

# Telehealth— A Digital Communication Approach to Improving Health

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## Key Points

- Potential benefits include the delivery of needed health care services at reduced cost, access that is more readily available or accessible, and improvement of quality and continuity of care in order to quickly address and treat health conditions.
- A lag in consumer knowledge and acceptance, as well as financial, quality, safety, regulatory, and legal concerns, often inhibit rapid adoption of new practices in health care delivery.
- As with any new capability, there are many concerns and considerations when considering telehealth. Certain technological and legislative responses to this area of care could pave the way for a more rapid adoption as well as improving the chances that telehealth will improve outcomes and access while reducing cost.



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## Introduction

Enabled by the innovations of the information age, the patient and provider no longer need to be in the same location for medical care to be delivered. While generally this expansion of treatment capabilities holds promise as a means to improve access, quality, and efficiency, evidence of the degree of its success is still developing. There remain challenges, as would be expected in any change to a system as complex and personal as health care delivery.

Ideally, a health care system strives to provide access to care that is both high quality and affordable. In the United States, where there is an aging population, projected physician shortages, and a continuing stream of clinical innovations, affordability is an increasing concern. In search of ways to address this concern, there is expanding examination of applying the latest communication and information technologies, even in areas where they have been unsuccessfully tried in the past.

Telehealth is not a new concept. Care consultation over the telephone has been available for decades. However, digital technology advances now allow for image and data sharing and an unprecedented level of connectivity previously unimagined. Consumers are also increasingly willing to adopt technology-enabled solutions for many of their activities, such as banking and shopping. These factors suggest enormous potential for increased delivery of health care services via methods other than in-person care.

This brief uses the term *telehealth* as defined for Medicare fee-for-service coverage by the Social Security Act Section 1834(m).<sup>1</sup> Medicare-covered telehealth services are professional consultation, office visits, and office psychiatry services provided to an individual via a telecommunications system by a physician or practitioner. There is a more general definition of telemedicine that includes as services, among others, the remote monitoring of devices and consultations between physicians.<sup>2</sup>

The potential benefits of telehealth are clear. They include the delivery of needed health care services at reduced cost, access that is more readily available or accessible, and improvement of quality and continuity of care in order to quickly address and treat health conditions. Currently, the most compelling use cases involve psychotherapy and services at rural sites, but it is expected that ultimately the benefits will extend to many more services delivered to a broader population.

However, a lag in consumer knowledge and acceptance, as well as financial, quality, safety, regulatory and legal concerns, often inhibit rapid adoption of new practices in health care delivery. This issue brief gives an actuarial perspective of the intricacies of telehealth issues and provides insights into hindrances to its acceptance.

## Patient Perspective

### Coverage

One of the major challenges in telehealth is consistently low utilization among the eligible population. Peterson-Kaiser reports that in 2018, 74% of large employers offered telehealth to their employees in some fashion, but that for enrollees with at least one outpatient claim, only 0.5% had a telehealth visit.<sup>3</sup> In a 2018 report to Congress, the Centers for Medicare and Medicaid Services (CMS) indicated that only 90,000 Medicare fee-for-service beneficiaries received telehealth services—or 0.25% of the

<sup>1</sup> [“Special Payment Rules for Particular Items and Services”](#); Social Security Administration. Generally, services are only covered if the patient is at an “originating site,” which includes certain rural areas or if the patient is part of a federal telemedicine demonstration project.

<sup>2</sup> [E-health and Telemedicine](#); U.S. Department of Health and Human Services Report to Congress; Aug. 12, 2016.

<sup>3</sup> [“More employers are paying for telemedicine, but enrollee take-up has been relatively low”](#); Peterson-Kaiser Health System Tracker; October 3, 2018.

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Medicare population.<sup>4</sup> While there are limiting factors to telemedicine coverage under the Medicare program, this utilization is very low nonetheless.

