

# Social services transformed

An EY Knowledge presentation  
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### 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.



# As the COVID-19 pandemic heightens the vulnerability of citizens worldwide, social services are transforming at an unprecedented rate

Protecting the vulnerable against economic and physical hardship is a human right and a key priority for governments.

Tragically, the COVID-19 pandemic has brought the urgency of social protection into stark relief.

The pandemic has heightened the vulnerability issues of old age, youth, unemployment, refugee status, homelessness, disability, substance abuse and a history of incarceration.

Service providers have had to grapple with protecting their workforce while shielding the vulnerable from the risks of transmission. This is occurring alongside an unprecedented increase in demand as the number of furloughed or unemployed workers rapidly escalates.

Stay-at-home orders are also taking a toll on mental health, risking access to nutritional benefits for some children, and raising concerns over domestic violence and substance abuse.

Moreover, COVID-19 outbreaks in correctional facilities are leading to an unplanned and early return of low-risk offenders to society, placing considerable pressure on social services providers.

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 to build self-reliance and resilience against future disruption.

## 4 billion

people in the world still lack any social protection benefits despite considerable progress made by governments over the past several decades.<sup>1</sup>

# Now: current shifts



# Social care providers are responding to an increased demand for services

## What is vulnerability?

While there is no universally agreed-upon definition, vulnerability generally refers to a disproportionate risk of harming a person's physical, emotional, or financial well-being, including inadequate living standards, poverty, and social exclusion.<sup>2</sup>

## Why is demand increasing for social services?

### ▶ Demographic and societal shifts

Rising longevity and increasing urbanization constrains the availability of affordable housing, increases the vulnerability of old age and drives demand for adequate health care.

### ▶ COVID-19 pandemic, economic and technological disruption

Escalating jobless claims, an exacerbation of existing vulnerabilities and a rapid progression to remote ways of working during the pandemic have led to greater calls for employment protection and income support.

## Social services are designed to cushion the impact of vulnerability and build resiliency by:

▶ **Narrowing living standard gaps** between vulnerable groups and the average population by providing the former with stable housing facilities, access to affordable health care, and improvements in their financial and physical well-being

▶ **Providing immediate relief** in order to mitigate the risks of hardship through targeted services, including access to supplemental nutritional and income benefits, home and long-term care options, and counseling

▶ **Preventing long-term financial, physical and emotional hardship** by building workforce development programs, leveraging analytics to predict the needs of individuals and providing technological tools for self-reliance

▶ **Empowering citizens** by involving them in decision-making processes and the co-design of services; bridging the digital divide to positively impact the uptake of new services and fostering new skills development

# The rising demand is driven, in part, by changing population demographics, employment practices and pre-existing structural inequalities

- **Demographic drivers** such as declining fertility and increasing longevity are aging the world. By 2050, the proportion of the world over 65 years will double to 1.5 billion people, which is approximately 1 in 6 people in the world.<sup>3</sup>
- **Budgetary pressures** and rising debt levels are forcing governments to do more with less. The initial rollout of government relief for the COVID-19 pandemic has widened public debt levels to 137% of gross domestic product (GDP) in the Organisation for Economic Co-operation and Development (OECD).<sup>4</sup>
- **Changing employment practices** led by the gig economy, decline of trade unions and persistent informal employment have upended traditional labor protections.
- **Rising housing costs** are prevalent and an estimated three billion people in the world will require affordable housing by 2030. Homelessness is also a continuing concern with nearly two million people unsheltered in the OECD.<sup>5</sup>
- **Income inequalities** are widening and putting pressure on the middle class. In the OECD, the top 10% in the income distribution holds almost 50% of total wealth, while the bottom 40% accounts for only 3%.<sup>6</sup>
- **Escalating opioid use** is a continuing concern in advanced economies. In the US, drug overdoses caused more than 70,000 deaths in 2017 and is the leading cause of death for Americans under the age of 55.<sup>7</sup>

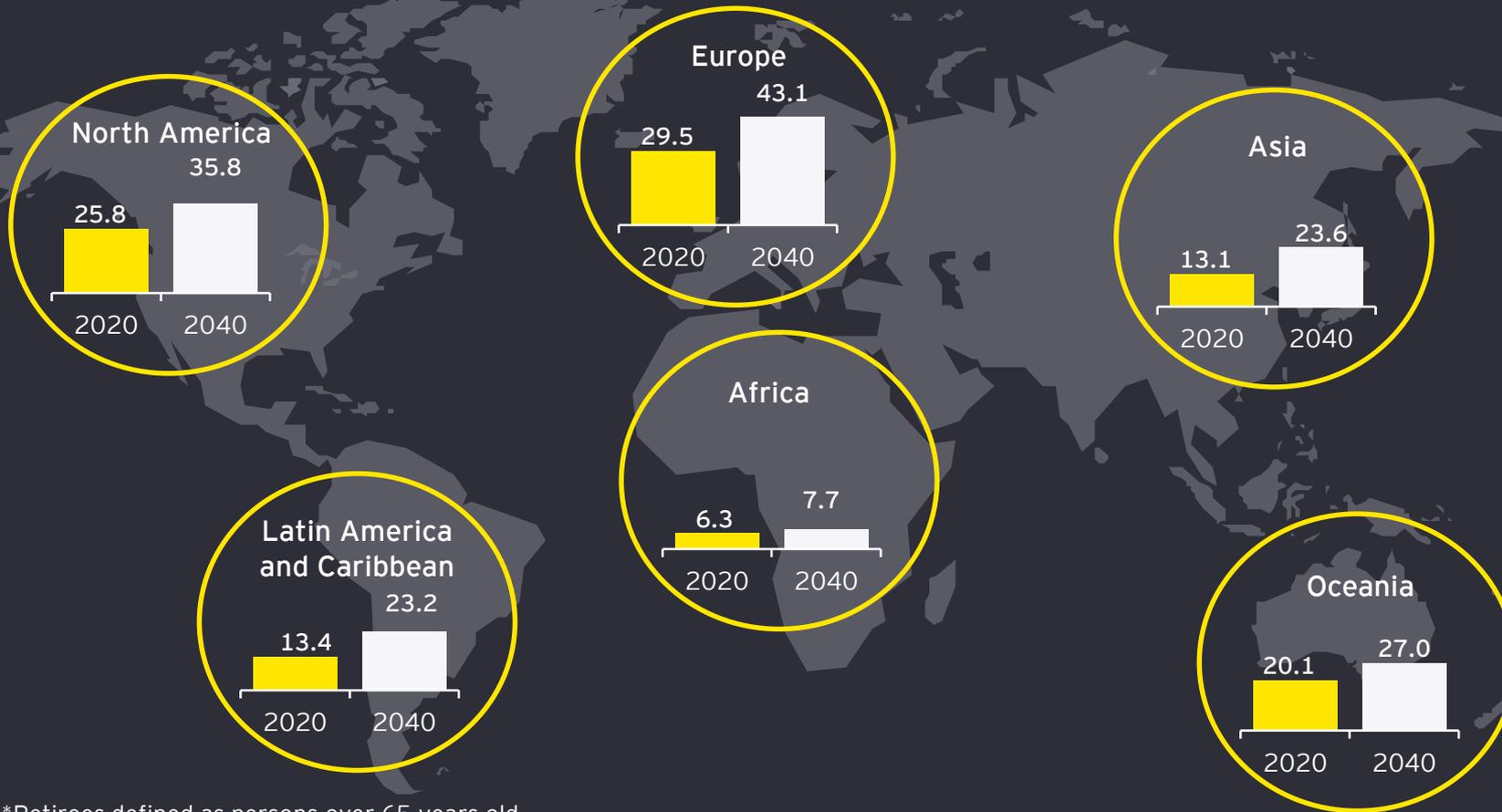
Increasing demand  
for social services

US\$7t  
by 2030

According to the International Labor Organization (ILO), governments and organizations across the globe will need spend an additional US\$7t in social care support by 2030 for children, women, the elderly, and other vulnerable populations.<sup>8</sup>

# As populations grow older and the number of family caregivers decline, more than 2.1 billion people will need some form of social assistance by 2030

## Retirees\* as a percentage of the working-age population, 2020 vs. 2040



- ▶ **Population aging**, driven by declining fertility and increasing longevity, is transforming labor markets and demand for social services. In 2018, people aged over 65 years outnumbered children under 5 years for the first time in history.<sup>9</sup>
- ▶ Older individuals have three times lesser support from families or friends in times of need than younger people.<sup>10</sup>
- ▶ **One in three adults aged over 65 years live alone** in the G20, with the share of older women living by themselves being twice that of men.<sup>11</sup>

\*Retirees defined as persons over 65 years old.

