The Impact of COVID on Health and Human Services Organizations in Implementing Digital and Data Solutions

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Contents

Key takeaways

The COVID-19 pandemic has brought the urgency of social protection into stark relief. To meet these challenges, governments have been accelerating the digital transformation of social services at speed, reprioritizing their workforces and resources, and finding new ways to deliver services.

While many of these transformations are aimed at immediate relief, providers are also looking toward the future by designing services that are more personalized, digital, collaborative and outcome-driven.

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Now:
current shifts

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The COVID-19 pandemic has exacerbated the risk of vulnerability …

Increased community needs (partial)

Elderly
Older people are at heightened risk of developing serious complications from the disease, which would impair their health in the long term. Fatality rates are five times higher in people aged over 80 years.[14]

Youth
Schools were shut down in 190 countries, which affected more than 1.5 billion students.[15] Unequal access to digital networks and remote-learning opportunities have exacerbated pre-existing inequalities.

Disability
Individuals with disabilities (about 15% of the world's population) are at heightened risk of employment loss and disruption to care from shelter-at-home orders.[16]

Informality
More than 1.6 billion people or 75% of the world's informal workers, including in the gig economy, have been significantly impacted by the crisis and lack access to many social protection programs.[17]

Disadvantaged communities
Poorer, minority and migrant neighborhoods have faced disproportionate levels of disease incidence rates and employment loss from shelter-at-home orders.

Risk factors

1. Physical health
2. Economic well-being
3. Abuse and neglect
4. Mental health
5. Digital exclusion
6. Discrimination

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... and led to a worldwide disruption in the delivery of critical social services
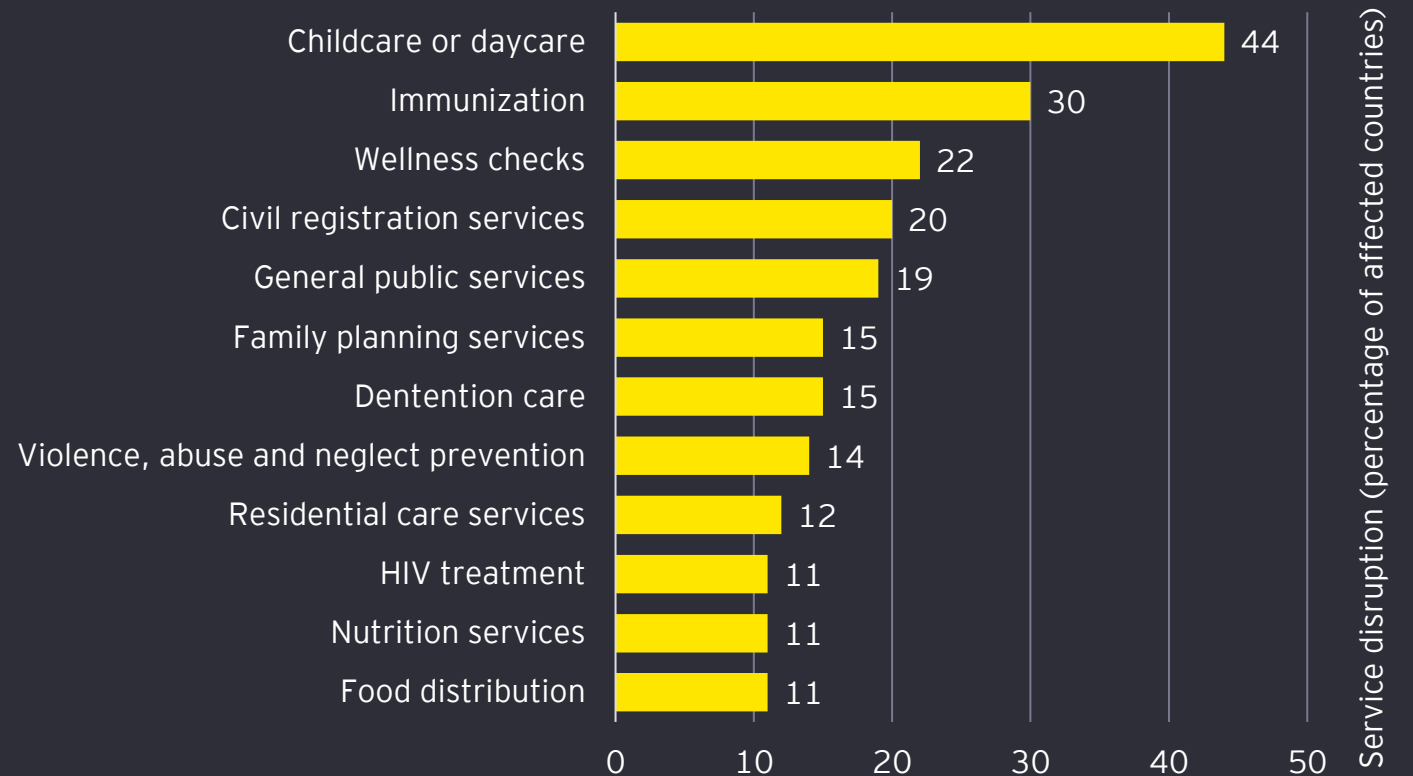
56%

