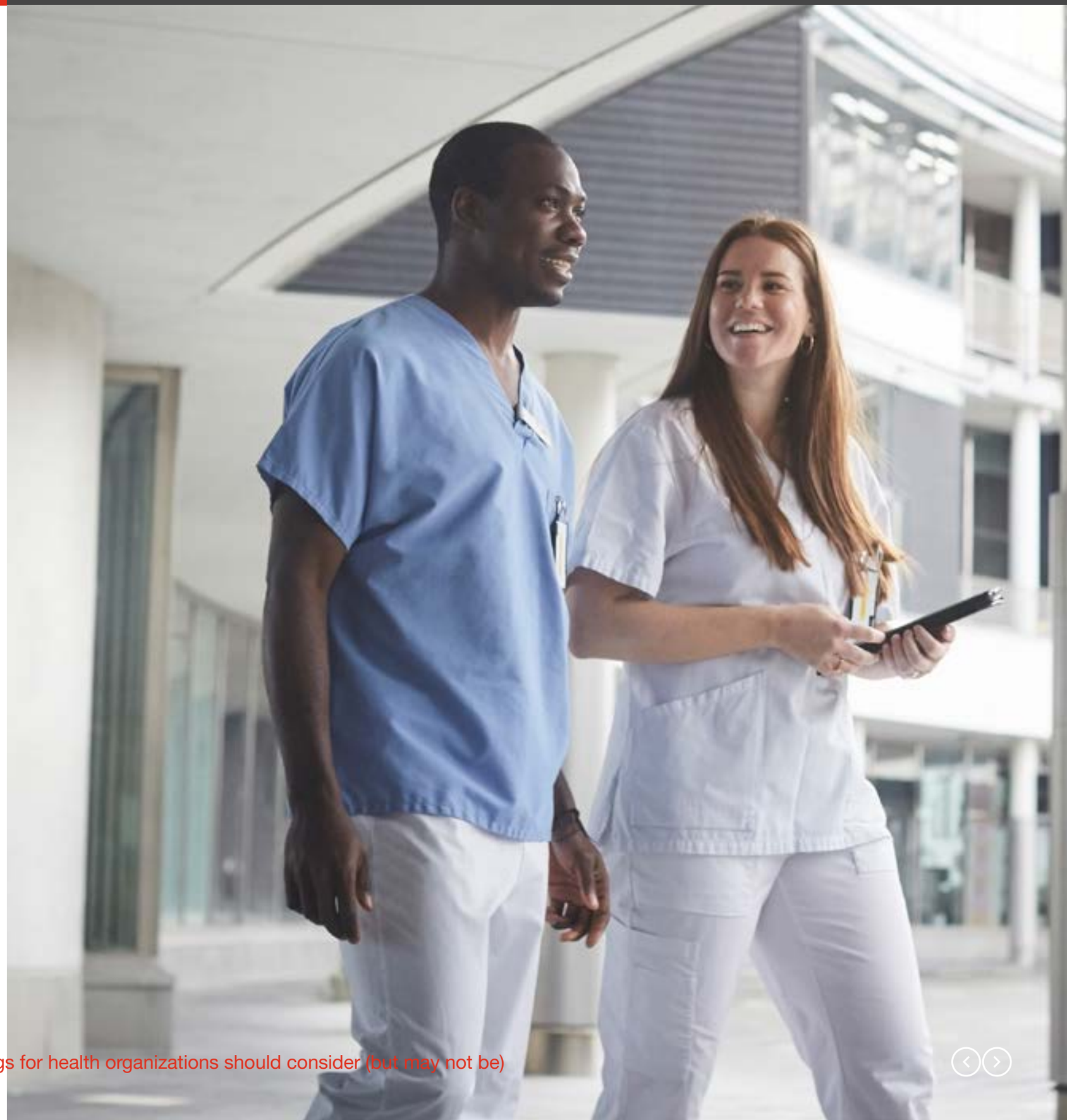
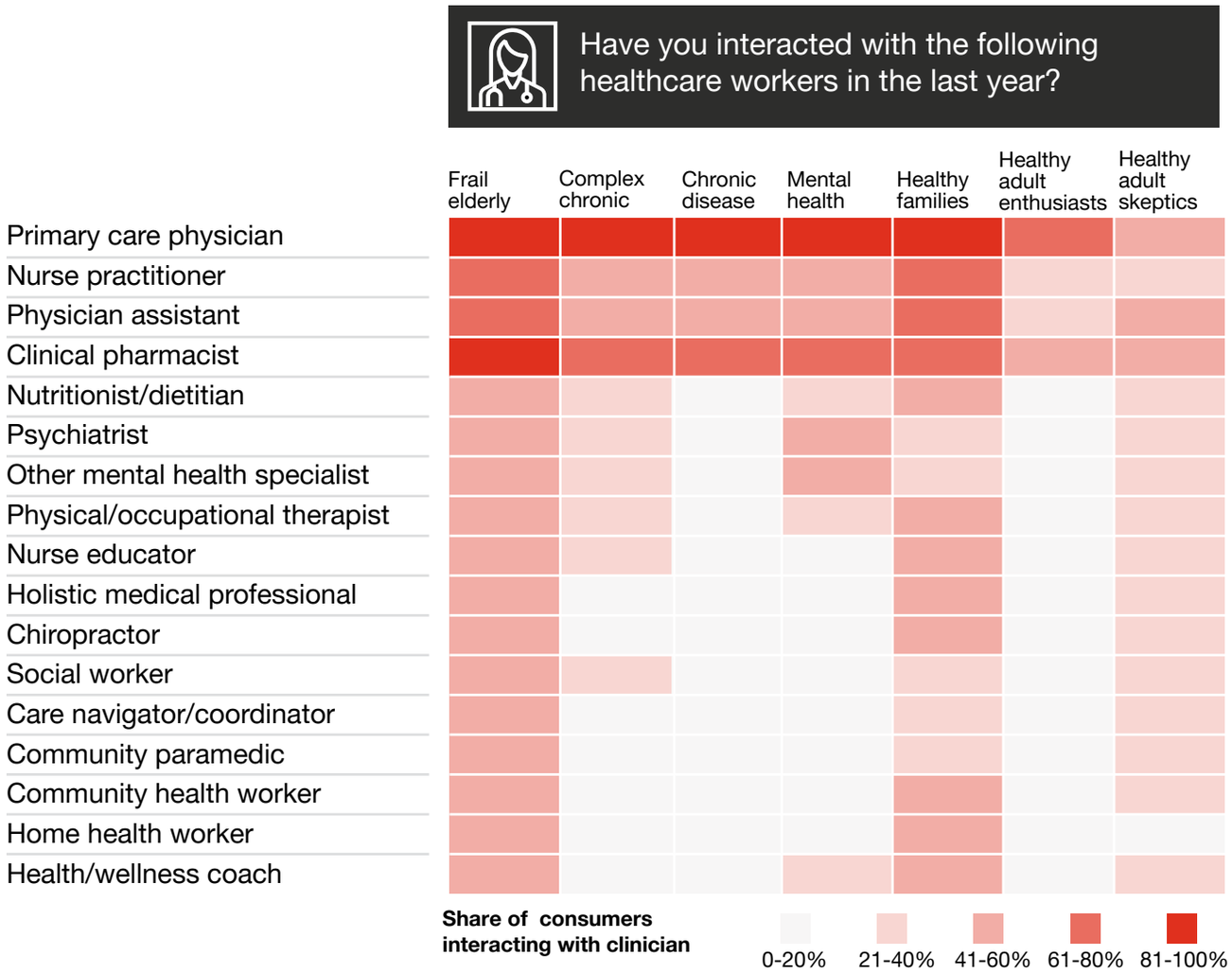