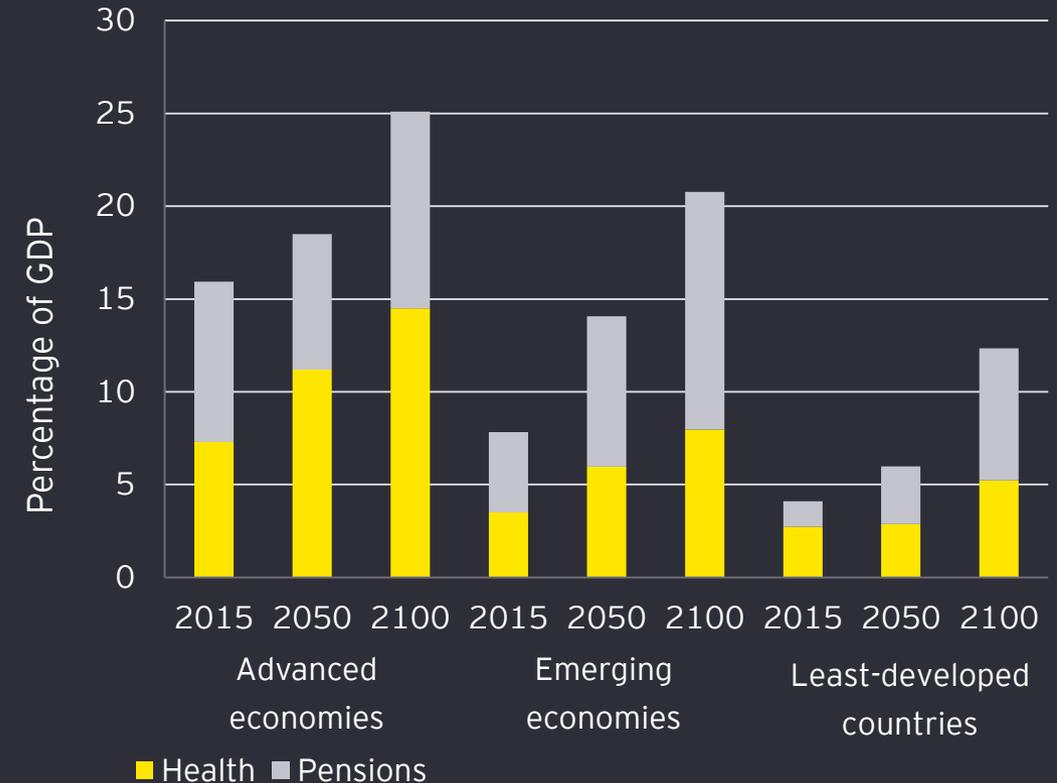
Source: "2019 Revision of World Population Prospects," UN Population website, <https://population.un.org/wpp/#:~:text=The%202019%20Revision%20of%20World,of%20the%20United%20Nations%20Secretariat>, accessed 23 June 2020.

# This increase in age-related spending will require governments to allocate budgets more efficiently

According to International Monetary Fund (IMF) projections, a rapidly aging population will have significantly higher health and social care requirements. The elderly not only have a high demand for inpatient care, chronic pain management and remote patient monitoring, but also have a need for more long-term care. In many parts of the world, this has traditionally been provided by family members. In the OECD, 13% of individuals over the age of 50 years rely on family members or spouses for care.<sup>12</sup>

However, as the ratio of younger people declines and workers become more mobile, the impact of aging on residential care will be considerable. According to the April 2020 Grand View Research analyst report, global long-term care public and private spending will be US\$1.7t by 2027.<sup>13</sup>

## Age-related spending projections



Source: "Macroeconomics of Aging and Policy Implications," IMF website, <https://www.imf.org/external/np/g20/pdf/2019/060519a.pdf>, Accessed 23 June 2020.

# 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.<sup>14</sup>

### Youth

Schools were shut down in 190 countries, which affected more than 1.5 billion students.<sup>15</sup> 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.<sup>16</sup>

### 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.<sup>17</sup>

### 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

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

## Nonprofit survey

56%

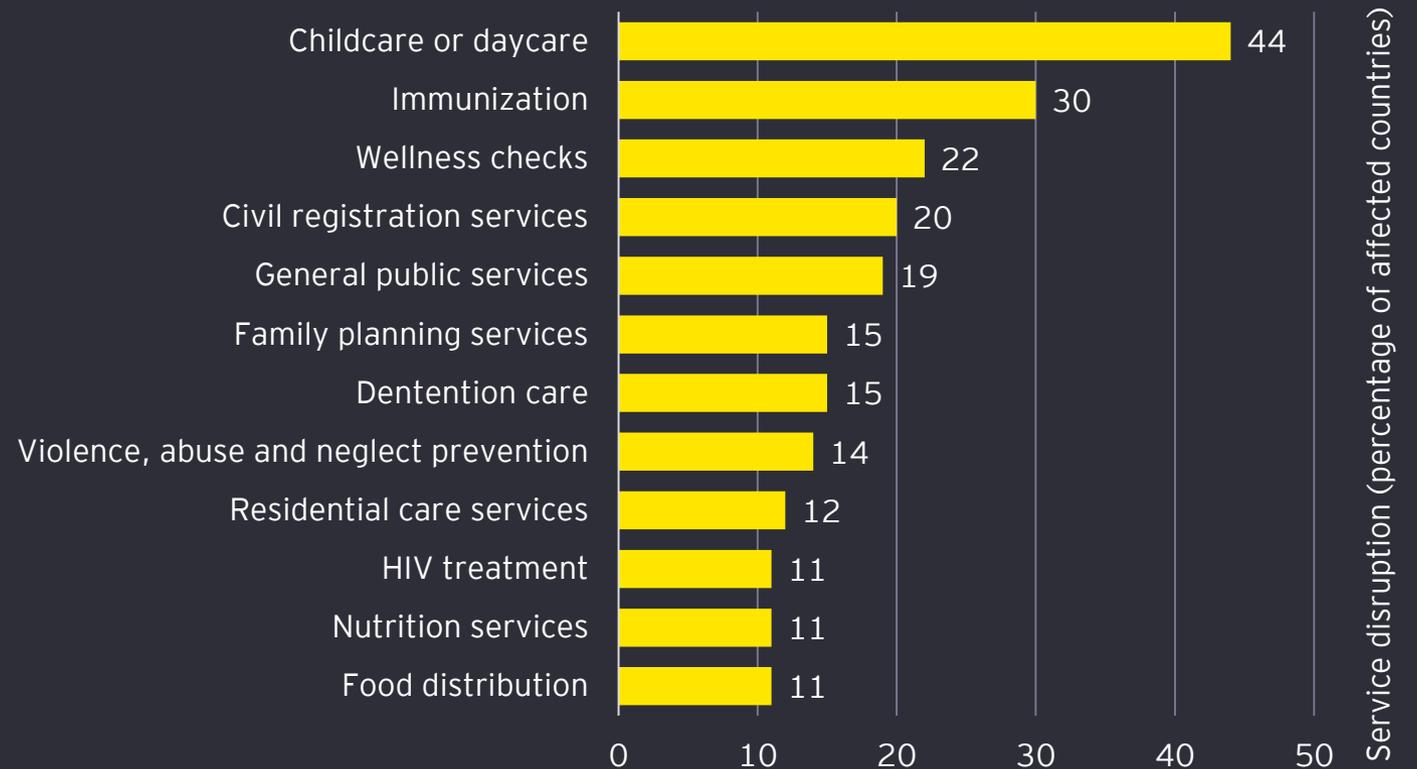
reduction in staff of nonprofits in the US due to child or dependent care needs at home.<sup>18</sup>