reduction in staff of nonprofits in the US due to child or dependent care needs at home.[18]

75%

reduction in clients who pay for services for nonprofits with nearly 20% increase for free services.
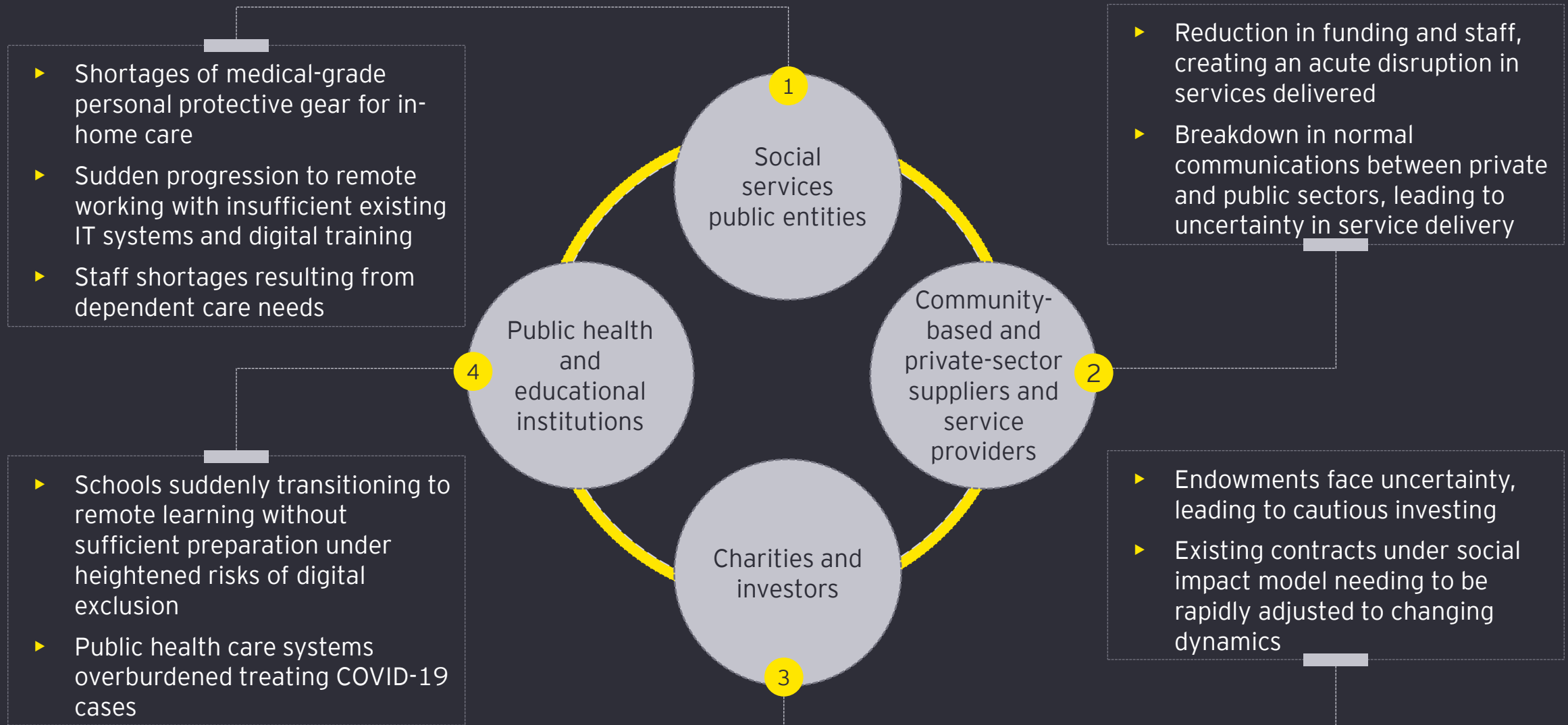
Many service providers, particularly community organizations and nonprofits, have faced difficulties in responding to the crisis according to a survey of 465 nonprofits in the U.S. from 18-23 March 2020.