Figure 2: Frail elderly Americans report seeing a diverse collection of providers in the past year



Frail elderly: Over the age of 75, living at home, facing health issues related to falls or dementia and suffering generally poor health

Complex chronic: Have one or more chronic diseases affecting multiple body systems and often requiring complicated disease management (e.g., CHF, COPD, DM with end-stage renal disease)

Chronic disease: Have problems affecting a single body system such as hypertension and require uncomplicated disease management

Mental health: Mental illness is primary health issue versus comorbid condition. Face depression and mood disorders, post-traumatic stress disorder, addictions and suicidal ideations

Healthy families: Households with healthy dependent children under the age of 18

Healthy adult enthusiasts: Value a regular physical and wellness/coaching services, and get recommended screenings

Healthy adult skeptics: Generally avoid interacting with the health system and are less likely to have health insurance than other consumer groups

Source: PwC Health Research Institute consumer survey, 2016

Healthcare organizations' provider networks should consider focusing on coordination of these broader care teams. Those that have developed a network with a community-based primary care hub that coordinates specialty medical and nonmedical services on behalf of the patient may be better prepared to communicate with and manage patients. Keeping the primary care team updated with the latest information is critically important, because they will be the first line of defense for the organization and the community.

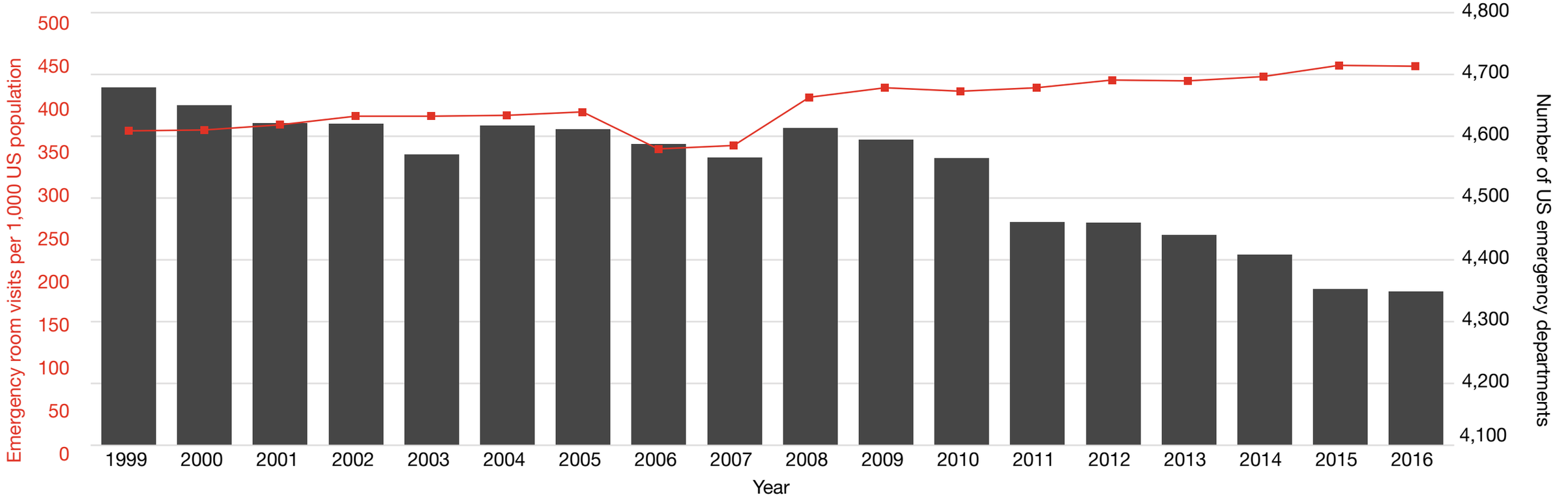
2

The US has many more ways to get care than it did during 2009's H1N1 pandemic. Use them.



Hospitals may be overwhelmed with a deluge of ill COVID-19 patients needing care, leaving them less able to attend to people with less serious or pressing medical issues. In recent years, alternative sites for care—such as urgent care centers, retail clinics in pharmacies, telehealth services and workplace clinics—have flourished. In a pandemic like COVID-19, with emergency departments already stretched thin, these sites can act like wetlands, helping absorb part of the overflow of patients with and without the illness (see Figure 3).[9]

Figure 3: Strained emergency department capacity means many consumers with COVID-19 symptoms will need to find care elsewhere

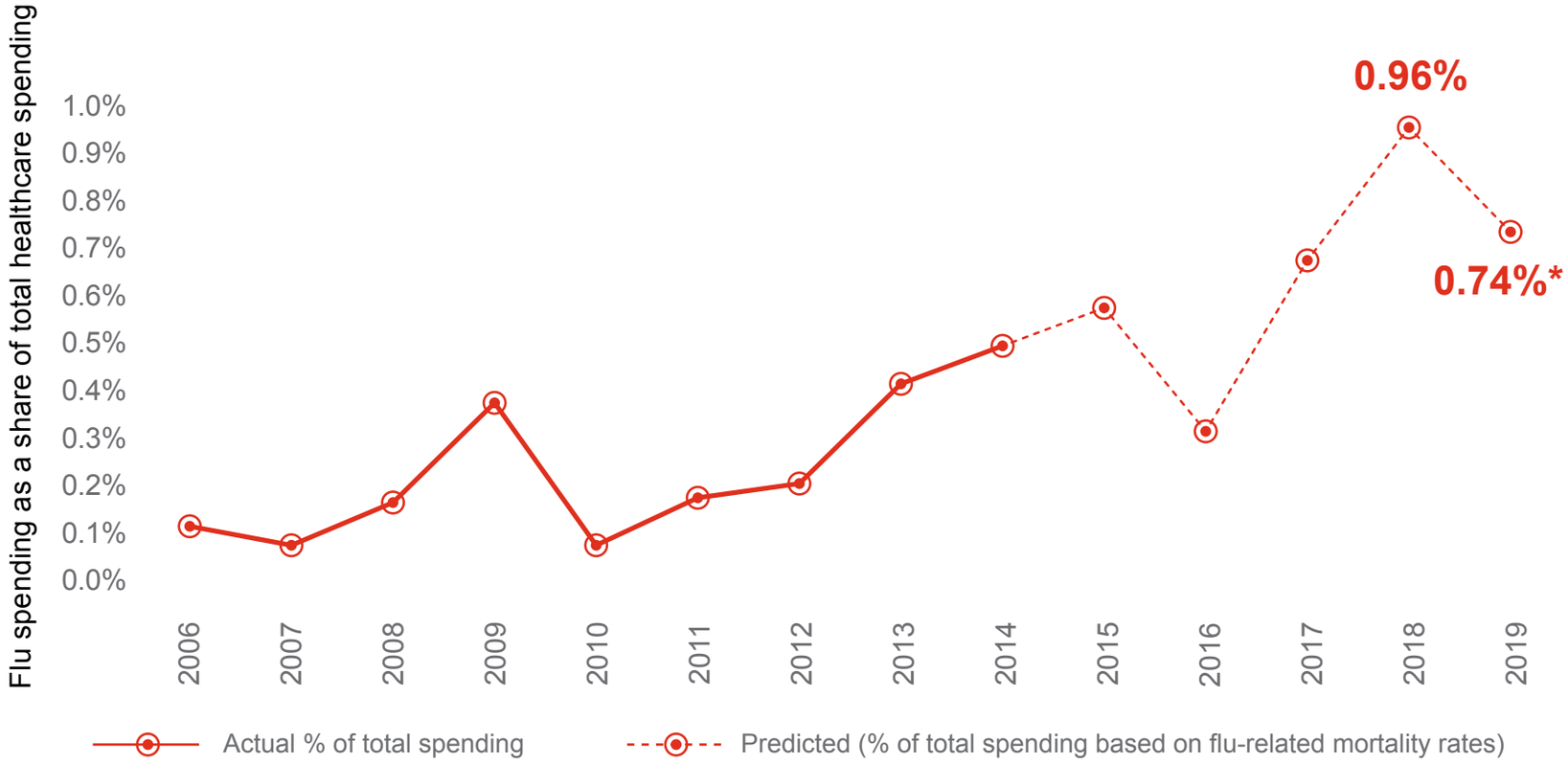


Source: 1999-2018 American Hospital Association Annual Survey; Kaiser Family Foundation; AHA TrendWatch Chartbook[5]

Americans already are open to alternatives. Seventy-eight percent of consumers surveyed by HRI in 2019 were interested in having a “menu” of care options offered by multiple providers, allowing them to choose care from local providers or virtual care from specialists across the country.[10] Seventy-seven percent of provider executives and 66% of payer executives surveyed by HRI in 2019 said their organizations were directing patients to lower-cost settings.[11] Given the inflationary impact that COVID-19 is likely to have on medical cost trend, payers should consider doubling down on these strategies as they design their benefit packages for the coming plan year.