75%

reduction in clients who pay for services for nonprofits with nearly 20% increase for free services.

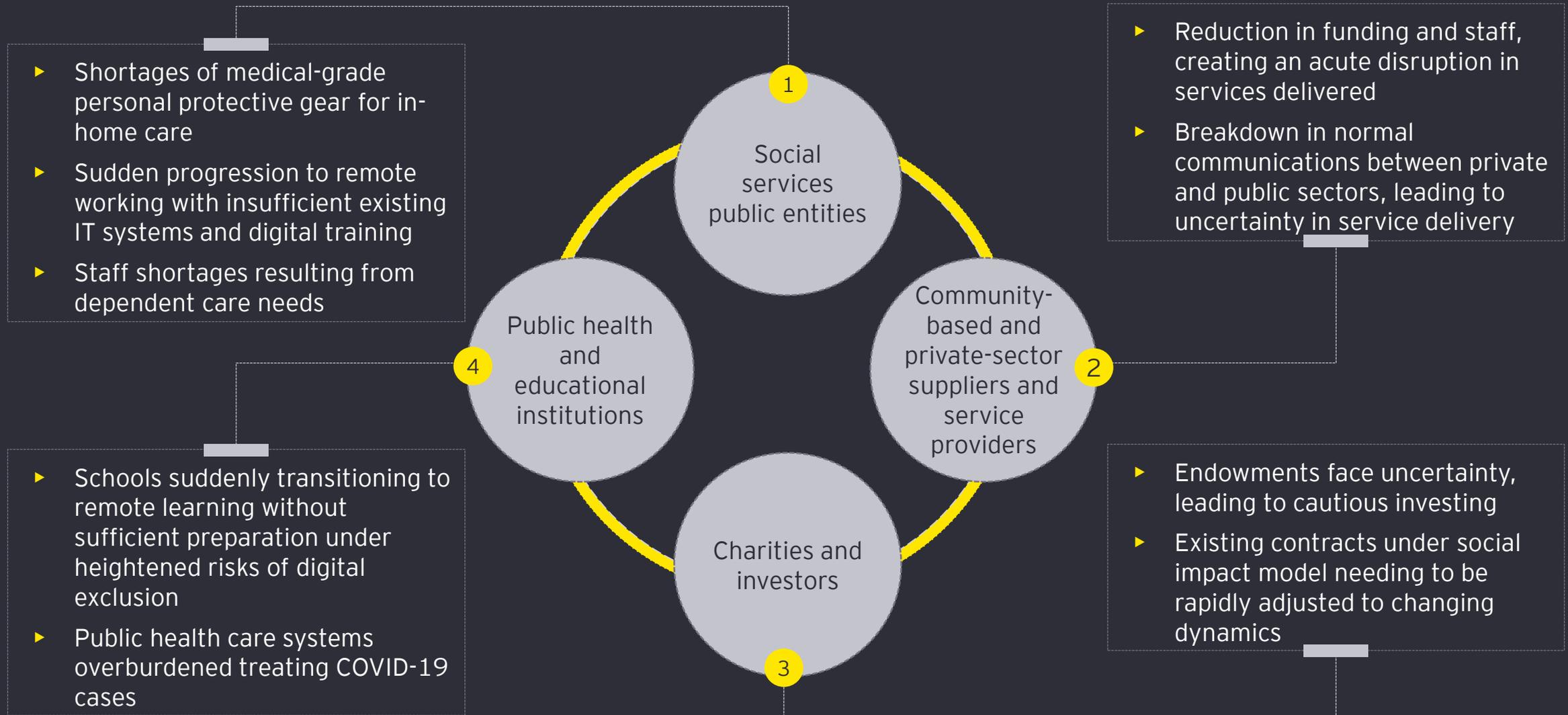
Many service providers, particularly community organizations and nonprofits, have faced difficulties in responding to the crisis according to a survey of 465 nonprofits in the U.S. from 18-23 March 2020.

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



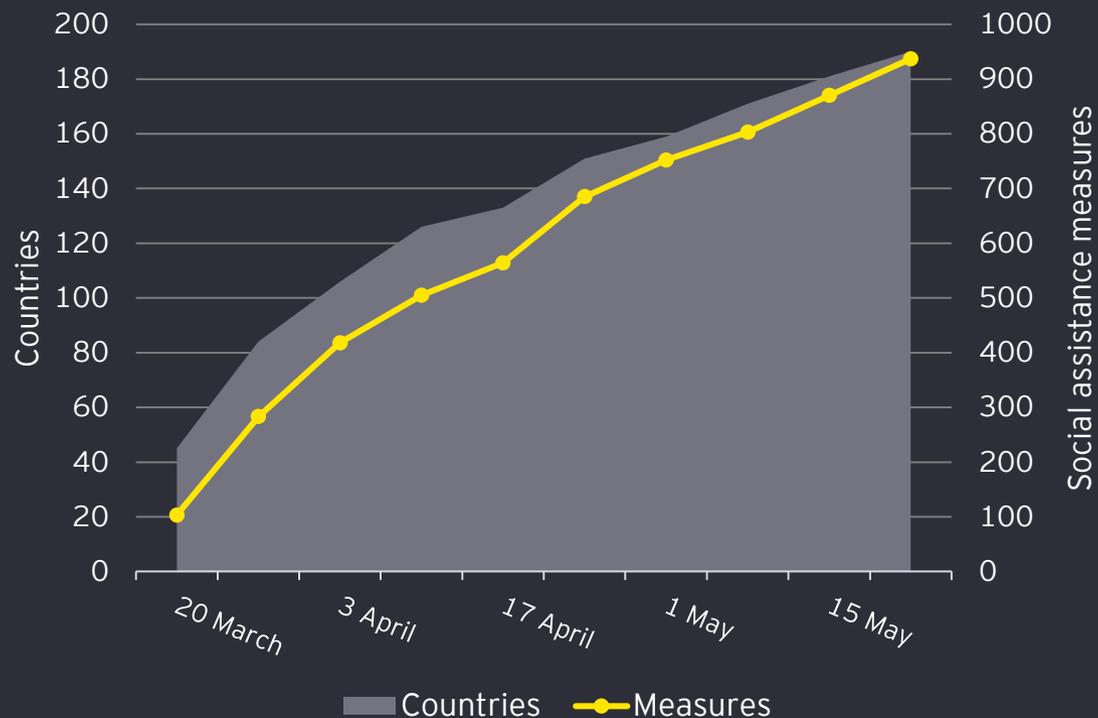
Source: "Rapid situation tracking for COVID-19 socioeconomic impacts," UNICEF website, <https://data.unicef.org/resources/rapid-situation-tracking-covid-19-socioeconomic-impacts-data-viz/>, accessed 6 May 2020.