Eighty-one countries have reported disruption in their ability to provide critical social services.

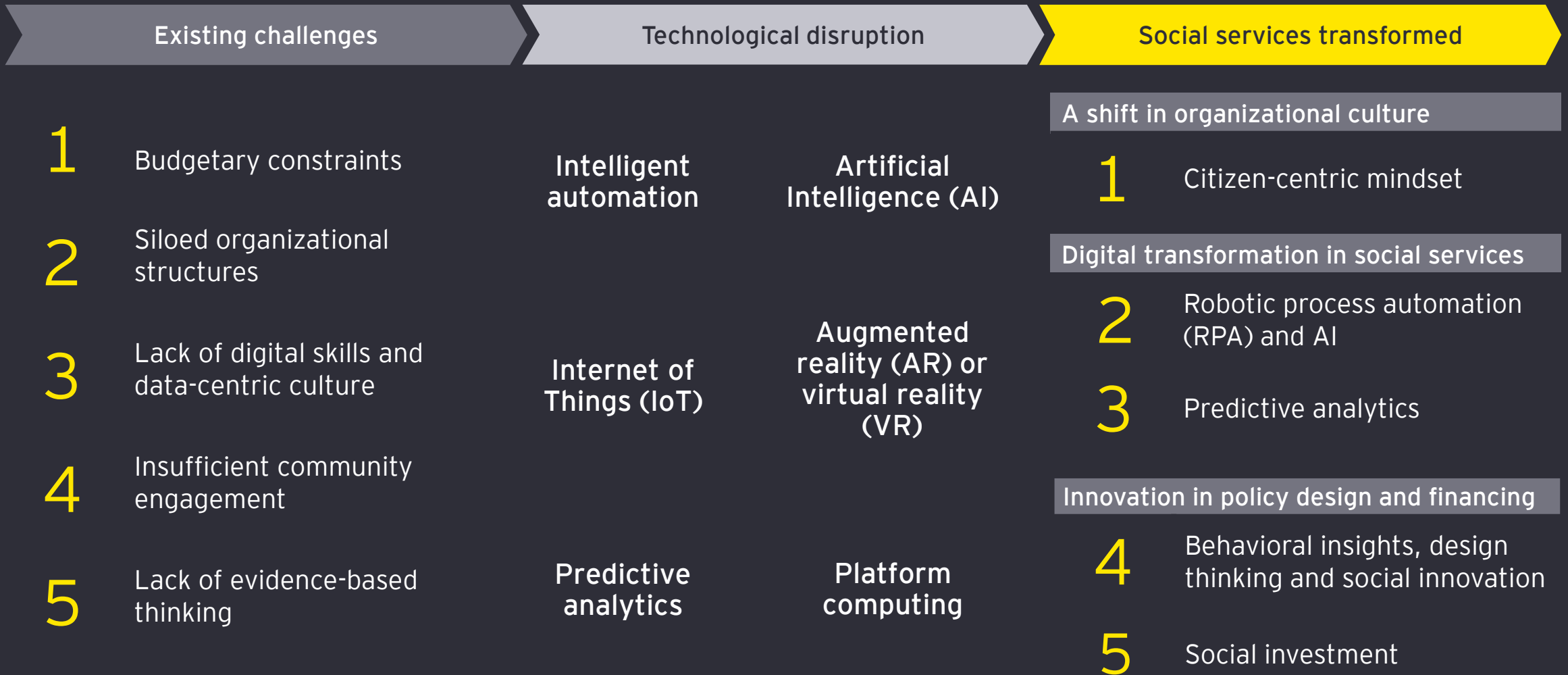| Service	Service disruption (percentage of affected countries)
Childcare or daycare	44
Immunization	30
Wellness checks	22
Civil registration services	20
General public services	19
Family planning services	15
Dentention care	15
Violence, abuse and neglect prevention	14
Residential care services	12
HIV treatment	11
Nutrition services	11
Food distribution	11

Source: "Rapid situation tracking for COVID-19 socioeconomic impacts," *UNICEF website*, https://data.unicef.org/resources/rapid-situation-tracking-covid-19-socioeconomic-impacts-data-viz/, accessed 6 May 2020.