During the particularly severe 2017-18 influenza season, HRI found that medical cost trend increased significantly (see Figure 4).[12]

Figure 4: Flu spending as a percentage of total healthcare spending in 2018 rose significantly

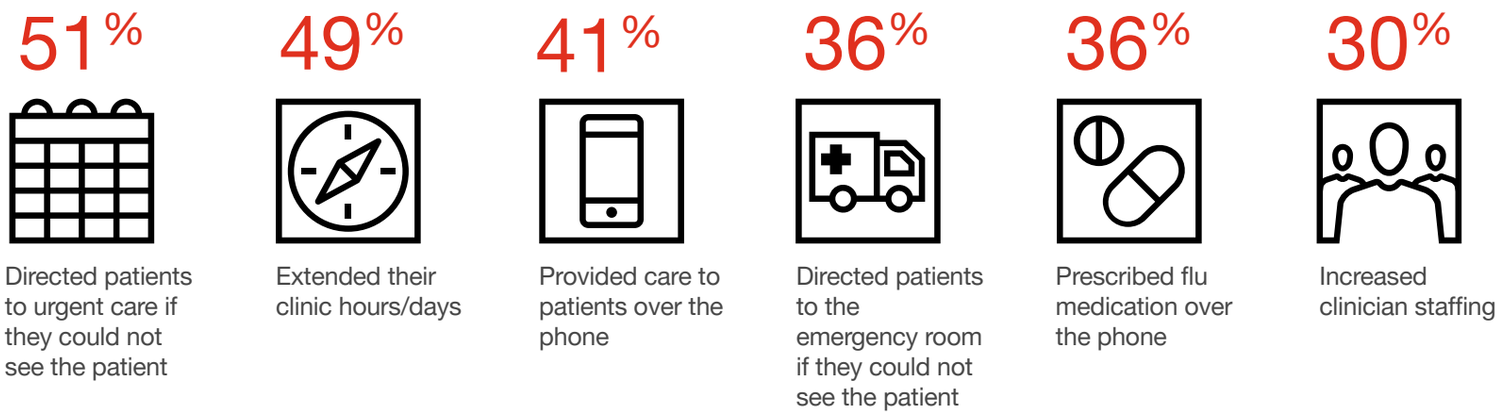


*2019 predicted % of total spending is based on predicted flu-related mortality rates.

Source: PwC Health Research Institute analysis of Centers for Disease Control and Prevention data, Medical Expenditure Panel Survey data, and Healthcare Cost and Utilization Project data

During that severe influenza season, 78% of primary care physicians surveyed by HRI reported an increase in flu-related appointments and said they were able to manage the increase. About half said they told patients they could not see to go to an urgent care center (a smaller percentage directed patients to the emergency department). Half said their practices stayed open longer or added days. Forty-one percent provided care over the phone (see Figure 5).

Figure 5: Many physicians reported directing patients to other venues during the 2017-2018 flu season



Source: PwC Health Research Institute clinician survey, 2018. Seventy-eight percent of survey respondents said they saw an increase in flu related appointments during the 2017-2018 flu season.

3

For a population sitting at home, think of the retail pharmacy as a "last mile" player.



Retail pharmacies are almost ubiquitous. Ninety percent of the US' 330 million people live within 5 miles of a retail pharmacy, according to the American Society of Health-System Pharmacists.[13] Retail pharmacies, from national chain stores to independent shops, also are ubiquitous in the lives of their customers, especially for the frail elderly and those with complex chronic conditions, who make 12 office visits a year, on average, and fill two to three times as many prescriptions, according to research conducted by HRI.[14]

So how can these just-down-the-street hubs help during a pandemic? Providers, payers and caregivers should consider these key parts of the healthcare system as crucial links to care, medications and basic supplies for a population quarantining at home or taking up a semi-hermetic lifestyle in hopes of avoiding COVID-19.[15] Social distancing can be aided by pharmacies' drive-through windows, telehealth options and home delivery.[16]

Retail pharmacy companies have started announcing policies aimed at the COVID-19 pandemic. For example, one large healthcare company announced that its retail pharmacies would waive charges of home delivery of prescription medications, that its plans would allow 90-day supplies of maintenance medications and that it was offering telehealth visits in 40 states and Washington, DC to complement its retail clinics.[17]

If hospitals become overwhelmed with COVID-19 patients, the retail pharmacy, with its skills in medication management, round-the-clock glucose monitoring and personalized health education, can become a lifeline.

Pharmacists in some states have gained expanded scopes of practice. A few states—notably California and Oregon—have given pharmacists limited prescribing authority.[18] More than 800 pharmacists in the US are board-certified in infectious diseases.[19] An examination by HRI of state regulations shows a steady drift toward broadening pharmacists' authority.[20]

4

Telehealth can help keep the moderately sick and chronically ill safer.



Telehealth may be the most effective first line of access for non-elderly Americans with mild illness who do not suffer from respiratory issues or have other risk factors that may make them more vulnerable to serious illness from COVID-19.

Telehealth also may create more access to mental health services, which some payers already appear to be anticipating as many beef up emotional support hotlines and other programs to help address anxiety about the pandemic.[21] Telehealth also may be an effective way to convene medical specialists, primary care physicians and others involved in the diagnosis, triage and care of COVID-19 patients, while reducing exposure to the virus. These services also may be a way for quarantined asymptomatic clinicians to work as caseloads increase.

Telehealth has been around for a long time, and yet the US population has been relatively slow to adopt this mode of receiving care in large numbers. Usage appears to be slowly ticking up. Notably, 78% of consumers responding to a recent HRI survey who had a hospital stay in the past two years believe at least a few of their recent in-person interactions with providers could have occurred virtually.[22]

Payers and employers have been adding telehealth services to benefits packages and making cost sharing for these visits lower than for visits to physician offices and emergency departments. In 2016, 41% of employers offered the benefit; in 2019, 86% did.[23] Sixty-one percent of employers set employee cost sharing lower for telemedicine visits than in-person visits in 2019.[24] Some plans are offering free telehealth visits for COVID-19 as a way to minimize the number of patients presenting at emergency departments.

