Weaving technology into person-centric care

How technology bridges healthcare management
and social services delivery

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Introduction

Imagine the theoretical but realistic case of Elizabeth, a 40-year-old woman. Her job includes a lot of driving each day. She suffers from chronic type 2 diabetes and has been told that an amputation is now necessary.

She's a single mother with a five-year-old son, and she lacks both family and community support. In addition, post amputation, she will qualify for sickness benefit and afterwards disability benefit, with functional and vocational rehabilitation support.

Elizabeth's ongoing care will require support from not just her healthcare provider for both her physical and mental well-being, but also from social services and social security to ensure she's able to support herself and her son in the future. It's a complex but sadly all too common situation.

But what if it were possible to anticipate some of Elizabeth's needs and potential barriers? Is there a way to coordinate Elizabeth's health, social care and social security while also ensuring that she feels informed and supported? What if all care providers worked from one coordinated plan?

Bridging the Gaps

In Elizabeth's case, she's being viewed as a patient from a healthcare perspective. For social security and social services organizations she's seen as a citizen or resident needing services. But that's not enough. In a perfect world, Elizabeth would be part of a coordinated program that wraps physical, mental, community, social security and social services around her and her son. This ideal scenario would allow those involved in Elizabeth's service delivery to access relevant information, curated for their unique role. The result would be a holistic plan that's proactive and collaborative, rather than reactive and siloed.

However, today, neither the healthcare systems nor the social services agencies can manage total well-being. Healthcare providers, for instance, aren't equipped to disburse disability benefits. And a case manager isn't trained to treat a broken leg.

Merging systems is not the answer. But we can focus on the one thing that everyone agrees on: ensuring people like Elizabeth have access to the coordinated care and services they need to live their best lives.

Technology Can Make the Difference

Technology will never replace humanity. Yet digital tools offer a way to extend care and supplement staffing. Technology can help experts understand and access data on complex health and social situations. And technology can also help give back time to everyone involved.

Data use is implicit and a key common factor in connecting people to care. Transforming data into knowledge and using it to think ahead is paramount.[1]

"Transforming data into knowledge is paramount."

Hector Upegui, MD, Dc, Chief Health Officer,
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Real-World Examples

Digital tools can enhance access to care and services for patients, families and communities. They can also help healthcare staff and caseworkers streamline their work. Instead of reaching a handful of individuals per day, they can reach hundreds when equipped with the right tools.[2]

Below are examples of how data, AI and algorithms help integrate care and extend services.

More personalized services

According to the World Health Organization, most deaths from flu in industrialized countries occur in people 65 or older, and a flu vaccine is the top prevention recommendation.[3] A shipment of flu vaccines to a clinic during a vaccine shortage may require swift action. Through Merative™ and Phytel® solutions, one staff member could personalize and send a text to hundreds of high-priority patients simultaneously. It could alert them to vaccine availability and clinic hours, for instance.

Tackling mental health needs

Globally, the majority of those who need mental health services lack options.[4] Virtual appointments expand access to mental and behavioral health providers in unprecedented ways. Thanks to virtual visits, one US health system reduced teenagers' average wait times for mental health care from six months to five days.[5] And between March 2020 and April 2020, the Centre for Addiction and Mental Health, the largest psychiatric teaching hospital in Canada, increased virtual care visits by 750%, from approximately 350 to 3,000 online consultations.[6]

Help when disasters happen

Federal, state, and local governments play a role in US disaster recovery. Local governments typically handle dispersing initial emergency funding to individuals. A tool like Merative Citizen Engagement can help. As a digital services platform built specifically for governments, it can deploy responsive and secure web applications in weeks instead of months. Clark County, Nevada, home to Las Vegas, used the tool to provide COVID-19 emergency rent relief funding to more than a quarter million people who were at risk of eviction.[7]

Number of virtual mental health services provided
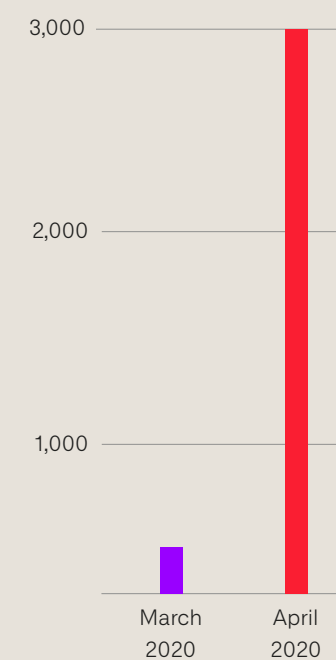
Source: Centre for Addiction and Mental Health. CAMH enhances virtual capacity to respond to demand for mental health services. 04 May 2020.