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This has created new challenges across the entire ecosystem

Shortages of medical-grade personal protective gear for in-home care

▸ Shortages of medical-grade personal protective gear for in-home care

▸ Sudden progression to remote working with insufficient existing IT systems and digital training

▸ Staff shortages resulting from dependent care needs

Social services public entities (1)

Community-based and private-sector suppliers and service providers (2)

Public health and educational institutions (4)

Charities and investors (3)

▸ Reduction in funding and staff, creating an acute disruption in services delivered

▸ Breakdown in normal communications between private and public sectors, leading to uncertainty in service delivery

▸ Schools suddenly transitioning to remote learning without sufficient preparation under heightened risks of digital exclusion

▸ Public health care systems overburdened treating COVID-19 cases

▸ Endowments face uncertainty, leading to cautious investing

▸ Existing contracts under social impact model needing to be rapidly adjusted to changing dynamics

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The urgency of the COVID-19 pandemic is accelerating the transformation of social services to become more personalized, digital, collaborative and outcome-driven

Existing challenges	Technological disruption		Social services transformed

Existing challenges

1 Budgetary constraints

2 Siloed organizational structures

3 Lack of digital skills and data-centric culture

4 Insufficient community engagement

5 Lack of evidence-based thinking

Technological disruption

Intelligent automation

Artificial Intelligence (AI)

Internet of Things (IoT)

Augmented reality (AR) or virtual reality (VR)

Predictive analytics

Platform computing

Social services transformed

A shift in organizational culture

1 Citizen-centric mindset

Digital transformation in social services

2 Robotic process automation (RPA) and AI

3 Predictive analytics

Innovation in policy design and financing

4 Behavioral insights, design thinking and social innovation

5 Social investment

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What's next?

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A "citizen-centric" mindset is transforming how social services are designed and delivered

Across social services, organizations are fundamentally rethinking how they understand the needs of vulnerable citizens and deliver the services needed most. By placing the individual citizen at the center, entities can offer more accessible and personalized services, with better integration across service providers and ICT systems.

▶ Digital platforms have helped citizens better understand and navigate social services and their entitlements.

▶ Two-way communication platforms have proven critical during the COVID-19 pandemic for getting the right services to the right people.

▶ This reflects a shift toward a "citizen-centric" mindset, where governments are tailoring information and services to the needs of the individual in an effort to increase effectiveness and build long-term resiliency.

Further, COVID-19 pushed adoption of the 'hospital in the home' model based on flexibilities around telehealth and remote patient monitoring

How does a hospital-at-home model work?

- Hospital in the Home (HITH) is a model of care whereby short home based acute care acts as a substitute for people who would otherwise need to be in hospital. Although at home, the consumer is admitted, and the level of care is equivalent to being in hospital
- The model utilises equipment ranging from hospital machinery to clinical grade wearables and sensors that monitor patients vital signs

Care Model

Patient Population: Expanding from lower-acuity chronic disease patients to include high-acuity patients, post-operation, ICU discharge

Infrastructure

Command Center: Controlled from a central location for continuous monitoring and communication; used for deploying/dispatching medications, clinicians and services to home

Technology

Supply Chain

Workforce

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Smart health – reimagining health care to build a patient-centric smart health organization that is future-proofed for decades to come

Hyperconnected **Intelligent** **Human-centered** **High reliability** **Sustainable**

What are the features of a "smart hospital?"