# This has created new challenges across the entire ecosystem



# Governments have responded by providing more than US\$10.5t in relief packages with more than 900 provisions for social assistance<sup>19</sup>

## Social assistance measures in government relief packages



Source: "Social Protection and Job Responses to COVID-19: A Real-Time Review of Country Measures," World Bank website, <http://hdl.handle.net/10986/33635>, accessed 12 June 2020.

## Social assistance relief measures

### Social services

- ▶ Enhanced funding for nonprofit and community partners to ensure continuity of care
- ▶ Support for food banks, domestic violence centers, indigenous community support and homeless shelters
- ▶ Reinforced programs for childcare support and elder care

### Social protection programs

- ▶ Paid sick leave support
- ▶ Health care insurance support
- ▶ Enhanced unemployment benefits
- ▶ Pension support

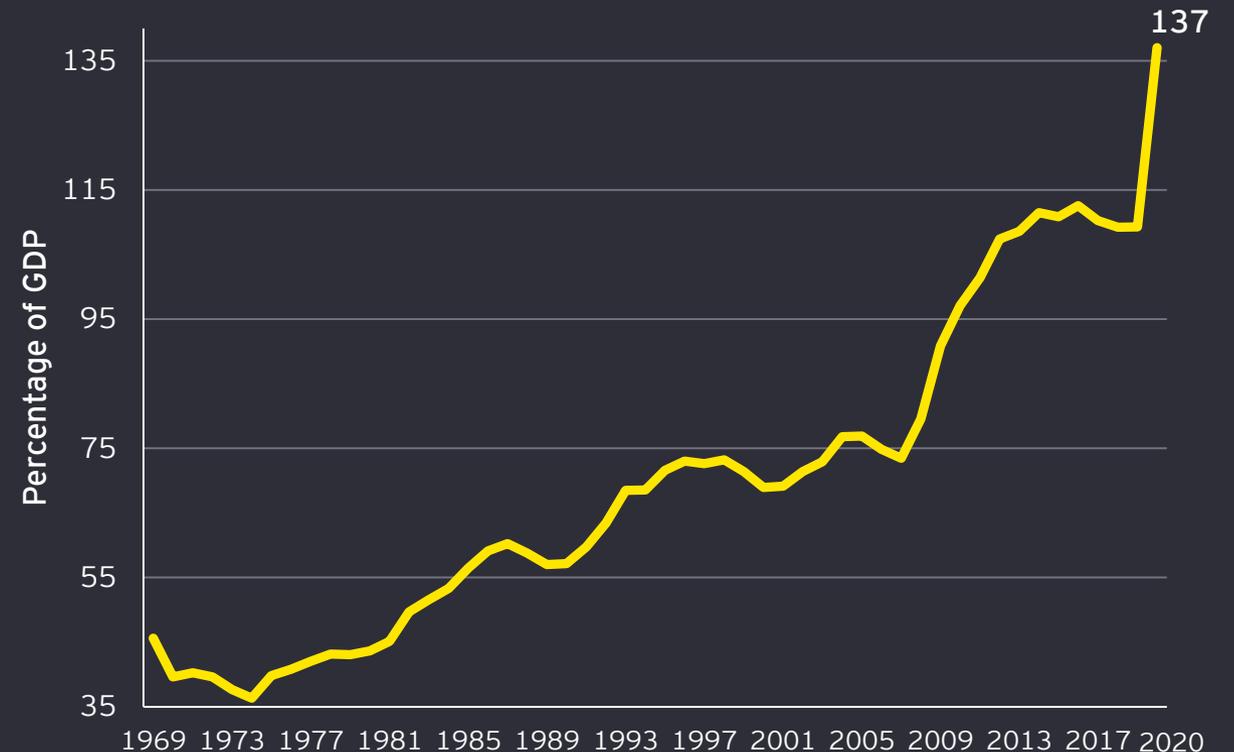
### Labor markets programs

- ▶ Direct wage subsidies
- ▶ Workforce development and training programs
- ▶ Adjustments to labor regulations
- ▶ Short-term working schemes to supplement lost wages from reduced hours

# This will challenge public finances in the future ...

## Government gross financial liabilities as a percentage of GDP in OECD countries, 1969–2020 (projected)

- ▶ The OECD estimates that the unprecedented level of economic relief spending will increase government financial liabilities by US\$17t. It is projected that public sector debt will rise to 137% of GDP for advanced economies in 2020.<sup>20</sup>
- ▶ The COVID-19 pandemic compounds the difficulties of increased debt levels following the 2008 financial crisis. In the ten years following the crisis, government spending increased public sector debt from 63% of world GDP in 2008 to more than 82% in 2018.<sup>21</sup> This has occurred against the backdrop of austerity in many advanced economies.

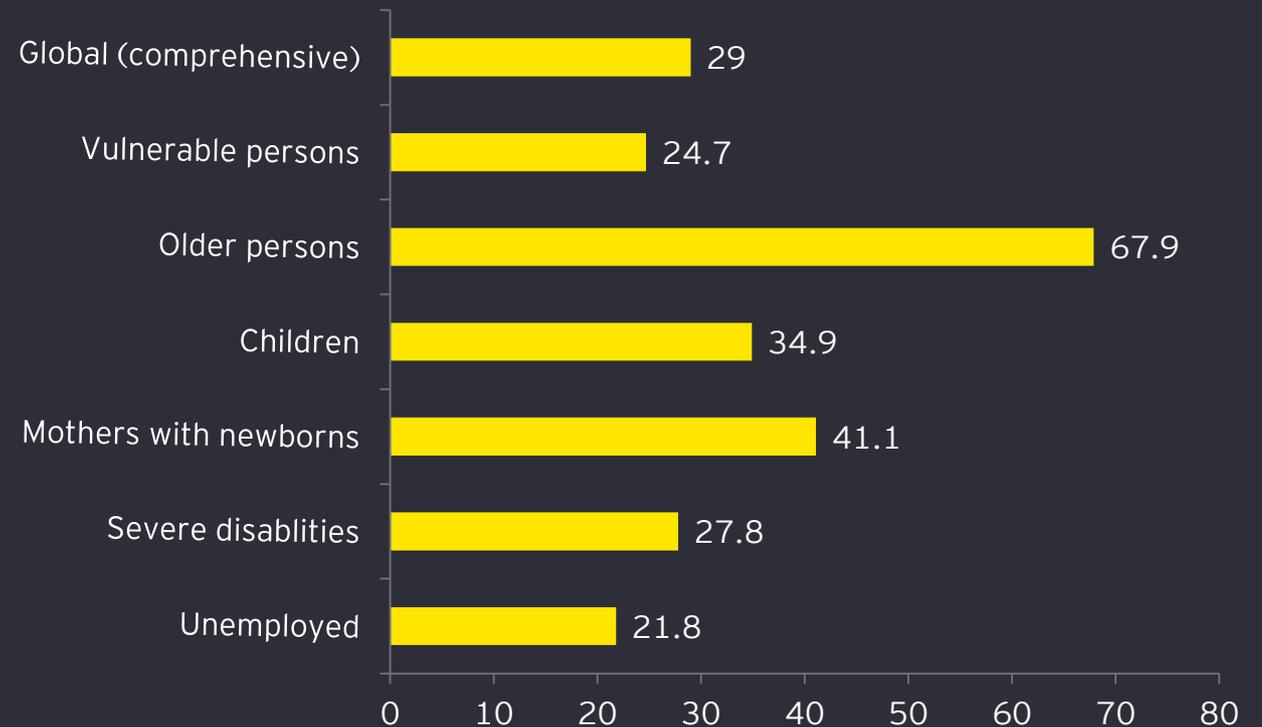


Source: "Tax and Fiscal Policy Response to the Coronavirus: Strengthening Confidence and Resilience," *OECD website*, <http://www.oecd.org/coronavirus/policy-responses/tax-and-fiscal-policy-in-response-to-the-coronavirus-crisis-strengthening-confidence-and-resilience-60f640a8/>, accessed 24 May 2020.; "Richest nations face \$17tn government debt burden," *Financial Times website*, 24 May 2020, <https://www.ft.com/content/66164bbc-40c7-4d91-a318-a0b4dbe4193e>, accessed 24 May 2020.

