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Transforming the Experience of Care in the Home: Opportunities and Challenges

Presented by the Georgetown University's AgingWell Hub and the Long Term Quality Alliance

"We must be dedicated to seeing that all Americans receive high-quality, patient-centered care that is consistent with their goals and values."
- *Bill Novelli*

"Let's face reality – as currently constructed, our systems cannot produce the capacity or resources that will be needed by future generations. We simply do not have sufficient caregivers….. Technology offers the promise of enabling more adults with disabilities and chronic disease to remain in their home. I cannot envision changing the paradigm of homecare in the future without leveraging the power of technology"
- *Carole Raphael*

On April 9 and 10, the AgingWell Hub and the Long Term Quality Alliance convened a cross sector group of thought leaders to examine the impact that technology can have on long term services and supports (LTSS), and to speak, collaborate, workshop, and generate ideas for how technology can transform long-term, home-based care. This convening occurred in Washington, DC. At Georgetown University's McDonough School of Business. Participants came from a variety of organizations— payors, providers, health tech innovators, policy and advocacy groups, government agencies, foundations, health and human services agencies, think tanks, and universities – chosen specifically for their broad range of perspectives and areas of expertise.

The convening took place at a time of significant stress in the long-term care industry. As the population of older Americans grows rapidly, and older adults are living longer with chronic conditions, the need for LTSS threatens to place an unsustainable burden on the public health system. As the administration considers making significant changes to healthcare delivery, and as changes in technology advance at an ever more rapid pace, the discourse around how to improve quality of care while containing costs is gaining momentum. Innovation and cross-sector collaboration will be critical for this to be achieved, but very frequently there's a gap between what tech innovators are developing and what payors and providers believe can generate a positive ROI for them at a time of limited resources.

The convening was designed to a) Identify the size and scale of the opportunity to transform LTSS by leveraging the power of technology to address gaps in care; b) Surface and highlight the challenges that the industry is facing in deploying technology to improve long-term, home-based care and LTSS; c) Hear from experts on the topic, both technology innovators and traditional LTSS providers, to glean their perspectives on where technology is and isn't being used effectively for LTSS; and

d) Establish a productive, cross-sector environment for diverse parties to workshop solutions, build dialog, and solidify relationships between cross sector players so that they have a base from which to collaborate in the future.

The summit included brief panels followed by workshops of cross-sector groups, and focused on three topical "buckets":

- Technology to Promote Independence;
- Technologies to Enable Cross-Sector Collaboration
- Technology to Enable Virtual Delivery Systems.

Opening Keynote: Dr. Vivek Garg, CMO, CareMore Health Plan: *Holistic Care and the Imperative and Opportunity for Transformation of in-Home Support.*

Dr. Vivek Garg opened the conference by surfacing common challenges that long-term care patients, providers, and caregivers face, but that continue to remain unaddressed in the majority of cases. CareMore is a clinical organization that serves 150,000 patients with significant health challenges who require intensive medical care and generate Medicare and Medicaid billings of $1.4 billion per year.

Dr. Garg set the stage for the discussion by detailing key challenges that continue to confront the medical system: fragmentation of care delivery, the crippling costs of long-term care, social isolation, the mismatch between fee-for-service payment models and the reality of care delivery for chronic disease, and the difficulty for patients of making decisions around their own health while feeling sick, frail, and alone.

"The effectiveness of home-based care is limited by fragmentation of care…..we believe avoidable hospitalizations can be prevented if the right intensity and integration of clinical care happens with other services"

Garg outlined the benefits that CareMore has been able to realize as a result of its bundled payment delivery model and creative approach to care, crediting its approach with reducing hospital admissions by 20% and reducing length of stay by 40% in its patient population. He pointed out that home-based care and house calls are becoming an increasing trend in the US, and that outcomes in patient populations who receive pro-active, home-based medical care are greatly improved.

We've designed care to make you isolated and more economically frail in your greatest time of need. How in the world are we subjecting patients to 15-minute visits when they're facing the complexity of issues we're talking about? …….We need a real marriage of clinical care and LTSS."

Finally, Garg advocated for better care coordination, less fragmentation of care and service delivery, and better systems to support patient decision-making. Technology can play a critical role is achieving this by providing a mechanism for information sharing, predictive data gathering, communication, and remote care delivery.