Hospitals have also made telehealth a part of their services in large numbers. According to the American Hospital Association, the use of telehealth has grown from 35% of hospitals in

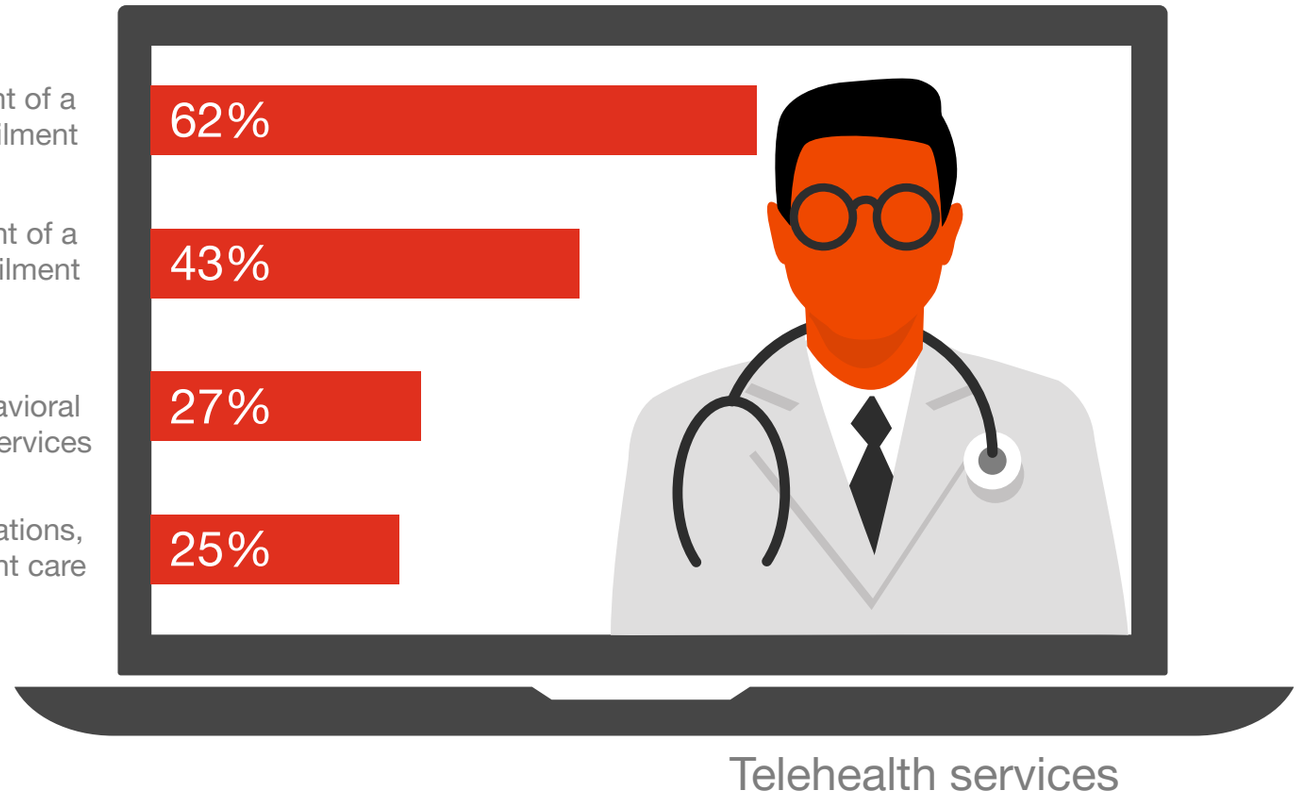
2010 to 76% reporting fully or partially implementing a telehealth system in 2017.[25]

Organizations aiming to use telehealth as a way to offer care to those who do not need to be seen in-person may have to bolster communications and rethink pricing to change behaviors. Some companies have already announced free or low-priced telehealth visits for COVID-19-related concerns. And rerouting patients who can be cared for and checked on through telehealth visits could help prevent the spread of infection and open capacity in hospitals, physician offices, urgent care centers and more for the ill and seriously ill.

It may also be a way to help prevent patients who already are struggling with chronic illnesses from deferring maintenance care. A consumer survey conducted by HRI in 2019 found that 62% of consumers with employer-based insurance who are willing to use telehealth would use it for ongoing assessment of a condition, such as a chronic disease (see Figure 6).[26]

Figure 6: Consumers with employer coverage willing to use telehealth would consider using it in place of these in-person services

49 percent of consumers with employer coverage said they are willing to use telehealth in place of an in-person visit. Of those, these are the services they are willing to use:



Source: PwC Health Research Institute consumer survey, spring 2019

5

Strategies on social determinants of health can be an advantage in pandemic response.



Successful pandemic response requires close coordination between the health system and the greater community. Coordination also is a key social determinants of health (SDOH) strategy. Organizations participating in the response, whether government, health system or community organizations, can adopt SDOH leading practices to improve pandemic response.

When HRI surveyed and interviewed clinicians in 2007 about disaster and pandemic preparedness, there was general agreement that coordination and communication across the health system were key to a successful response.[27]

However, the clinicians expressed less confidence that their institutions could successfully coordinate and communicate with other stakeholders. Confidence was especially low when it came to coordination between hospitals and federal agencies, community clinics and nursing homes. In a 2016 HRI survey, less than 50% of primary care physicians said their practices coordinate with the right social service agencies.[28] Fast forward to today. The same question is relevant: How can we improve coordination to improve a pandemic response?

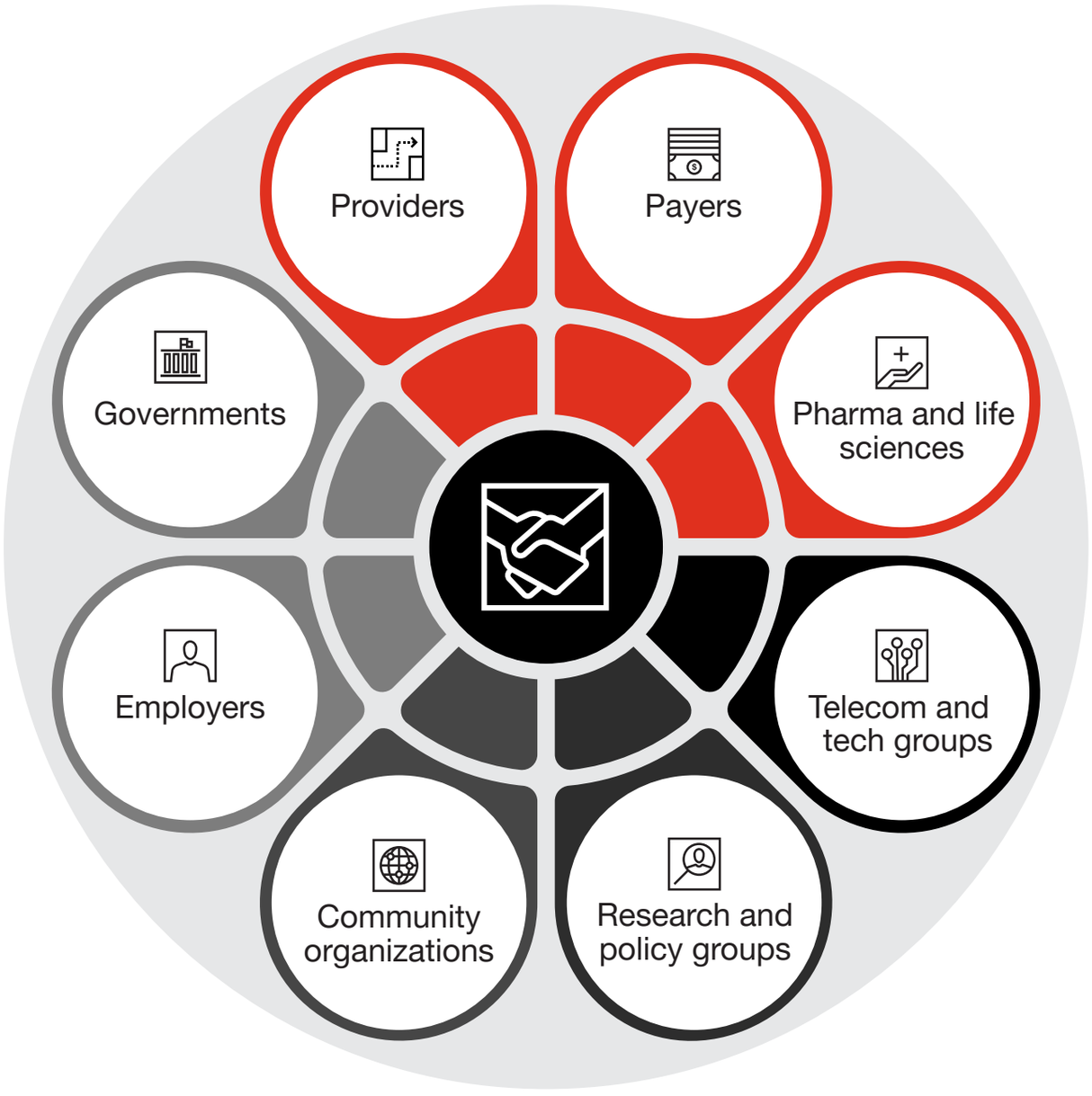
The parallels to community pandemic response are similar. What we do in our own homes and communities can have a great influence on the spread of a pandemic and the health system's ability to respond. The many waves of closings and cancellations could have the impact of slowing down the virus's spread. So could employers' decisions to ask employees to work from home.