# ... even as significant coverage gaps in social protection remain

- ▶ The aftermath of the 2008 financial crisis has made austerity an insufficient and very likely determinantal policy option, considering that only 29% of the world's population is comprehensively covered by social protection benefits.<sup>22</sup> The vast majority of the world – 71% or 5.2 billion people – are inadequately or not covered at all.
- ▶ These difficulties highlight the fact that about 40% of households in the OECD are financially insecure, which means that they will go into poverty if they did not have income for three months.<sup>23</sup>

## Social services, percentage of world population covered

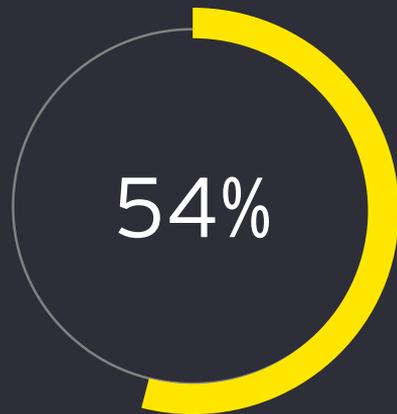


Source: "World Social Protection Report 2017-19: Universal social protection to achieve the Sustainable Development Goals," ILO website, [https://www.ilo.org/global/publications/books/WCMS\\_604882/lang--en/index.htm](https://www.ilo.org/global/publications/books/WCMS_604882/lang--en/index.htm), accessed 24 May 2020.

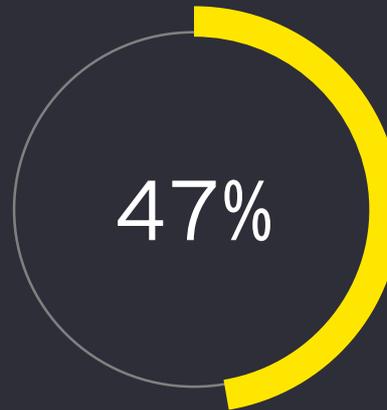
# Against this backdrop, citizens are concerned about their ability to access social services, should vulnerability increase

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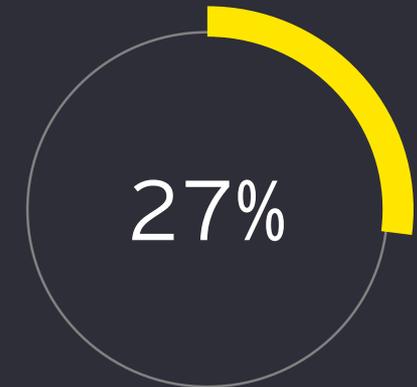
More than half of respondents in the OECD's *Risks That Matter* survey<sup>24</sup> believe that the government would not be able to provide social services, should they lose their income due to old age, job loss or long-term disability.



**Becoming ill or disabled** is one of the three greatest short-term risks for more than half of the respondents or their immediate families.



Nearly half of the respondents reported that they were **struggling to make ends meet**.



**Affordable housing** was a priority for more than a quarter of individuals who were unable to find adequate and affordable housing.

# This is exacerbated by the overlapping and the multidimensional needs of vulnerable individuals and families ...

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Services and benefits are traditionally fragmented across multiple entities, which increases costs and makes services difficult to access.

How can governments ensure vulnerable individuals get and keep **jobs** to ensure their economic stability?

What kind of **food and access to healthy options** can organizations provide in an era of social distancing and remote learning?

What services can organizations implement to provide **adequate and affordable housing**?

## Social services

- ▶ Unemployment services
- ▶ Child welfare and family services
- ▶ Disability services
- ▶ Senior services
- ▶ Refugee services
- ▶ Affordable housing, homeless and food banks services
- ▶ Re-entry services

How can organizations support the **mental health** of individuals as they seek benefits across service providers?

What is the relationship between **safe and sustainable communities** and enabling self-reliance for the vulnerable?

How can the government predict which households are most at risk of **domestic violence** to stage early interventions?

How do governments identify students at risk of falling behind in **education**?

How can the government build **inclusivity** into policies and eradicate discrimination and biases?

# ... as governments face resource constraints and organizational barriers

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1

## Budgetary constraints

- ▶ Social service agencies are under continuous pressure to deliver more with less budgetary resources.

2

## Siloed organizational structures

- ▶ Entities need to collaborate across a fragmented and complex web of organizations with different mandates and information and communications technology (ICT) systems.

3

## Lack of digital skills and data-centric culture

- ▶ Investing in digital skills and organizational culture change is required to maximize the potential of data and technology.

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## Insufficient community engagement

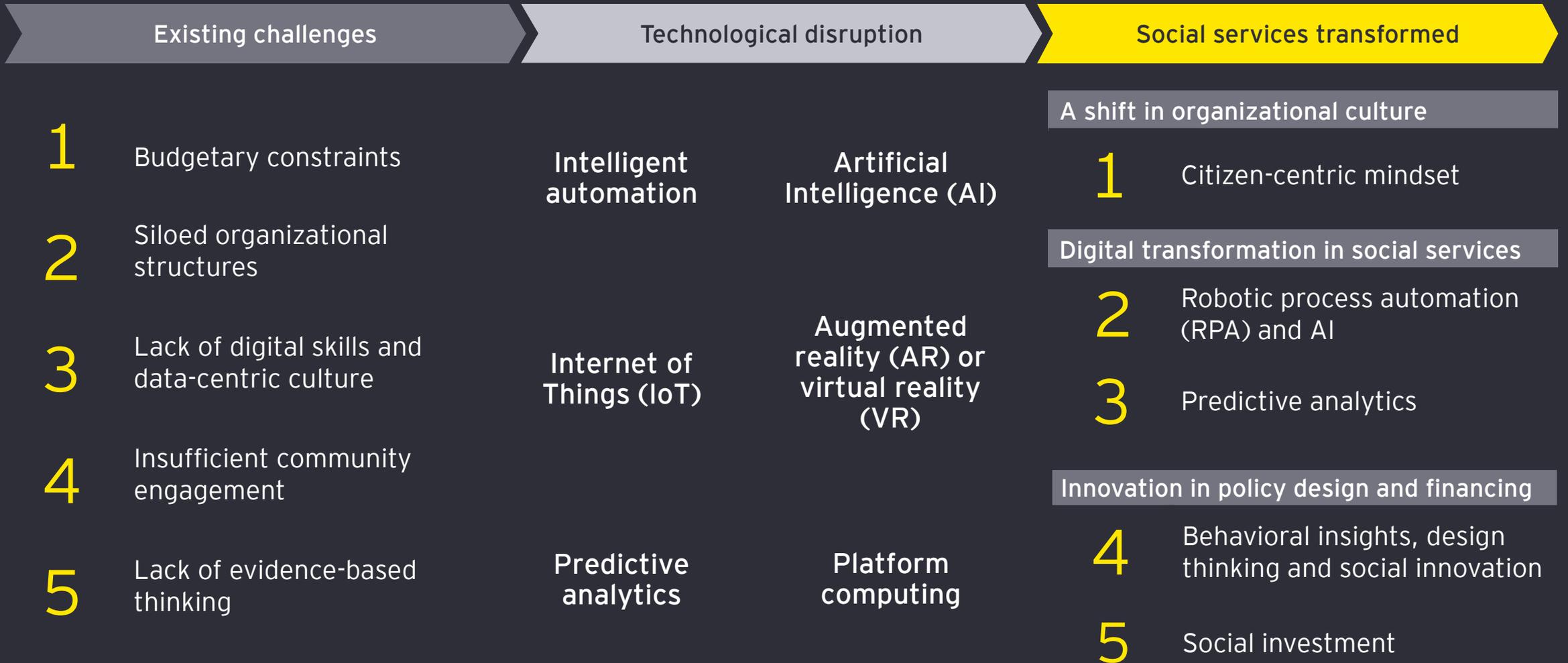
- ▶ Governments will need to leverage the private sector and non-profit expertise to meet the shift in citizen expectations.