- The acute is integrated with the primary, community and social determinant data points giving a completely holistic view of the patient, influencing behavior and shifting to a well-being focus

- Operations will be data and AI driven, with a predictive model of care

- Patient ownership of data through personal health clouds

- Smart imaging and early diagnosis through AI

- Home becomes the center of care through virtual care models and IoT technologies

- Platforms provide on-demand access to a shared pool of resources, including data, knowledge and staffing, providing the ability to interconnect all parties in the ecosystem

Smart Hospital

AI & Intelligent Automation

Internet of Things

Robotics

Virtual care

Cloud & Platforms

- "Right patient in the right place at the right time" through sensor tracking enabling seamless patient flow

- Seamless supply chain and inventory management through IoT and blockchain

- Improved patient experience and outcomes through personalized care
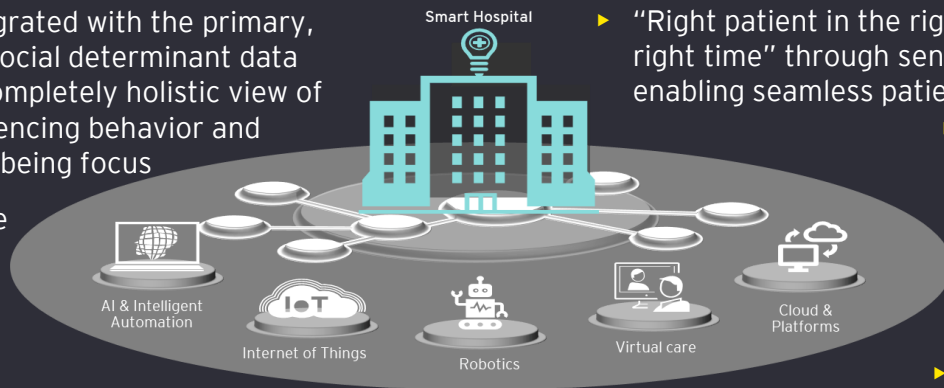
Smart hospitals benefit from smart design

- Reduced footprint, capital and operating costs

- Reduced carbon footprint and energy costs

- Transform the patient and workforce experience with human-centered digital design

- Improved clinical outcomes with real time and predictive monitoring

- Flexible architecture reduces risk of technology obsolesce

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Looking to the beyond

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The digitalization of social services will continue to accelerate beyond the immediate crisis

Digitalization of social services is transforming how agencies and employees work and collaborate, how vulnerable citizens engage with service providers, and how services are targeted and delivered to those in greatest need.

► RPA in social services will continue at pace as organizations look to improve efficiency and maximize client interactions.

► Further development in automation will be driven by intelligent robots and "cobots" to assist with physical, social and cognitive tasks.

► Research trends indicate that more cognitive and emotional artificial intelligence applications for social services may be on the horizon.

► This combination of intelligent automation, cognitive technologies and artificial intelligence (AI) are dramatically expanding opportunities in social services, which, in turn triggers several risk factors.

► With rapid technological development, big data and predictive analytics have proven their place in anticipating risks to vulnerable persons and intervening early to prevent harm.

With rapid technological development, big data and predictive analytics have proven their place in anticipating risks to vulnerable persons and staging earlier interventions to prevent harm

Government agencies are leveraging predictive models to identify individuals at risk of being harm anticipate their needs and prevent harm through early interventions. The applications in social services are increasingly expanding to protect children from harm, prevent substance abuse and predict the occurrences of homelessness, chances of reoffending and the probability of job loss.

Key features of predictive analytics:

1 **Comprehensive view of citizens**
Integrate, match and merge data from administrative and internal data, and create a complete picture of the vulnerable individual that supports management and staff in operational and tactical decision-making

2 **Early intervention from evidence-based solutions**
Identify early risk factors, behaviors, demographics and socio-economic factors that may contribute to a person entering the system

3 **Prediction and mitigation**
Predict risk to a person, including the risk of harm, risk of flight, risk of poor financial, education, health or judicial outcomes and intervene prior to critical care

EY Vulnerable Person Platform

Improved outcomes — Reduce risk — Optimize resources — Reduce harm

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Effective program interventions · Supports early intervention · Modeling and predicting outcomes · Evidence-based decision-making · Single view of child or young person · Single view of service provider · Service design investment approach · Single view of location · Predict risk

Key benefits:
- ► Lower program costs
- ► Prevention focus rather than reaction and crisis-driven
- ► Control over the increase in the number of vulnerable people in the service system, and the time they spend in the system
- ► Better safety, permanency and health outcomes for vulnerable people
- ► Frontline decisions on the basis of complete and accurate information

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The EY Vulnerable Person Platform has helped providers understand the scale of vulnerability, address the root causes, target interventions and support those who need it the most

Homelessness prevention

Local authorities in the UK are under enormous strain with annual budget cuts. Many social workers have faced increased caseloads and struggled to gain an accurate view of the scope and scale of households at risk.