Keynote Interview: Nancy-Ann DeParle, *Co-Founder of Consonnance Capital, and Former Director of the White House Office on Health Policy*

"Chronic disease is responsible for close to 80% of hospital admissions. And 90% of prescriptions are written because someone has a chronic illness. Those people usually have on average nine prescribers……There's an opportunity to save $45 billion a year if you can improve care coordination."

Ms. DeParle's extensive career spanning policy oversight, policy creation, and equity investing provided a unique perspective for the convening on how innovators and entrepreneurs can improve their success in raising capital, understanding regulations and payment models, and providing compelling ROIs to providers. While she acknowledged that the pace of widespread deployment of technologies to support long term care has historically been slow, she is optimistic that the pace will accelerate in the coming years.

"I know it's frustrating to think of waiting two years at the innovation center to get a demonstration launched. But it's already been eight years since the Affordable Care Act passed and so much has happened, so many new companies have been launched and financed."

Payment models continue to be a challenge to innovation; as long as various providers in the care continuum have different financial incentives, it will be difficult to gain sufficient scale of new technologies. DeParle noted that the ability to prove a clear path to a positive ROI for health delivery partners is critical to technology adoption; a consumer-funded model is unlikely to deploy home-based technology solutions in large numbers.

"When you get into healthcare, the question is who's going to pay for it? Who's going to think that it "moves the needle" for me in such a way that I'm going to pay for it because I'll get a return on investment? Let's be honest, the number of people with chronic conditions who can afford to pay for any technology other than their smartphone is pretty small. So you have to be able to show that it helps a provider group or plan prevent a hospitalization or prevent readmission, which will generate huge savings for them and a better outcome for their patients."

Medicare law, enacted more than 50 years ago, specifically states that the agency can only reimburse for "items and services that are reasonable and necessary for the diagnosis or treatment of a disease or a malformed body member," and changing that law requires an act of Congress. As a result, DeParle's outlook is that funding for new technology solutions will more likely be driven by bundled payment plans, diversified providers, and integrated care organizations.

Reflecting on her roles in creating CareMore and in serving on the board of directors of CVS, DeParle clarified that large-scale players in the market understand the vulnerability of those living at home with chronic care needs, and are pinpointing methodologies to allow patients to be more successful in managing their conditions independently. She forecasts that attention to the social determinants of health will feature more broadly in the policy landscape going forward.

"But that issue -- the social determinants of health -- is starting to be more and more discussed not just in policy meetings but also by payers, and at the state level too, as being a legitimate thing to look at, not just the clinical diagnosis of a person but also the other factors around it."

Deparle closed by reminding attendees that The Office of Innovation at CMS is actively seeking proposals now, and is a strong resource for finding funding to prove positive ROI to providers in care settings.

Panel Discussions and Round Tables

Core Issues

The summit was designed to provide a forum for dialog, debate, and collective problem solving with the cross-sector group of experts who had convened. To that end, there were three brief panels of experts to frame the high-level issues around deploying technology to support independence, technology to improve care coordination, and technology to enable virtual care delivery. Following the panels were 90-minute-long workshops in which attendees worked together to surface critical opportunities and challenges to advancing technology to support LTSS more broadly.

The panels and working groups clarified that the gulf between innovators and incumbents is still very large, causing asynchronous business models to emerge, and the distribution funnel to get jammed. Innovation will continue to struggle until more bridges are built to tackle the impediments to wide-spread deployment of technology. Some themes to describe/detail the elements of that gulf emerged from the working groups and panels.