5

## Lack of evidence-based solutions

- ▶ Organizations will need to rethink their overall mission and provide long-term and sustainable solutions rather than short-term fixes.

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



A photograph of a person with a white cane and a yellow Labrador retriever standing on a train platform. The person is wearing blue shorts and white sneakers. The dog is wearing a black collar and is looking towards the camera with its tongue out. A large, dark grey question mark is overlaid on the left side of the image.

What's next?



## A “citizen-centric” mindset is transforming how social services are designed and delivered

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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.

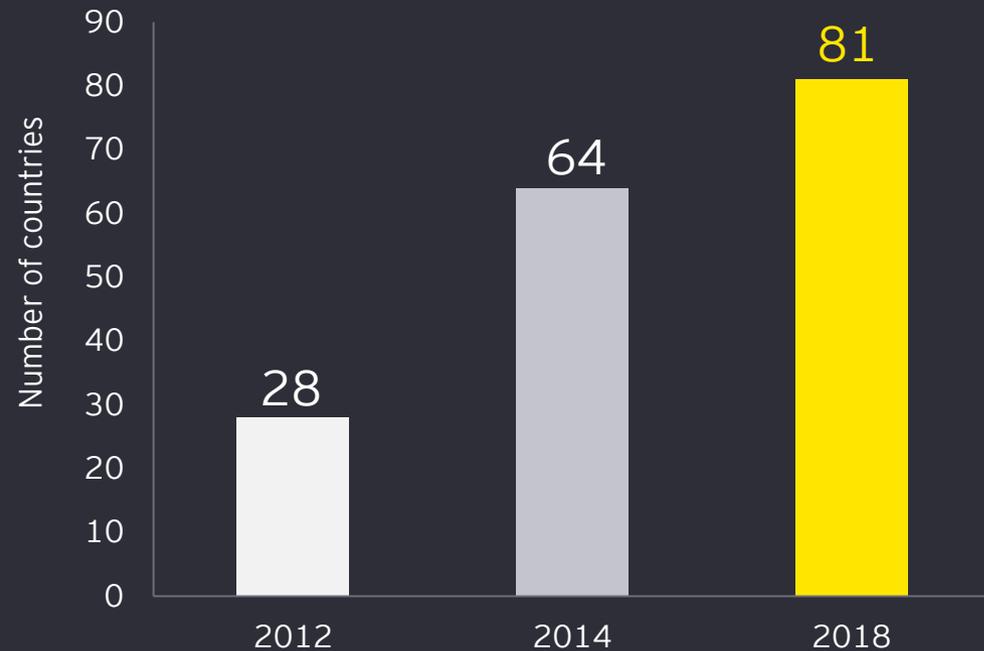
# Digital platforms have helped citizens better understand and navigate social services ...

Traditionally, many eligible service users had difficulty accessing services because of a limited understanding of what benefits they qualify for, which agencies to seek assistance from, and how best to access the services they need. For example, a 2011 survey in France demonstrated that 68% of people who were eligible to receive minimum income benefits lacked enough knowledge to access it.<sup>25</sup>

To help citizens navigate these complexities, governments have been expanding the use of digital platforms, specifically geared toward vulnerable groups. The *2018 UN E-Government Survey* found that the number of countries providing e-resources for vulnerable groups around the world has nearly tripled since 2012.<sup>26</sup>

Longstanding research demonstrates that digital platforms are a key avenue for boosting public trust and greater citizen satisfaction.<sup>27</sup>

The number of countries with websites containing information on services for vulnerable groups is on the rise.



Source: "UN E-Government Survey," *UN website*, <https://publicadministration.un.org/en/research/un-e-government-surveys>, accessed 23 June 2020

# ... and two-way communication platforms have proven critical during the COVID-19 pandemic for getting the right services to the right people

While traditional channels, such as government website portals, increase the supply of information, mobile applications backed by AI-enabled chatbots are transforming how social services organizations communicate with citizens and understand their needs.

These tools have allowed government entities to target critical services and personalize the user experience.

The COVID-19 pandemic has illuminated the urgency and efficacy of digital tools to understand the needs of citizens in real time. Contact-tracing applications have allowed governments to understand citizen experiences, monitor physical and mental well-being, counter misinformation, and aid in crisis management responses.

## Case study: how an Indian state prioritized critical services during the pandemic

EY teams had worked with one of the Indian Government entities to rapidly set up a mobile resource management tool. This was intended to make interaction between citizens and governments easier during the COVID-19 pandemic.

Through the app, the government was able to relay the latest health guidance while simultaneously learning about the individual needs of citizens. The app also proved critical for contact tracing.