Reducing missed appointments

Annually, people miss 23%–34% of outpatient appointments.[8] Beyond business costs, these no-shows delay diagnosis and treatment, worsening health outcomes.[9] Using data from an EHR, clinics can automate patient appointment reminders, allowing staff to focus their time elsewhere. With a solution like Phytel, patients receive reminders through their preferred contact method and in their preferred language.

AI and treatment options

As part of a machine learning project from MIT and IBM Watson® AI Lab, researchers developed a way to predict treatment effects for both individuals and populations.[10] The AI allows physicians to develop different treatment options and test them before making a final decision, allowing providers to offer informed what-if scenarios.

Automatically identify patient needs

The US Preventive Services Task Force recommends that women aged 50 to 74 years get a mammogram every other year.[11] Phytel solutions deliver automated, protocol-driven patient communications to those in a clinic's electronic health records. It can identify all patients meeting the recommendations and reach out directly. This helps providers efficiently identify and engage priority populations, drive annual wellness visits, and close gaps in care.

23%–34%

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annually
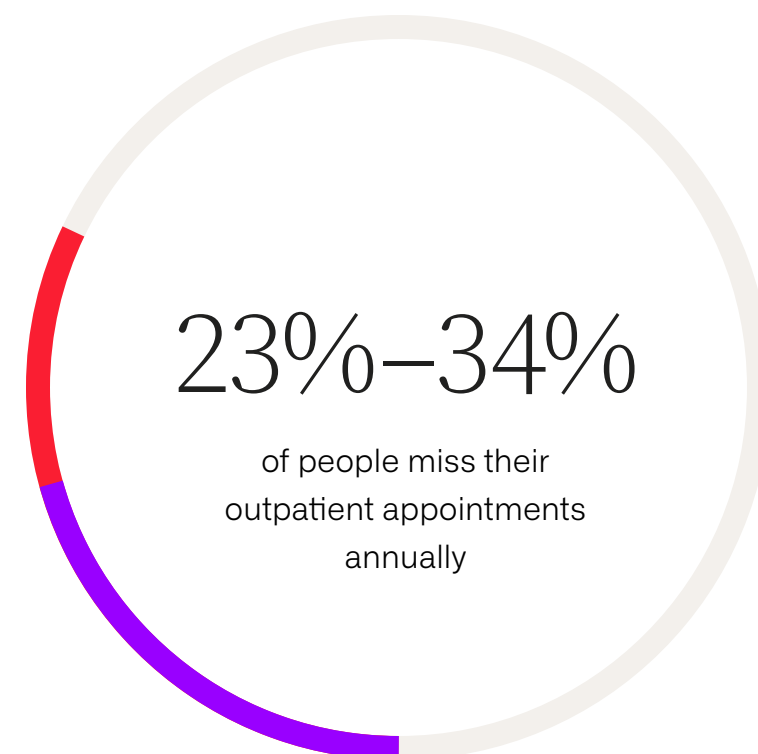
Expanding options for public assistance

When the refrigerator is empty and the cupboards bare, families need supplemental food vouchers, fast. A modern platform like Merative Citizen Engagement makes it easier for people to apply for public agency services with on-the-go access from any mobile device. No waiting in lines, no appointments needed. And with back-end technology pulling necessary eligibility documents, government agencies save time and reduce paperwork, ultimately connecting the public to benefits more efficiently.[12]

Making social work easier

The Hamburg Authority of Labour, Family and Integration in Germany wanted to drastically improve their processes for serving the region's abused and neglected youth. With the Merative Child Welfare solution, they created a new business application to standardize processes and automate workflows. Social workers can now access a single application that supports the full range of case activities, including directly importing police reports rather than faxing them. Hamburg saw a 60% increase in cases processed and a significant decrease in time required to exchange data between social workers and police.[13]

How virtual assistants help

When staffing is insufficient, virtual assistants can field questions, saving time for the organization and those looking for answers. In one US county, a trained virtual assistant managed 122,000 inquires that were previously handled by caseworkers.[14] And during COVID-19, the Wales Cwm Taf Morgannwg University Health Board launched a Welsh- and English-speaking virtual agent, using IBM Watson Assistant.[15] The AI assistant managed more than 400 chats daily, freeing time for healthcare professionals.