Building the collaboration and figuring out which organizations will participate in pandemic response efforts are critical. HRI's SDOH research revealed the importance of engaging a wide variety of organizations, including nonhealth organizations (see Figure 7).[29]

Building a coalition around complementary capabilities is a great start, and many health organizations have already begun this work under their current SDOH initiatives. For example, research and policy groups can work on developing leading practices to a pandemic response while employers can provide direct communication access, and telecom and tech companies can keep the communication infrastructure operational. In this way, everyone has a role to play.

Organizations in the collaboration should work from a common vocabulary and have clear roles and responsibilities as well as an agreed-upon goal. Conduct regular communication or virtual meetings to keep organizations accountable and gather perspectives about each other's work.

Figure 7: Disaster response requires collaboration within and across sectors

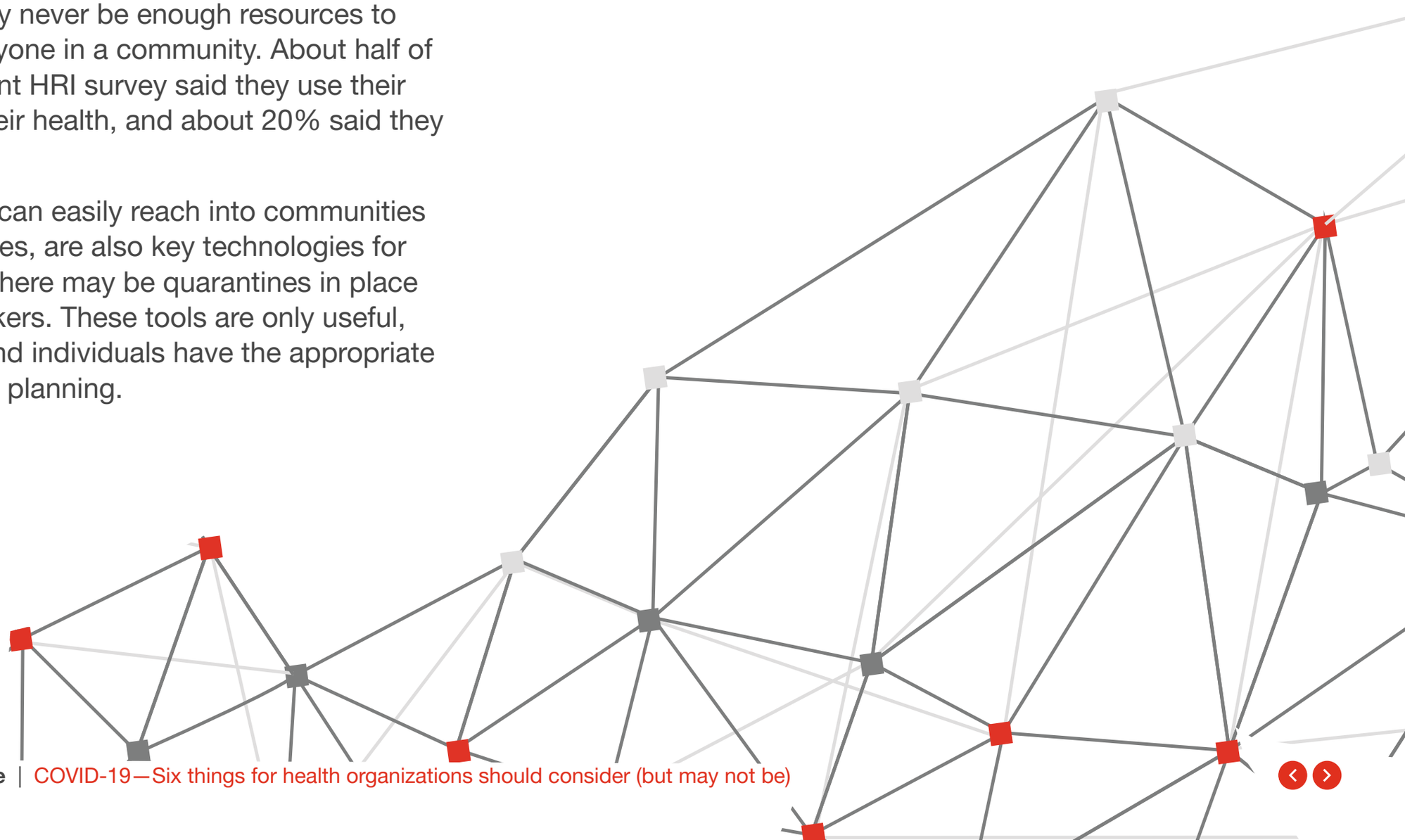


Source: PwC

Trust-based relationships are important when people and communities are scared and unsure of what to do. Coalitions developed for pandemic response, much like SDOH interventions, should include trusted community organizations and providers that have access to hard-to-serve or underserved communities that may not be able to get information and support from traditional sources such as their employer or local government.

Lastly, SDOH strategies often rely on technology as a multiplier of effort, because there may never be enough resources to intervene directly with everyone in a community. About half of global consumers in a recent HRI survey said they use their smartphones to support their health, and about 20% said they use health apps.[30]

These remote tools, which can easily reach into communities to help address SDOH issues, are also key technologies for pandemic response when there may be quarantines in place or a lack of healthcare workers. These tools are only useful, however, if organizations and individuals have the appropriate technology, bandwidth and planning.