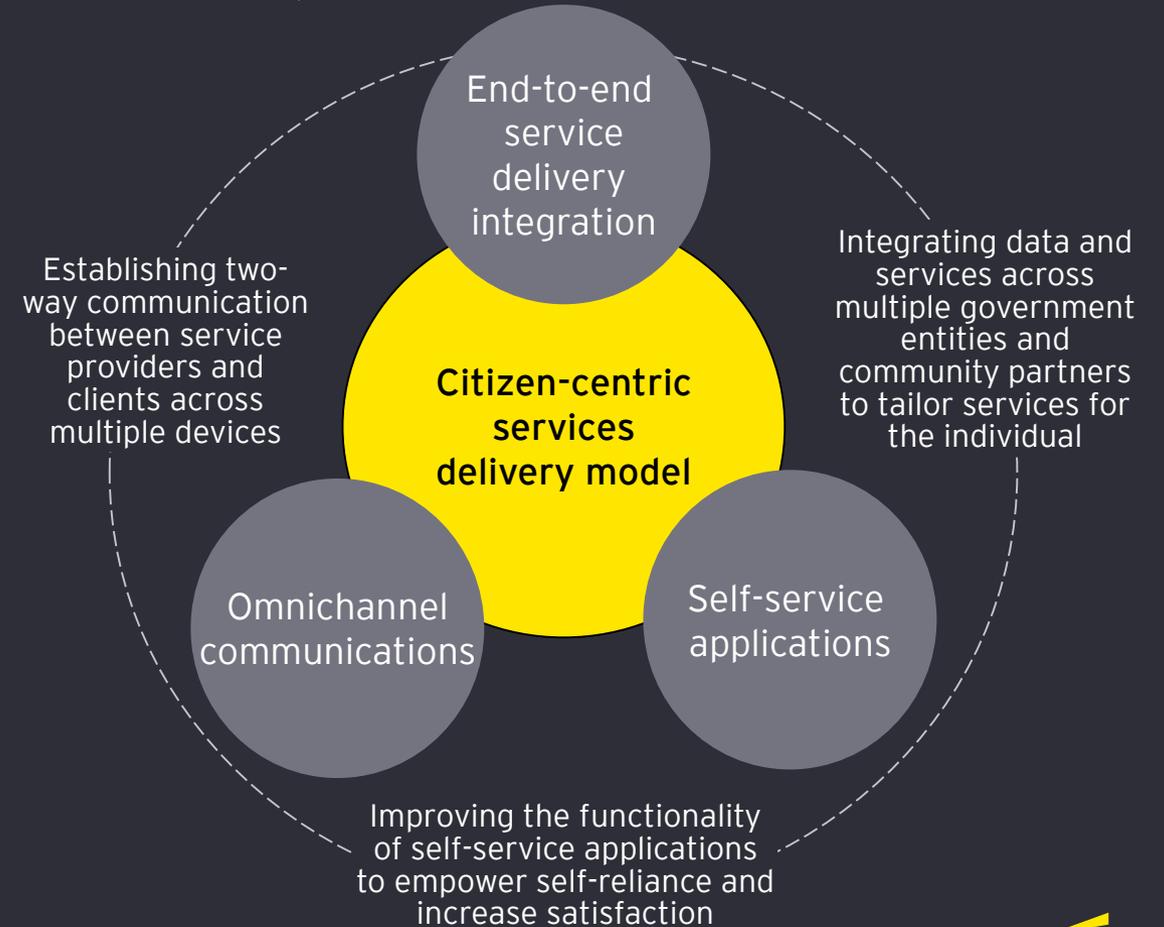
EY teams are working on expanding the app's functionality to include telehealth consultations, supply chain tracking, and efficient management of essentials and resources through predictive analysis.

# This reflects a shift toward a “citizen-centric” mindset where governments are tailoring services around the individual to build long-term resiliency

## Key features of citizen-centric service delivery

- 1 New ways for participation and communication**  
Encouraging participation by citizens through digital tools, and in-person consultations to understand an their needs and priorities
- 2 Close collaboration and data integration**  
Fostering close collaboration between citizens and service providers to understand the experience and needs of the whole individual
- 3 Targeted and tailored service delivery**  
Delivering personalized services at the right time through the right channel
- 4 Empowering citizens and building resilience**  
Allowing users to access personalized services through self-service models to increase satisfaction in governments, build self-reliance and create long-term value

Citizen-centric services provide benefits on the basis of the whole person while fostering collaboration across service providers.



# Citizens are at the heart of the transition of services from “one-stop shops” to “no-stop shops”

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Traditionally, social services organizations tended to adopt “one-stop-shop” models as a single platform for citizens to access information without the need to fill out redundant paperwork. Services Australia, for example, provides specific online services tailored to vulnerable groups, such as people with disabilities, carers, Indigenous Australians, and migrants and refugees.<sup>28</sup> Individuals can then request specific services that are available to them on the basis of their circumstance. This is complemented by a digital assistant to better direct users to the services they need the most.

However, the next stage of citizen-centric services will eliminate forms and website visits entirely. “No-stop shops” will be able to anticipate services based on new events in a person’s life.<sup>29</sup> For example, disability parking permits can be automatically sent to eligible citizens after a doctor’s visit rather than requiring the person to apply for on online.

Austria’s provision of new family allowances exemplifies the “no-stop-shop” approach by having the hospital inform the civil registry electronically when a new child is born. The Austrian Government then consolidates data across departments and automatically sends benefit payments to the new family.

## One-stop shop<sup>30</sup>

- ▶ Single access point for citizens to request services across multiple departments
- ▶ Integrated citizen-centric services across entities using shared database
- ▶ Omnichannel communications
- ▶ Services grouped by target group, life event or function

## No-stop shop

- ▶ Citizen-centric zero-form service delivery
- ▶ Organizations anticipate services needed based on individual life events
- ▶ Information from multiple sources are collected and collated
- ▶ Government-wide integration leads to predictive and anticipatory service delivery



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

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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.

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

Social services by their nature are shaped by empathy and deep human connections, but technology is helping to deploy workers from the back office to environments with greater interaction with citizens. A survey conducted by British Association of Social Workers found that frontline staff are overburden with administrative tasks, with more than half stating that it “could have tragic consequences for service users.”<sup>30</sup> Research estimates that between 15% to 40% of activities in social services can be automated.<sup>31</sup> We expect that this will drive greater investment in RPA.

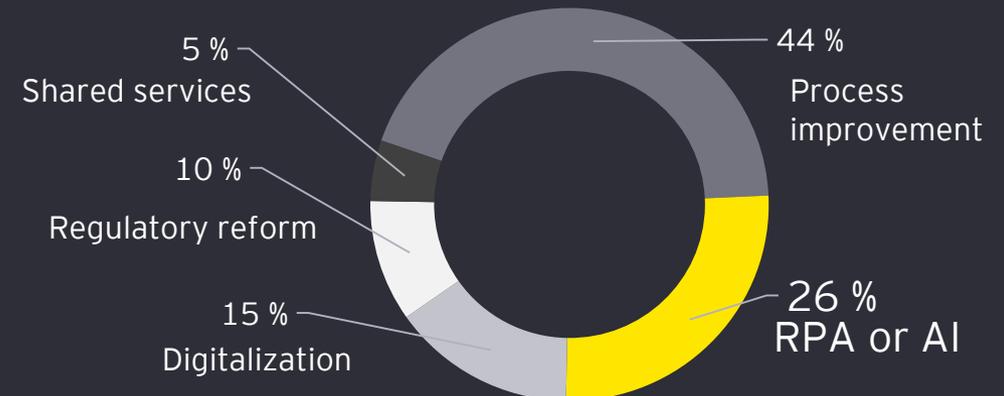
## Key RPA benefits

- ▶ Streamlines the onboarding process and HR skills mapping
- ▶ Helps track policy and rule changes
- ▶ Reduces redundant paperwork and is less error-prone
- ▶ Automates eligibility verification and assists in fraud detection
- ▶ Scales and speeds up benefits processing