Medicare allows certain telehealth services but has relatively strict rules governing the delivery and billing. Medicare requires that the originating site—i.e., where the patient is physically located when accessing telehealth services—must be in what Medicare designates to be a Health Professional Shortage Area (HPSA). Medicare also restricts live telehealth to a defined set of Current Procedural Terminology (CPT) / Healthcare Common Procedure Coding System (HCPCS) codes.<sup>5</sup>

The rules for Medicaid vary by state and as such, the availability of telehealth varies. Utilization is still relatively low for Medicaid recipients but greater than that for Medicare. Medicaid utilization is higher in rural areas and there is relatively higher utilization of behavioral health services.

Knowledge of the coverage is frequently cited as a major issue in gaining widespread use of telehealth services.<sup>6</sup> According to a 2017 poll, 72% of respondents were unsure whether their health plan covered telehealth,<sup>7</sup> and as of 2017 according to one report 40% of consumers have never heard of telehealth.<sup>8</sup> Without awareness around coverage and availability, members cannot be expected to seek out telehealth services.

## Acceptance

Even if made aware of access to telehealth, patients may not have confidence that the service will deliver the same value as an in-person visit. According to a recent survey report by a telehealth provider, nearly half of consumers are less comfortable with a tele-visit than an in-person visit, and nearly two-thirds are unsure whether telehealth services would be covered by insurance.<sup>9</sup> This lack of comfort, knowledge, and trust in telehealth can create a significant barrier to consumer adoption of the modality.

One potential consumer benefit of telehealth is elimination of travel time. A 2015 study by Harvard Medical School researchers found that the average time spent on a physician visit was 121 minutes, with 37 minutes of travel time, 64 minutes of waiting, and only 20 minutes of face-to-face time with the doctor.<sup>10</sup> While some would see this as an inconvenience, others—particularly those with lower incomes—might see it as an insurmountable barrier due to lack of transportation, inability to miss work, child care needs, etc. If telehealth is a true substitute for in-person visits, the consumer benefit can be substantial.

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4 [Information on Medicare Telehealth](#); Centers for Medicare & Medicaid Services; November 15, 2018.

5 [The Ultimate Telemedicine Guide | What Is Telemedicine?](#); eVisit; May 25, 2018.

6 [“Why telemedicine has been such a bust so far”](#); CNBC; June 30, 2018.

7 [“Should You Offer Telemedicine Services? Patients Weigh In”](#); Software Advice; August 5, 2019.

8 [“Unlocking the Value of Telehealth”](#); Oliver Wyman Health; March 9, 2017.

9 [“Survey: Consumers remain skeptical on telehealth citing insurance coverage uncertainty”](#); HealthcareITNews; December 21, 2017.

10 [“Opportunity Costs of Ambulatory Medical Care in the United States”](#); *The American Journal of Managed Care*; August 2015.

Some services are more aligned with telehealth protocols than others. In an effort to prove efficacy, early studies have focused on areas where it is expected the benefits are greatest. Many see telehealth as an important component of behavioral health care, where synchronous telehealth visits can substitute for in-person care and the supply of clinicians is a challenge. This would seem to also be applicable to ongoing care such as outpatient “med checks” or periodic monitoring of a patient. And of course, rural areas that are medically underserved for primary care (15% of the population, 10% of the doctors) and even more so for specialty care (approximately 30% of provider specialties available)<sup>11</sup> are fertile ground for telehealth. As physician shortages are projected to intensify in the near future, telehealth can help address the access barriers of underserved populations.

## Financial Perspective

Like any other change in a health care benefit program, the financial implications of adding telehealth can be analyzed by how it changes the utilization of services in addition to how it changes the average unit cost of the services themselves.

### Utilization

Some telehealth services will substitute for other, more expensive, in-person services. For example, an individual might have a remote office visit instead of an emergency room (ER) visit. Other telehealth services will be in addition to existing utilization, induced by the easier access to care. The net change in total cost is a result of how the increases in utilization caused by the new program are offset by how the new program substitutes for higher-cost services. In all cases, it is not just the telehealth service itself that needs to be valued, but all the resultant services that follow, or are forgone afterward.

In the case when a telehealth service is a replacement for a direct cost, the lower cost of the remote service results in savings. In addition, the ability to more efficiently obtain the service should improve access, timeliness, and quality of care.