6

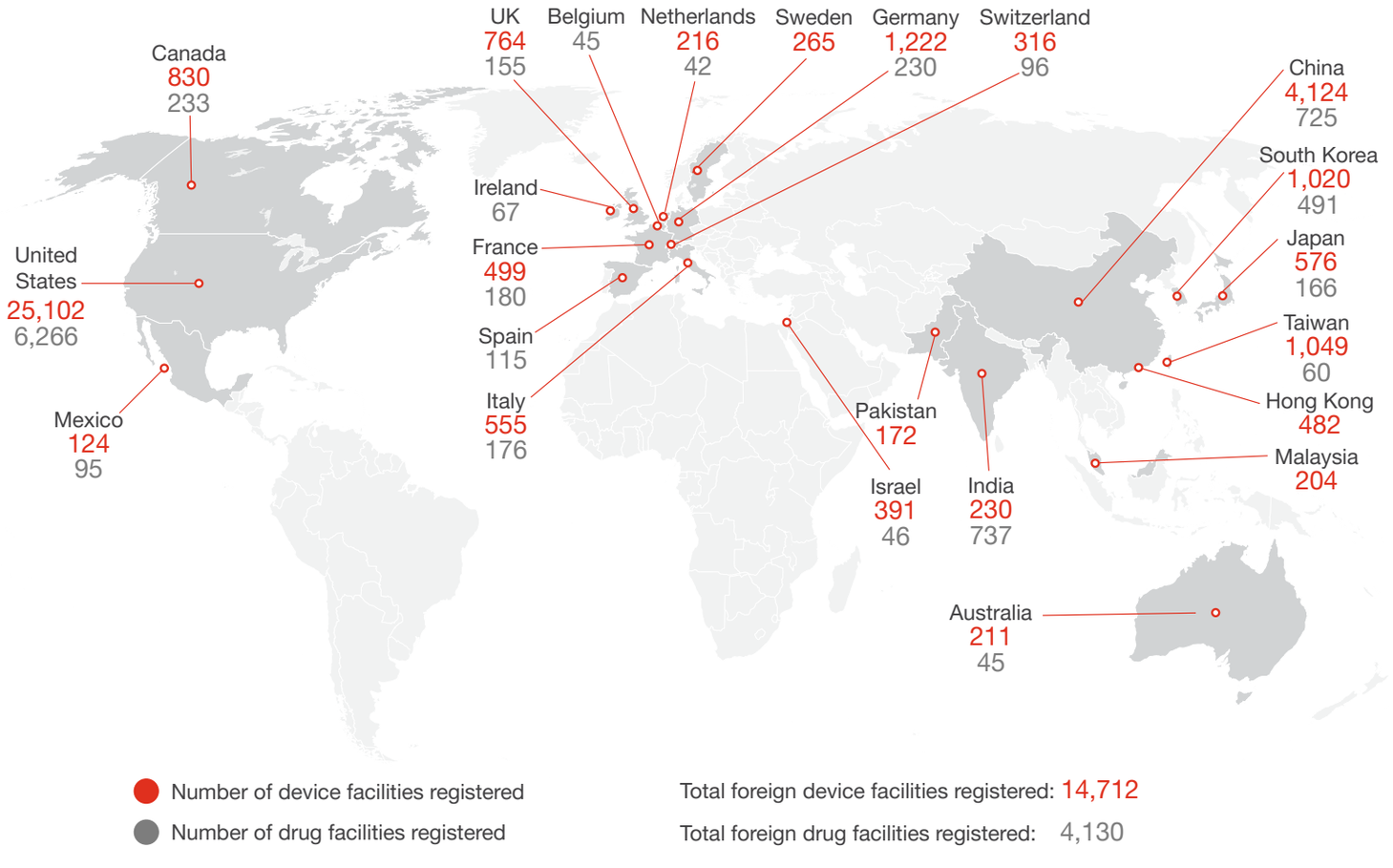
The FDA's response in the crisis could allow more companies to fulfill needs but slow others down.



The COVID-19 crisis has highlighted the US medical supply chain's reliance on foreign manufacturing facilities, including the first drug shortage related to the viral pandemic (see Figure 8).[31]

For all FDA-regulated drugs, only 28% of manufacturing facilities that produce active pharmaceutical ingredients (APIs) are located in the US, according to the FDA. The EU provides 26% of APIs while India provides 18% and China 13%.[32] Among finished dosage products, 47% are completed in the US while 18% are done in the EU, followed by 11% from India and 7% from China.[33]

Figure 8: More than 18,800 medical product manufacturing facilities are registered with the FDA, representing more than $167 billion in annual value



Source: PwC Health Research Institute analysis of FDA facility registration data, Sept. 10, 2018

The FDA is at the center of the federal response to the COVID-19 pandemic, and its choices in the weeks ahead could allow more companies to address critical needs, from diagnostic tests and materials to ventilators, but also slow down business for other parts of the industry.

Take, for example, the US' shortage of diagnostic tests for SARS-CoV-2, the coronavirus that causes COVID-19. The FDA has expanded its Emergency Use Authorization (EUA) for testing, a move that could help diagnostic companies enter the US market more quickly.[34]

EUAs are tools used by the FDA when a public health emergency has been declared and the secretary of HHS determines that circumstances justify the authorization of use for certain medical products. An EUA allows unapproved medical products or unapproved uses of marketed medical products to be used in an emergency to diagnose, treat or prevent serious, life-threatening diseases or conditions.

The EUA for testing allows for the use of diagnostic tests that have not gone through FDA review. The diagnostic test EUA was first issued on Feb. 6 and has been updated twice.[35]

Companies and institutions that wish to submit a diagnostic for the EUA can fill in the blanks in the EUA template if their test uses similar technologies. Companies and institutions that plan to develop tests based on alternative technologies or specimens are asked to contact the FDA directly.

Manufacturers may have to provide clinical samples, but these samples can be from patients in or outside the US, according to the FDA.[36] An EUA could be granted for a test that is approved in a foreign country or by an international agency such as the World Health Organization.[37]

As of March 10, the FDA's website had listed just two tests that had been authorized for emergency use in the COVID-19 pandemic. However, at a March 7 press conference, FDA Commissioner Stephen Hahn said the agency has received over 100 requests for the new template.[38] "Our door is open for any developers who want to have a test for use in the US," Hahn said.

But the FDA giveth, and it taketh away. As of March 10, the FDA had suspended inspections of most foreign manufacturing facilities in February, March and April, a decision that could slow down reviews of new drug applications for products manufactured outside the US.[39]

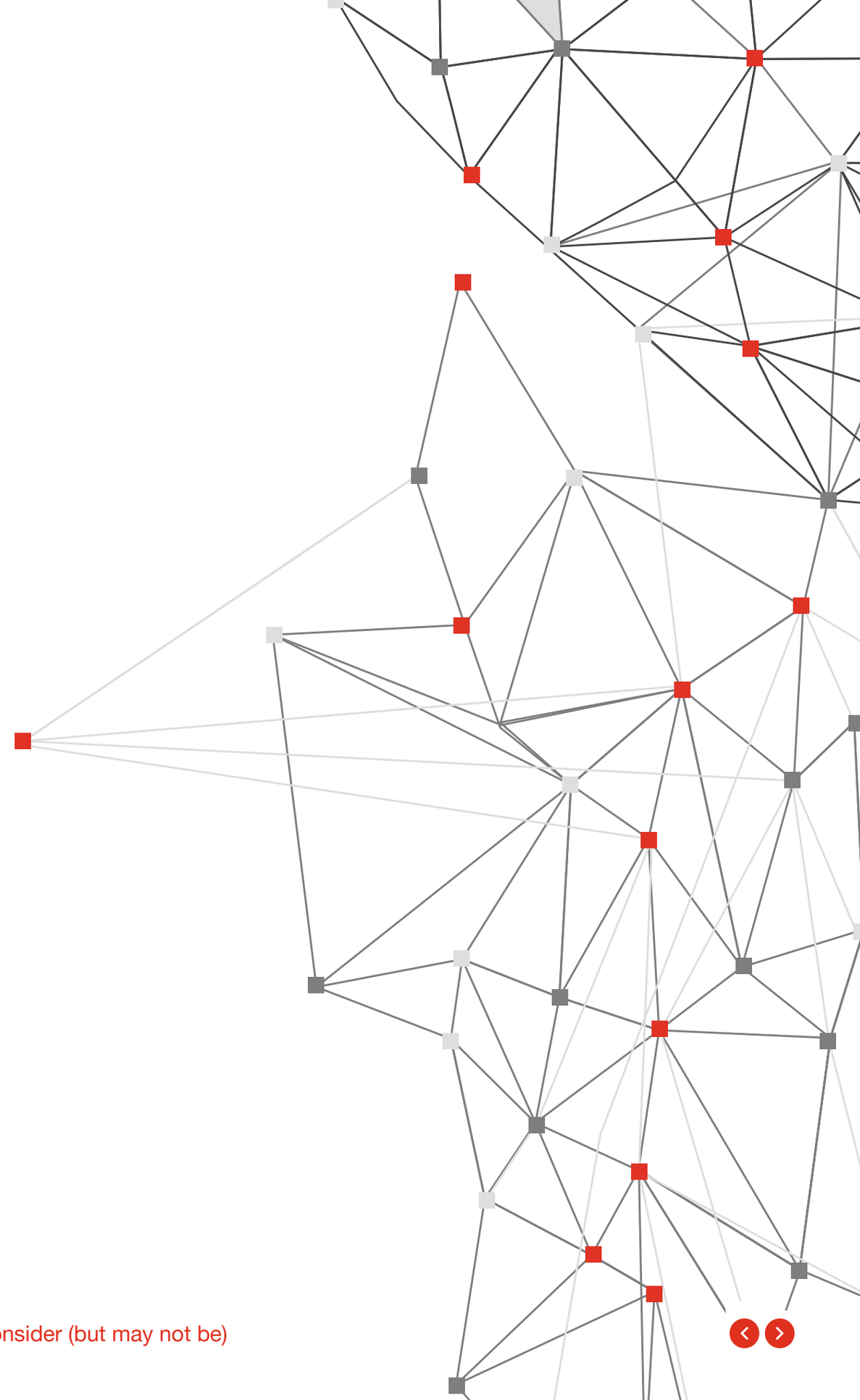
The agency will physically examine and sample products at US borders to help confirm safety, review companies' previous compliance histories and share information with other governments as part of mutual recognition and confidentiality agreements.