EY teams collaborated with a data analytics service provider to develop a cloud-based platform, which merged massive amounts of structured and unstructured data from multiple sources to gain a comprehensive picture of citizens and risk factors of vulnerability.

In one London borough, the technology helped prevent homelessness and decrease demand for temporary accommodations. It also improved internal processes and saved 30% to 50% of their admin time.
- London Borough of Barking & Dagenham video and case study
- Maidstone Borough Council, UK video and article

Long-term child well-being

The Department of Family and Community Services in New South Wales, Australia already spent significant fiscal resources on child protection but wanted a clearer focus on improving long-term outcomes.

EY teams worked with local service providers to co-design a process to better understand the interactions between children and families and frontline staff and supervisors. The resulting technology was a predictive analytics platform that collated data from multiple agencies that had come into contact with families.

From identifying risk factors such as absence from school to home repair requests, the technology was able to provide a whole-of-system view of services for vulnerable children and their families. This helped to better align their expenditures with outcomes.
- New South Wales case study video and article

Foster care and well-being

Child welfare services in one large US county has struggled with the largest number of children in foster care in the state.

EY teams are actively engaged with the county to help reduce the overall number of children in foster care as well as decrease the average amount of time spent in foster care for children already in the system. The Vulnerable Person Platform will play a key role in monitoring trends, driving risk scoring and recommending steps for effective interventions.

EY teams found that providing a pragmatic and effective strategy for addressing one social crisis rather than attempting to solve every social issue proved critical in obtaining stakeholder collaboration.
- Hillsborough County, Florida video and case study

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Citizen-centric services will be restructured around critical junctures in a person's life ...

Citizens are beginning to experience old problems with new technology. The recent proliferation of mobile applications is leading to confusion over which applications citizens should use to access specific services. To counter these effects, governments have started to develop single digital platforms built around key moments in an individual's life. The goal is to consolidate social services across different providers and provide push notifications to citizens when they reach key milestones, such as getting married, having a child, enrolling in school, entering the workforce, retirement and end-of-life planning.

For example, Singapore's "Moments of Life" mobile app is a suite of services that provides easy access to seniors and parents of children for learning about benefits, finding programs and health care near one's residence. It also helps them stay up-to-date on government programs and benefits to encourage healthy living.

Singapore's "Moments of Life" app [45]

New child

► Single electronic application for birth registration and access to key benefits, such as "Baby Bonus"

► Online access to the child's medical appointments and immunization records

► Geolocation search functionality for learning about preschools, tuition fees and availability close to one's residence

► Access to information about government benefits and healthy childhood development

► Determine eligibility and access qualified senior care benefits

Senior care

► Get reminders of active aging Programs near one's residence through geolocation targeting

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... linked by a unified, secured digital identity to access services across agencies

The pivot toward building citizen-centric apps will also accelerate the adoption of unified and secured digital identities. By linking individuals across organizations, digital IDs can expand and quicken access to services and strengthen social safety nets. Globally, the World Bank estimates digital IDs could save potentially 100 billion working hours for the public sector worldwide and reduce fraud by up to US$1.6t.[46]

The pandemic has shown the benefits of digital IDs and payments. In Chile, for example, COVID-19 relief payments were directly deposited into the bank accounts of more than two million low-income households using digital IDs.[47]

While digital IDs improve efficiency, they can also inadvertently accentuate the digital divide. For example, the linking of social assistance programs to India's Aadhaar program excluded disabled individuals who lacked the necessary digital abilities to register from social security payments and restricted others from accessing food banks.[48]

Chile leverages digital IDs to rapidly disburse COVID-19 relief payments

Beneficiary registration
- ► Targeting of new beneficiaries using digital IDs
- ► Self-registration using an online platform and mobile apps

Account opening
- ► Remote onboarding
- ► Automatic enrollment for clients
- ► Simplified customer due diligence

Fund utilization
- ► Leveraged the national ID-linked bank account to process "Bono COVID-19" benefit payments
- ► Automation to detect fraud

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