Offsetting this, if patients use a remote visit and follow it with, for example, a doctor’s office visit, then there is only additional cost. In fact, it is possible that the ease with which patients can now enter the health care system through remote visits results in costs for patients who would otherwise appropriately not seek care at all. Additionally, having entered the system, there are likely costs beyond those for the remote visit itself, such as lab tests and prescriptions for pharmaceuticals.

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<sup>11</sup> [Anticipating Economic Returns of Rural Telehealth](#); The Rural Broadband Association; March 2017.

## Net Cost

Quantifying the financial benefits of avoided services and the reduced charge levels of telehealth services versus the additional costs of induced utilization is a challenge for any study's financial analysis. And any benefits need to be compared against the costs of implementing and maintaining the program.

Telehealth and telemedicine have been studied extensively. As of January 2016, more than 15,000 articles and over 400 systematic reviews were assigned these terms as a major subject heading in the indexing of the National Library of Medicine.<sup>12</sup> The Agency for Healthcare Research and Quality (AHRQ) report: *Telehealth: Mapping the Evidence for Patient Outcomes From Systematic Reviews* reported “sufficient evidence to support the effectiveness of telehealth for specific uses with some types of patients,” but limited demonstrations of cost-effectiveness.<sup>13</sup>

For now, there is a paucity of large-scale credible data pertaining to telehealth utilization and net cost. A recent Rand study<sup>14</sup> of 300,000 patients sought to measure new utilization directly, based “on the actual observed utilization of direct-to-consumer telehealth users.” Unlike results publicized by some telehealth vendors that found that new utilization was about 10%, RAND found that that new utilization was roughly 90%. They estimated that the difference was due to the biases in retrospectively surveying direct-to-consumer telehealth users. As they put it, “Respondents are being asked to discuss their decision-making process for a decision they never actually faced.” Using this estimate of induced utilization, only 12% of telehealth visits represented replacement of more costly office (particularly urgent care centers) or emergency room visits. Due to this increase in utilization, the study found that for members with acute respiratory illness, net spending increased \$45 per telehealth user.

Several telehealth programs have reported more promising results:<sup>15</sup>

- Based on the neighboring state of South Carolina's success with telepsychiatry, North Carolina launched its own statewide telepsychiatry network in January 2014. Besides reducing the ER waiting times to transition into inpatient treatment, inpatient readmissions dropped from 20% to 8%, involuntary commitments to local hospitals decreased 33%, and 84% of patients reported being satisfied with the telepsychiatry services they received.

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12 *Telehealth: Mapping the Evidence for Patient Outcomes From Systematic Reviews*; Agency for Healthcare Research and Quality, Department of Health and Human Services; June 2016; page 1.

13 *Ibid.*, page vii, and pages 39-43.

14 “[Direct-To-Consumer Telehealth May Increase Access To Care But Does Not Decrease Spending](#)”; *Health Affairs*; March 2017.

15 *The Promise of Telehealth For Hospitals, Health Systems and Their Communities*; American Hospital Association; January 2015.

- For a post-cardiac-arrest telehealth care program, the Veterans Health Administration (VHA) reported a 51% decrease in inpatient readmissions for heart failure and a 44% reduction for readmissions from all causes. Additionally, patient satisfaction was at 84%.

## Other Cost Drivers

The balance between easier access and cost savings can be affected by the design of the telehealth program and its interaction with the other health care benefits provided by the health plan. A program targeting ER overutilizers, which provides a financial incentive to call a triage clinician before presenting at an ER, should result in fewer ER visits with only modest additional costs for providing the service and the incentives. However, if the program is available to all participants, it may be that the costs of the triage and incentives outweigh any ER savings.

In addition to targeted triage, as described above, there are other situations where telehealth's benefits would seem to easily offset the costs. Utilization in a rural area may not be sufficient to support a specialist physically present there. However, through telehealth services, the area can still have local specialist coverage without the need to travel to a metropolitan area. In this case the benefits of access to services as well as the total cost savings may be significant, as care is shifting to a more appropriate setting.

Administrative costs and complexity also need to be considered. The costs to a program administrator of setting up a program, coordinating it, and communicating about it, exist even if the program is seldom used. So unless there is significant use—which may only come after the program has been available for several years—the savings of even an effective program could be offset by the administrative costs. Setup and operating costs can be significantly affected by whether a vendor is used or the program is developed in-house.