A few concluding thoughts

People often cite the 1918 influenza pandemic when reaching for historical comparisons to this moment. Whether this pandemic matches that one in terms of loss of life, disruption to families and transformations of communities remains to be seen.

But comparisons to that outbreak, a little over a century ago, break down when considering the many advantages our healthcare system possesses, including data-driven knowledge of the most vulnerable among us, safer places to send them for care (including telling them to sit tight at home and talk to a physician via video chat) and a global life sciences industry able to deliver critical equipment, medications and devices.

As health organizations prepare and execute their plans, these tools should help them care for the American population that depends on them and trusts them with their lives.



A short primer on COVID-19 and the coronavirus that causes it

COVID-19 is the infectious respiratory disease caused by a microscopic particle, severe acute respiratory syndrome coronavirus 2, or SARS-CoV-2.[40]

The virus is related to SARS-CoV, the coronavirus that causes severe acute respiratory syndrome (SARS), and MERS-CoV, the coronavirus that causes Middle East respiratory syndrome (MERS).[41] Both SARS and MERS cause serious respiratory diseases in people but have largely disappeared as acute threats to human populations.[42]

SARS-CoV-2 likely originated in bats in China, where it was first detected and where the first cases of COVID-19 were identified.[43]

COVID-19 is known to have been spreading among people since December 2019, infecting and killing thousands of people around the world.[44] Much is still unknown about COVID-19, but the illness appears to be marked by fever, a dry cough and shortness of breath.[45] Most cases appear to be mild.

However, for some, especially the elderly and those with comorbidities, COVID-19 can progress into pneumonia, acute respiratory distress syndrome and death.[46]

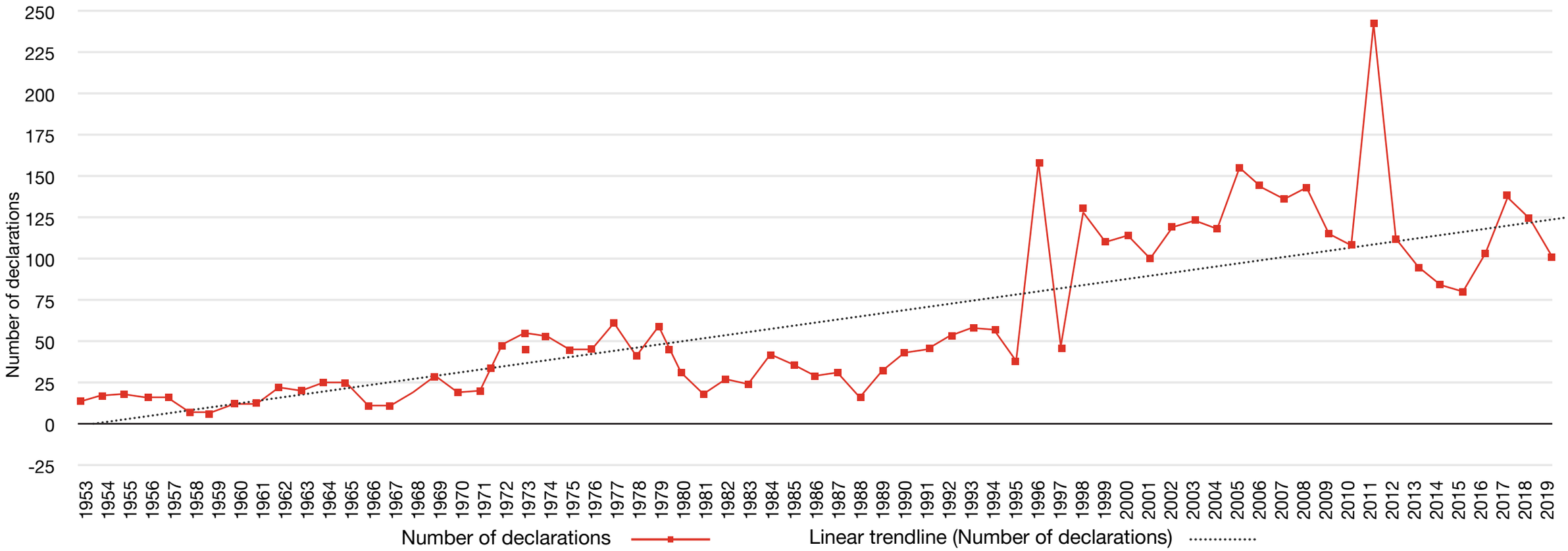
An examination of 72,000 cases of COVID-19 from China found that 8% of patients aged 70 to 79 years died; 14.8% of patients 80 or older died.[47] Overall, 2.3% of the approximately 72,000 people examined by the study died.[48] On March 3, the World Health Organization reported that 3.4% of people with confirmed COVID-19 had died, but the disease's overall case fatality rate remains unclear.[49]

As of March 12, more than 4,700 people were known to have died of COVID-19 around the world, a few months after the apparent start of the pandemic.[50] Governments from China to Italy to Iran to the US have struggled to contain the spread of the virus, which circulates more easily among populations than MERS-CoV and SARS-CoV in part because people appear to shed virus earlier and with fewer symptoms.[51]

Disaster planning: Too little, too late?