1. The scale of the need for LTSS:

As the population of Americans 65+ grows at a rate of 10,000 people per day, and as life expectancies continue to extend due to advances in treatment for long term care, we should anticipate that the population needing home-based, long-term care will expand considerably. With the need growing at such a rapid pace, rolling out new care models runs the risk of resulting in chaos if deployment isn't managed tightly and closely observed. Current statistics indicate that the scale of the challenge is massive:

- 80% of older Americans live independently; 1 in 4 live alone
- 80% of those living alone at home have 1 chronic disease; 77% have 2
- Every 15 seconds, a home-based older adult is treated in the ER for a fall
- 2 million Americans aged 65+ rarely leave their home
- 40% of aging Americans are lonely – the health equivalent to smoking 15 cigarettes a day
- The average net worth for Americans aged 75+ is less than $200K; the out of pocket expenses of the last 2 years of life are estimated to be $225K

Extraordinarily close care coordination and expansive training to care workers will be required for technology innovations to be safely and cost efficiently integrated into current care delivery models at this scale. Without constant cross-sector coordination, achieving implementation at scale will be close to impossible. New types of relationships will be a crucial factor in addressing the needs of LTSS patients in useful and innovative ways

2. Complex, Cumbersome Payment Models:

As Ms. DeParle noted in her keynote interview, Medicare's charter does not include funding much of the assistive technology currently being designed to support long term care in the home. While some devices are covered (glucometers, for example), it is not realistic to expect that Medicare's reimbursements will keep pace with the rate of innovation in technology. As a result, innovators frequently find themselves with products that solve important problems and work well, but aren't well matched with a payment stream that can fund roll out at scale.

Most of the attendees agreed that large-scale Medicare reform is unlikely in the short term, so finding other paths to payment will be critical. And attendees agreed that most patients are unlikely to fund tech

supports to LTSS out of pocket. As a result, there is a burden on the innovator to identify families, payors or plans who believe that the new technology will "move the needle" in such a way that they'll fund it. For payors and plans, an innovator would be required to be able to show that the technology can help prevent a hospitalization or readmission, which would create significant savings. But innovators receive unclear information from payors and plans regarding the specifics of pilots whose outcomes would be credible and applicable to their ROI model. There remains considerable confusion around how to get "beyond the pilot," and how to get families engaged in the technology roll out so that they can act cooperatively to drive more successful outcomes.

Furthermore, frequently financial incentives aren't fully aligned across sectors or provider entities – for example, state incentives may not match federal ones – and the tech innovator is forced to walk a tight rope between the two. Payors and plans advise innovators at this juncture not to enter the market as a result of issues that have affected them in their personal experience, but rather to remain steely focused on finding a compelling revenue stream.

3. *Misalignment of Timelines between the Technology Market and Healthcare Delivery Systems*

As Gordon Moore, founder of Intel, articulates in his eponymous law, the processing speed of microchips doubles every 18 months, causing exponentially faster capacity for technologies. The core technology market has encountered few downsides to this ever-quickening pace, and tech investors have become accustomed to rapid market feedback to new technologies and, therefore, rapid returns on investment. As a result, innovation cycles in technology are highly compressed, and increasingly out of step with the pace of change in the worker-intensive, heavily regulated industry of healthcare delivery and LTSS.

A core objective of the summit was to bring together those on opposite sides of this timing issue to provide insight and actionable approaches to bridging this timing gap. The group raised the following as examples of hurdles that need to be addressed in order to bridge the gap:

- Early stage investment capital needs feedback on a shorter time frame than LTSS models can support
- Timing and metrics of pilots are often unclear, slowing feedback mechanisms to tech innovators and consuming scarce capital
- The double hurdle of oblique payment models and heavy regulation slows down market feedback so much that tech capital becomes hard to raise, and healthcare capital is frequently skittish about investing in technology
- Consumer tech adoption rates are far faster than the channel's adoption rates for health tech. As a result, when health tech actually makes it to the market, it looks clunky and dated, impairing consumers' desire to use it.

4. A Cluttered, Fragmented Marketplace:

Following on the issues regarding speed of innovation in technology, the misalignment between the volume of innovative technology that's being created and the channel's capacity to vet that technology is making for an overwhelming marketplace. Payors and providers are overwhelmed with pitches, frequently receiving 100 or more overtures a week. Many of the tech solutions offer similar, niche benefits and capabilities, and the payors and providers struggle to differentiate. Providers implored the innovators to err on the side of brevity with their pitches, summarizing their capabilities succinctly and articulating their differentiating characteristics.

Innovators must steer away from "boiling the ocean", but, rather, to solve one meaningful problem well. This allows distributors and providers to identify specific outcomes to measure in pilots and roll outs. An unintended consequence of this focus, however, is multiple innovators offering niche products that overlap significantly with each other, and siloed solutions that can't prove a sufficiently robust ROI for distributors and delivery organizations to move into full scale roll out. The upshot is that the market is overpopulated with solutions that are too narrow, too redundant, and not generating a sufficient payback for incumbents to feel comfortable moving into launch mode.