For providers, vendors, and administrators, there may be an increased need to purchase technical support and spend additional resources to collect patient cost-sharing and substantiate the care delivered for purposes of billing. Of course, there might also be changes in the expenses associated with traditional face-to-face visits, particularly if meaningful portions of telehealth services prove to be replacement versus additive care.

Telehealth programs, their structure, and acceptance are all quickly evolving. Currently the data on telehealth programs' effectiveness is limited. Quantifying the total cost savings, especially for care beyond the telehealth visit itself, is difficult, and there are no generally accepted methods to determine them. Many of the studies involve special situations or are presented by entities with a vested interest in the study results. Plan sponsors are still experimenting with benefit designs, and some regulatory constraints limit flexibility. All of these factors make forecasting the financial results of a particular telehealth program an uncertain proposition.

## Provider Perspective

Medical professionals evaluating the telehealth landscape have a lot to contemplate: How can quality be maintained or even improved when treatment spans geography? Is it possible to simultaneously maintain or improve quality, service, access, and convenience? How can operations be structured to improve overall efficiency? What are required investments and the expected payback period? How should they deal with a regulatory environment that did not assume a telehealth modality? Each of these topics is considered below.

### Quality

As telehealth expands to different types of services—from psychotherapy to providing initial assessments in primary care to other services such as dermatology—there will be an emphasis on measuring processes, results, and assurances of quality. The measurement of aspects surrounding the quality of services is currently in its infancy, with only a few initiatives currently overseeing such assessments.

The National Quality Forum (NQF) is the primary organization that evaluates and endorses evidence to support quality measurements when submitted by various public and private-sector organizations. The NQF report *Creating a Framework to Support Measure Development for Telehealth*<sup>16</sup> recorded the work of a multi-stakeholder committee to provide input and development of a framework for telehealth performance measures and their concepts. This was intended to support future efforts to advance quality measurement for telehealth. NQF categorized measurement concepts for telehealth into broad domains:

- Patient access to care;
- Financial impact and cost;
- Patient and clinician experience; and
- Effectiveness of clinical and operational systems.

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<sup>16</sup> [Creating a Framework to Support Measure Development for Telehealth](#); National Quality Forum; August 2017.

Quality of care should be considered in each of these domains, “as each of these affect the quality of a health outcome or process.”<sup>17</sup>

NQF recommended six concepts as highest priority for proposed measurements in telehealth:

- Travel;
- Timeliness of care;
- Actionable information;
- Telehealth’s added value in evidence-based practices;
- Patient empowerment; and
- Coordination of care.

These concepts reinforce the maintenance or improvement in health outcomes and patient experience, specifically in a telehealth environment.

Beyond the general desire to ensure quality for patients seeking care through telehealth providers, quality measures can also alleviate physician concerns that they may get lower reimbursement than if they had otherwise seen someone in person, or that telehealth could undermine the doctor-patient relationship. And demonstrations that quality is maintained or improved in telehealth can foster patient acceptance and adoption.

It is possible that increased access to telehealth services could increase utilization for conditions that do not require medical intervention. If this occurs, the overall quality of care might not be improved significantly even though the overall incidence of telehealth visits might increase.

### **Treatment Environment Considerations**

Providers are held responsible for the environment in which treatment is performed. In fact, from a patient’s perspective, perceived quality can be determined more by the subjective environment than the objective clinical practice. Generally, providers do not willingly adopt practices, telehealth or otherwise, that are not expected to be safe and satisfying for patients. Threshold questions therefore include: Can telehealth be delivered in such a way that it preserves or increases customer satisfaction in addition to quality as evaluated by clinical measures? What is the appropriate level of patient interaction for the telehealth encounter? Which services should be offered?

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<sup>17</sup> Ibid., page 7.

In theory, telehealth should increase patient convenience and access to providers, but this outcome is not guaranteed and will only be achieved through thoughtful design of processes and requisite investment in technology and education. Of paramount importance is the degree to which telehealth visit information can be shared with a patient's other providers. This "interoperability," especially of disparate electronic medical records (EMRs), is a current problem area in more traditional medical care, as well as with telehealth.