122,000

people got answers from virtual assistants instead of caseworkers

400

people chatted with an AI assistant, freeing up time for care professionals

Social Determinants of Health

Social determinants of health are the non-medical factors that shape health and health outcomes.[16] They include the conditions in which people are born, grow up, live, work, and age. Even if we could unify and coordinate whole-person care across providers and government services, social determinants of health would remain factors that affect health.

Globally, single mothers are much more likely to be poor than married couples.[17] In the European Union, 26% of single mothers report difficulties in paying utility bills.[18] In the US, 30% of households with single mothers are food insecure.[19] This has lasting effects on academic and cognitive functions.[20] For single mothers, food insecurity connects to a greater likelihood of high blood pressure, obesity, diabetes, and heart disease.[21]

Where people live directly impacts their health, from how active they are to whether they can follow up on medical care. Affordable housing may be far from work, healthcare facilities, or public transportation. Transportation barriers in particular can result in missed appointments, delayed care, and lower medication compliance.[22]

Social determinants of health include:

Social support
- Discrimination
- Incarceration
- Addiction
- Social safety net

Education
- Higher education
- Early life
- Literacy
- High school graduation
- Language

Healthcare
- Quality
- Health literacy
- Access
- Provider availability

Living environment
- Healthy food access
- Transport
- Crime
- Violence
- Green space
- Housing quality

Economic stability
- Work
- Income
- Food security
- Debt
- Medical bills
- Poverty
- Housing affordability

Revisit Elizabeth

Consider how the following technologies use existing capabilities, organized in a cohesive way.

01

With access to a primary care provider who uses Phytel solutions, Elizabeth could receive reminders from the clinic to make – and keep – her diabetic management appointments. If Elizabeth doesn't respond to the personalized text messages (SMS), emails, or voicemails, Phytel solutions can flag her in the electronic medical record for a clinical case worker to reach out.

02

In addition to standard medical appointments, Elizabeth could likely benefit from more personal outreach. A scalable SaaS solution like Phytel Coordinate would identify her as at-risk for poor diabetes outcomes, triggering her inclusion in an informational campaign. The automated campaign can include diabetic education, accelerated care, more frequent communications, and monitoring.[23]

03

Depending on where Elizabeth lives, her local health and human services agencies might use Citizen Engagement. With this mobile-friendly solution, she could manage all her applications, benefits, and supporting documentation in one personalized account. And, Elizabeth's case worker could also use Citizen Engagement to help navigate benefits and services.[24]

11

04

A well-trained virtual assistant or chatbot could help Elizabeth understand and upload the documents needed for social security and social services benefits. As a busy single mom, getting answers quickly helps her maintain services she and her son need without interruption. Even a week's gap in disability income could make a measurable difference.

05

At discharge, Elizabeth will likely receive referrals for follow-up care. With an IT system that can exchange information across various platforms, all care providers can securely receive her health data as needed.

06

Facing a significant recovery, virtual visits can make it easier for Elizabeth to keep in touch with her care teams and continue treatment.

07

AI can read electronic medical records, social care notes and scientific journals, then cross-reference key findings with evidence-based medicine and social care knowledge. These reports would help those working with Elizabeth save time.

08

From clinics to hospitals, homeless shelters to child welfare agencies, the technology to eliminate data silos is here. A solution like Merative Integrated Care bridges the gap between health and social needs, collaborates across departments and jurisdictions, and automates care management workflows.

Everyone deserves access to the care and services they need to live their best life. Technology can facilitate person-centered services that improve health and well-being.

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Merative is a data, analytics and technology partner for the health industry, including providers, payers, life sciences companies and governments. With trusted technology and human expertise, the company works with clients to drive real progress. Merative helps clients reassemble information and insights around the people they serve to improve healthcare delivery, decision-making and performance. Formerly IBM Watson Health, Merative became a new standalone company as part of Francisco Partners in 2022.

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