DeParle described this as the "Goldilocks problem": innovators must find solutions sufficiently broad that a robust ROI is a realistic outcome, but not so broad that the products get trapped trying to please multiple stakeholders with conflicting business goals and ROI hurdles.

5. *Designing Products and Solutions for Multiple Stakeholders:*

Tech innovators need to be mindful of the variability of incentives, skill sets and use cases that exist with the vast scope of users and funders of their products. Training a LTSS patient, their family caregiver(s), their homecare worker(s), and their medical practitioner(s) *and then* convincing a payor to fund it can prove extremely costly and time consuming to all parties involved, particularly when core skill sets and tech infrastructure varies so greatly among stakeholders.

In addition, the attendees highlighted the imperative of understanding the unique challenges of caregivers, both professional and unpaid, who are largely responsible for making innovation actually function on the ground. Currently, the home-based companion care work force turns over at a rate of approximately 30% per year. As a result, training is expensive; care organizations are struggling to get their new employees up to speed on basic practices before they're even able to contemplate training staff on new products and techniques. Companion care workers, by and large, get paid minimum wage which, in metropolitan areas, places them perilously close to the Federal Poverty Level, particularly if they don't work full time. Care workers are therefore frequently working multiple shifts with different agencies and experiencing burn out. The situation is high stress, and a difficult one in which to innovate.

Family Caregivers present similarly challenging circumstances for introducing new technologies. Many of them aren't trained or full-time caregivers, many lack an up to day technology skill set or comfort level, and many are too stressed by the grief and anxiety of the caregiving situation to be able to integrate a new way of doing things into their already complicated, overburdened life.

Physicians and other health practitioners raised the importance of interoperability; it's simply unrealistic, given the time constraints on most care delivery organizations, to expect that they will be able to run parallel technology systems without an ability for data, notifications, and archiving to be compiled into a single delivery platform. Unfortunately, interoperability is technically difficult to achieve, typically very time consuming, and frequently not a realistic feature prior to some a pilot or proof of concept period, yet delivery systems shy away from piloting solutions where interoperability isn't already confirmed. This creates a difficult chicken and egg conundrum for innovators.

Conclusions and Recommendations

There is an abundance of innovative thinking developing in the broad landscape of Long-Term Services and Supports. Whether it's advocacy around Livable Communities, breakthrough technologies, repurposing of familiar technologies, experimentation of payment models, or re-imagining the workforce of the future, ideas are being generated at a greatly accelerated pace. The challenge is getting those innovations to be deployed at scale. Payment models, workforce realities, tech and data interoperability, and fragmentation of care all combine to hamper widespread diffusion of technology innovations to support LTSS.

The essence of innovation is navigating choices; no invention can solve all problems. In the case of technology to support LTSS, the balancing act required of innovators is a tight rope walk that's proving extremely challenging for too many parties. Furthermore, incentives are frequently mis-aligned, sending innovators conflicting signals, and they are forced to make business decisions based on asynchronous information.

In order to address these challenges, we need more cross-sector partnerships and collaborations, better exchange of information about ROIs, shared risk among innovators and incumbents, and evolving payment models such that incentives are aligned to offer proactive care to those who are at greatest risk. Providers and payors need to evolve their pilot metrics such that they can assess ways to address sizable niches with solid solutions rather than waiting to proceed with roll out until the entirety of a highly diverse set of stakeholders can be served flawlessly.

Without broad industry collaboration, the pace of adoption of newer, more efficient, higher quality LTSS will be too slow to meet the needs of the patient base. We need to add new models in the form of public/private collaborations, and state and local programs. And the industry needs to look toward existing, widespread consumer technologies and understand ways to build off of what existing consumers know rather than continuing to re-create the wheel.

Finally, innovators need to build mechanisms to modulate their timing to accommodate the more risk-averse, measured pace of health care. They must start their journey of innovation by listening to the needs of their multiple stakeholders and understanding payment models rather than starting with a technology and then searching for a use case.