Providers also need to decide when and how to position telehealth as a preferred alternative to an in-person visit. A recent study published in the *Journal of the American Medical Association* (JAMA) focused on tele-dermatology results, with mixed findings. In only 23% of cases was the patient asked for their existing primary care provider, and in only 10% of cases were patients offered to have medical records sent to their personal care physician (PCP).<sup>18</sup> This lack of integration with the member's PCP can be an impediment to care coordination, which must be solved to ensure these interventions fit within the scheme of coordinated care and PCP-centric delivery systems.

### Operational Considerations

Despite enormous potential, designing a seamless digital customer experience for complex professional services does not happen without thoughtful design, investment, and execution. Executed well, and at scale, there is potential for decreased unit cost, but this is not an inevitable or immediate outcome.

In the 2017 survey report cited above, *Closing the Telehealth Gap*, the necessary investment in technology is viewed as the top obstacle to telehealth adoption and is cited as an issue by 50% of the providers surveyed.<sup>19</sup> In order to deliver on the promise of telehealth, providers must first have the robust technological infrastructure by which to deliver services. This requires investment in technological resources, and without more clarity around reimbursement for, and savings from, telehealth, it is difficult to justify investment in this technology.

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<sup>18</sup> "[Choice, Transparency, Coordination, and Quality Among Direct-to-Consumer Telemedicine Websites and Apps Treating Skin Disease](#)"; *JAMA Dermatology*; July 2016.

<sup>19</sup> *Closing the Telehealth Gap*; Avizia; 2016.

These necessities tend to favor larger, well-capitalized groups at a minimum or, increasingly, capital-backed organizations specializing in telehealth. Providers contemplating telehealth alternatives should also be mindful of existing virtual competitors. Some corporations have existing business relationships with prominent commercial payers and seemingly have the size and scale to partner well with large organizations. These companies also offer direct-to-consumer options, potentially limiting market potential for new entrants.

Another consideration for an organization that aims to expand into telehealth is how to efficiently incorporate telehealth into operations. An efficient video visit requires that provider and patient are both available at the same time, with a reliable, high-quality, secure connection even for relatively routine services.

In addition to the right investment and solid operating model, both the patient and provider need to progress along a learning curve. This might not be realistic for a specialty that typically attracts one-time patients.

Less daunting—but perhaps as important as the challenges above—is the ability to document and bill for telehealth services provided, which will be key to viability of the delivery option.

## Regulatory and Legal Perspective

There are challenges with the implementation of telehealth within the regulatory bounds that exist today—many of which are based on traditional provider/patient relationships. When medical care is performed by a provider and patient in a single location, state jurisdiction is clear. But when the provider and patient are in different states, regulatory requirements could be unclear or cumbersome. Also, the tools developed to expose and control fraud, abuse, and waste might need to be enhanced.

### State Regulation

Provider licensure is one such issue. Each state is responsible for its own provider licensure requirements and 49 states, as well as the District of Columbia, Puerto Rico, and the U.S. Virgin Islands, require the physician to be licensed in the state in which the patient is located.<sup>20</sup> This means that providers offering telehealth services nationwide

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<sup>20</sup> “[Telemedicine Policies—Board by Board Overview](#)”; Federation of State Medical Boards; undated.

need to obtain licensure in virtually all states. Fourteen states require providers to obtain a special purpose or telehealth-specific license, while four states require a physician to register if they wish to practice across state lines.<sup>15</sup> These variable requirements by state can make it difficult for providers to obtain licensure to provide telehealth services to patients across the country and ensure they are meeting the applicable requirements of each state. Some states have responded through the Interstate Medical Licensure Compact, which allows for license reciprocity for providers practicing across state lines. Currently, 29 states (as well as the District of Columbia and the Territory of Guam) have joined the compact, with legislation to join having been introduced in one additional state.<sup>21</sup>

The regulatory environment around online prescribing is another challenge for providers practicing telehealth. Historically, online prescribing of controlled substances has been governed by the Ryan Haight Online Pharmacy Consumer Protection Act of 2008.<sup>22</sup> The act requires that providers issuing a prescription for a controlled substance first have an in-person exam with the patient or meet one of seven narrowly defined exceptions. This is a significant impediment to the practice of certain fields such as telepsychiatry, as well as a challenge to telehealth practice in general. The recently signed SUPPORT for Patients and Communities Act<sup>23</sup> requires the U.S. Drug Enforcement Administration (DEA) to issue regulations defining a special registration process for telehealth providers to issue controlled substances, which is expected to aid in telehealth's use in treating patients with substance abuse disorders.