Disasters—infectious, natural or manmade—are not rare. In the US, over the past 10 years, there has been a disaster declaration, on average, about once a week (see Figure 9). Over time, the frequency of these declarations has increased. In the first few months of 2020, governors from state after state have signed disaster declarations, which give them more flexibility to act in the face of COVID-19.[52]

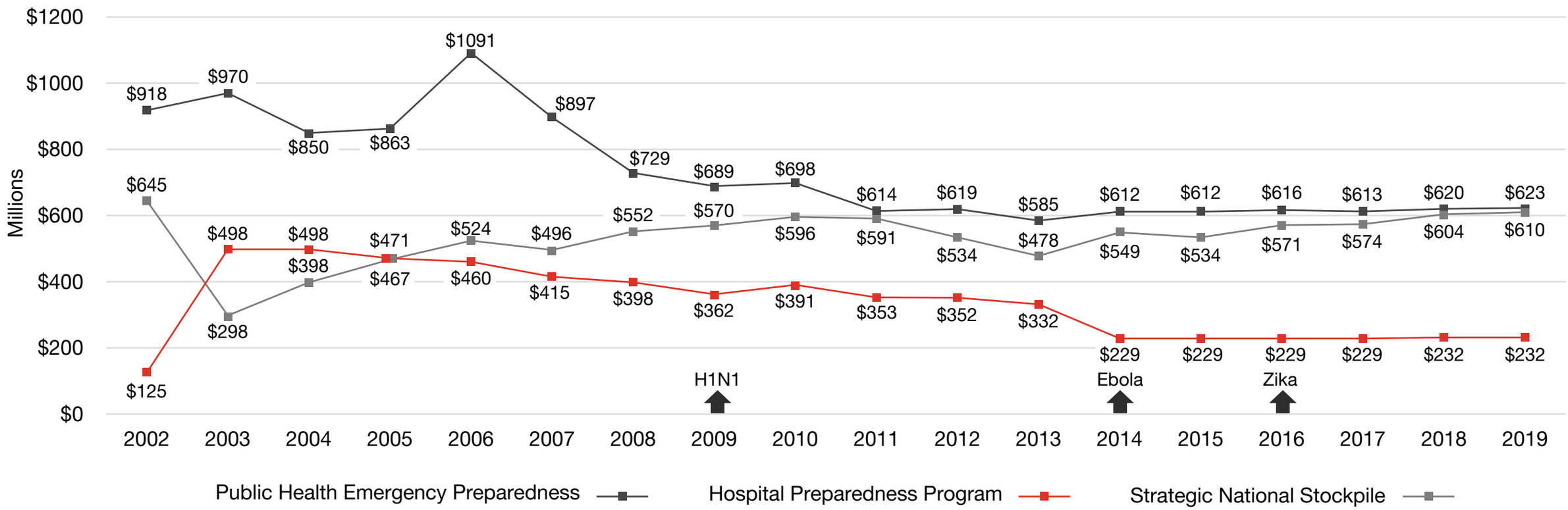
Figure 9: Disasters in the US are increasingly common



Source: The Federal Emergency Management Agency (2020), accessed at https://www.fema.gov/disasters/year
Note: Data shown is through March 10, 2020

Yet, funding for disaster planning, and in this case, pandemic planning, remains rather anemic (see Figure 10). Public Health Emergency Preparedness, Hospital Preparedness Program and Strategic National Stockpile funding has stagnated. Total federal funding for disasters in fiscal year 2019 was $1.47 billion.[53]

Figure 10: Federal funding for disasters has stagnated in recent years

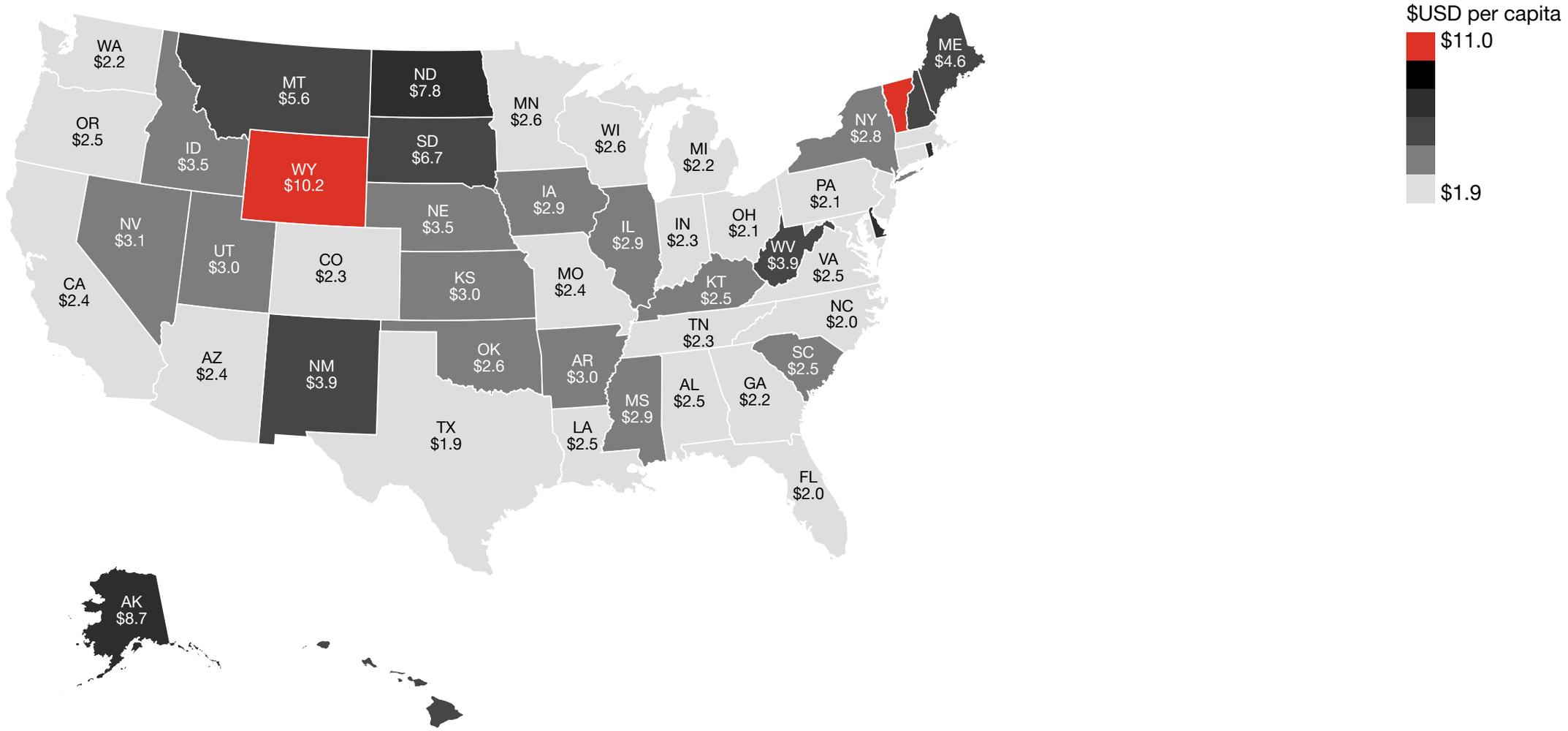


Source: PwC Research Institute analysis of data from HHS Public Health and Social Services Emergency Fund, CDC Office of Public Preparedness and Response, HHS Health Resources and Services Administration.

Note: Figures are not adjusted for inflation.

States can receive federal money to prepare for a disaster, but HRI's analysis found the amounts varied considerably state to state (see Figure 11).[54] Some rural states, such as Wyoming, Vermont, North Dakota, and Alaska – rank in the top five states in federal disaster preparedness dollars per capita; Texas and Florida rank among the lowest. Washington state, among the hardest hit in the earliest days of the COVID-19 pandemic in the US, ranked near the bottom in terms of federal disaster preparedness dollars per capita.

Figure 11: Federal disaster preparedness funding per capita in 2019, in $USD



Source: US Census Bureau, HHS Health Resources and Services Administration, CDC Center for Preparedness and Response. Includes Public Health Emergency Preparedness funding and Hospital Preparedness Program funding.

Endnotes

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About this research

HRI gathered insights from the many consumer, clinician and executive surveys it has conducted in recent years. These surveys have focused on the tenets of the New Health Economy and uncovered how industry players and consumers are progressing towards it. HRI pulled insights from its previous reports which tackled topics such as the future of primary care and retail health, social determinants of health, managing medical cost trend and the pharmaceutical and life sciences supply chain. HRI also took a look back at its 2007 report, *Closing the seams: Developing an integrated approach to health system disaster preparedness*, to understand which insights still held true today and could be put to use in a pandemic response.

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