## Legal

As the use of telehealth increases, the concerns regarding malpractice and liability exposure will also increase. Allegations of malpractice can cover a broad range of situations, including, but not limited to, incorrect diagnoses, incorrect interpretation of diagnostic imaging, miscommunication resulting in a patient's failure to follow the appropriate next steps, incomplete telehealth examination, performing a telehealth examination when the condition was better suited for an in-person exam, negligent prescribing resulting from telehealth exam, and failure to consult a specialist if necessary.

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<sup>21</sup> [Interstate Medical Licensure Compact website.](#)

<sup>22</sup> [H.R.6353—Ryan Haight Online Pharmacy Consumer Protection Act of 2008.](#)

<sup>23</sup> [“SUPPORT for Patients and Communities Act.”](#)

Trying to determine what actually happened when an allegation arises can get quite complex. For example, consider a situation in which a physician in one state wrote a prescription for a patient in a different state based on the telehealth exam and images that were transferred by the patient. What if the patient subsequently had a severe and debilitating reaction to the medication? A variety of questions can arise in trying to determine what actually happened, whether the provider is at fault, and whether there should be any repercussions. These include:

- Was the telehealth exam comprehensive enough to diagnose the patient?
- Was the connection (e.g., phone, computer, or tablet) used for communication clear and uninterrupted?
- Were images that were transferred clear, undistorted, and detailed enough to make an appropriate diagnosis?
- Could a break in the connection (e.g., power outage, internet lapse, etc.) have created a misdiagnosis?
- Did the symptoms described by the patient suggest that an in-person examination would have been more appropriate?
- Was the physician appropriately credentialed and qualified to give care in the state of the patient?

These questions highlight some major concerns regarding liability:

- Incorrect diagnoses and prescribing—If the information transmitted from patient to provider is flawed, resulting in an inappropriate diagnosis, who is responsible?
- General malpractice complexities—Could miscommunication have been caused by the connection or malfunctions of the technology? To what standard should the provider be held to assure that information received is correct?
- Cybersecurity—How would a data breach be handled? All applicable laws such as the Health Insurance Portability and Accountability Act (HIPAA), the Health Information Technology for Economic and Clinical Health Act (HITECH), and the Children’s Online Privacy Protection Act (COPPA) would still apply.
- Fraud and abuse—Both the patient and provider need to be correctly identified.

Steps can be taken to mitigate these concerns. Providers can be appropriately licensed and credentialed. Technology can be of appropriate quality and secured to minimize the cyber risk. All applicable regulations can be followed in both the state of the patient and the state of the provider. There are always exceptional cases in medicine, and ambiguous regulation and legal jeopardy may delay adoption of this new technology.

## Conclusion

As with any new capability, there are many concerns and considerations when considering telehealth; some of these have been discussed in this brief from various perspectives. Certain technological and legislative responses to this area of care could pave the way for a more rapid adoption as well as improving the chances that telehealth will improve outcomes and access while reducing cost. These responses include:

- Consistent definition of telehealth;
- Standards for reporting of telehealth encounters to PCPs;
- Standards for disclosure of telehealth benefits for health plan enrollees;
- Data privacy standards; and
- Technological standards.

It is clear that the advances in communications and digitalization make the case for telehealth stronger each day. Even today, telehealth improves the delivery of needed health care services in remote areas at a reduced cost, creating a channel of access to health care where little if any previously existed, and improving quality and continuity of care to quickly address and treat health conditions. It is reasonable to expect the services provided and the populations served will expand in the days ahead.

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