## Case study: how RPA is breaking down administrative burdens in the US

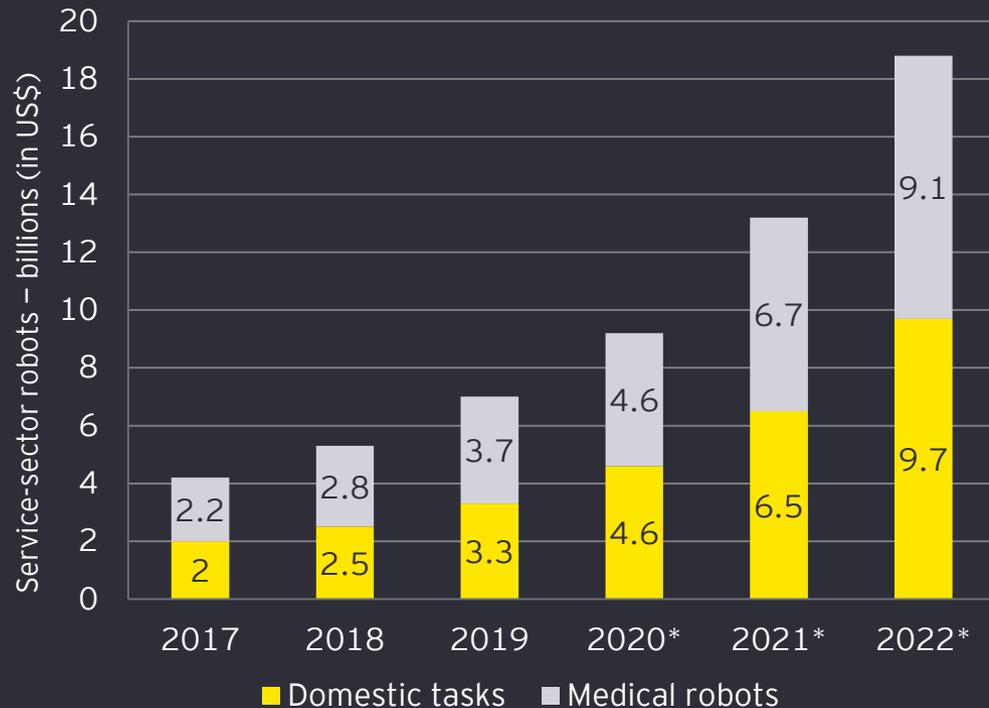
In the US, the Federal Government published a new *RPA Program Playbook* in January 2020 to rapidly scale up RPA's adoption.<sup>32</sup> The Government Services Agency (GSA) estimates that if RPA cuts a mere 20 working hours per employee annually, it will yield US\$3b in savings across the Federal Government. In social services, the Department of Housing and Urban Development reduced the amount of time spent preparing financial statements by nearly six months and also reduced more than 2,000 employee hours.<sup>33</sup>

### US Federal burden breakdown initiatives



# Further development in automation will be driven by intelligent robots and “cobots” to assist with physical, social and cognitive tasks

Global service-sector robots estimated value, 2017–22\* (projected)



Source: “IFR presents World Robotics Service Robots 2019,” *International Federation of Robots website*, <https://ifr.org/ifr-press-releases/news/service-robots-global-sales-value-reaches-12.9-billion-usd>, accessed 23 June 2020,

Intelligent robots can help empower vulnerable people by promoting their mobility, reducing loneliness and increasing self-reliance to live more independently. While their use in social care has been limited so far, their deployment is becoming more widespread in countries, such as Japan, which face an aging population and shortage of care workers.

## 1 Physically assistive robots (PAR)

PARs in social services provide physical assistance in walking, lifting, carrying, feeding and washing clients. The different types of PARs span from wearable devices to help with walking, exoskeletons and “cobots” (humans augmented by robots) to help lift patients, and domestic task robots.

1

## 2 Socially assistive robots (SAR)

Clients can leverage SARs to aid in their daily lives, including sensors to detect and prevent falls, reminders for taking medication, and monitoring of client health and safety.

2

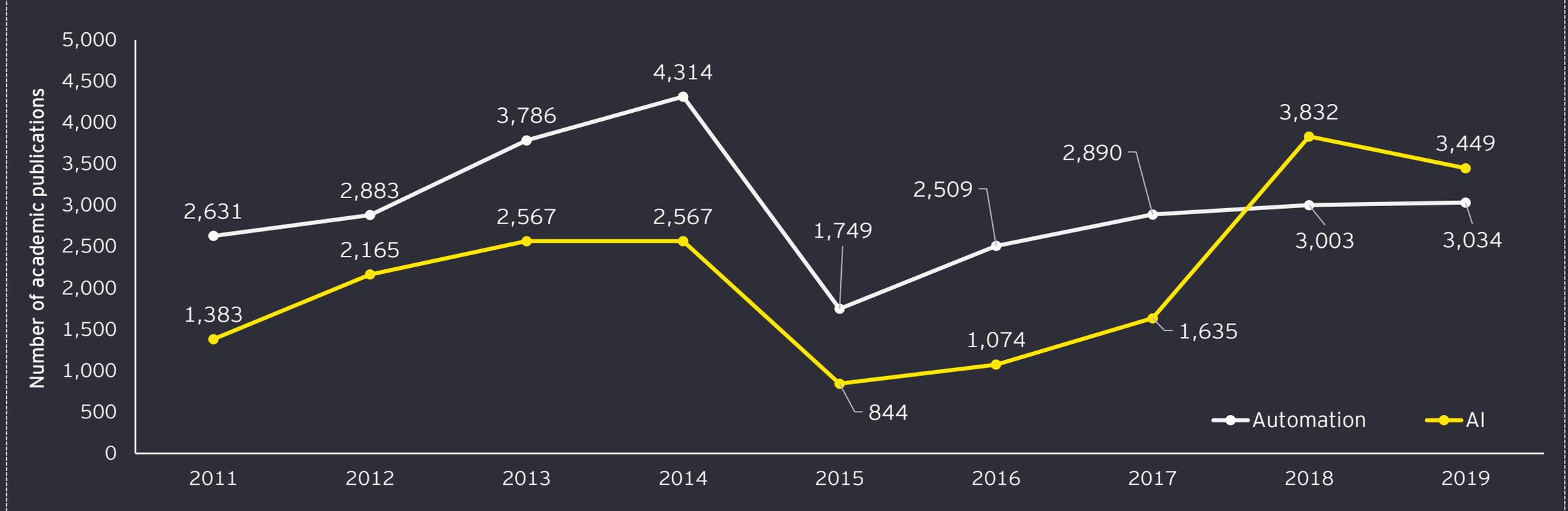
## 3 Cognitively assistive robots (CAR)

CARs have been used to help people with cognitive tasks and improve memory functions, assess child well-being, and promote learning for individuals with a disability.

3

# Research trends indicate that more cognitive and emotional AI applications for social services may be on the horizon

## Research trends in RPA and AI social services applications



In recent years, research on AI applications in social service delivery is outpacing RPA. AI-enabled delivery of services through personalized chatbots, real-time language translation, machine learning and real- or near-real-time feedback is revolutionizing how citizens interact with governments. Moreover, AI applications are increasingly able to engage in a cognitive-like process to analyze body gestures and changes in speech patterns to make sense of nonverbal cues from users.

Source: The aggregated totals are calculated from publication metrics. The total refers to the number of publications referencing "automation" or "artificial intelligence" and either "social services" or "human services."

# This combination of intelligent automation, cognitive technologies and AI are dramatically expanding opportunities in social services ...

## Automated skills profiling

Several OECD countries are leveraging machine learning and algorithmic profiling of job seekers to match with available employment opportunities.<sup>34</sup> These models:

- ▶ Rapidly match job seekers to fill opportunities with critical skill gaps
- ▶ Personalize the job matches and determine which benefits are most appropriate
- ▶ Determine jobseekers, who are most at risk of becoming unemployed over the long term

## Social companion robots

Social companion robots, such as Tinybot Tessa in the Netherlands are helping elderly patients cope with cognitive behavioral disorders such as dementia.<sup>35</sup> The robots:

- ▶ Encourage individuals to talk about specific memories and play music tailored to their preferences
- ▶ Motivate users to still do things they are capable of doing to empower individuals and delay a decline in physical health

## AI-enabled fraud detection

Ireland's Department of Employment Affairs and Social Protection developed an AI-enabled platform<sup>36</sup> to evaluate fraudulent claims and payments by:

- ▶ Scanning all applications in the system for repeated phone numbers, names and addresses and cross-validating information on benefit applications with publicly available information
- ▶ Fostering trust in the system from existing users by improving fairness
- ▶ Saving more than €800,000 in 2019 by suspending payments for fraudulent claims

## IoT monitoring devices<sup>37</sup>

IoT devices such as fall detection wearable devices, smart pillboxes, and sensor monitors in the homes help increase the sense of safety and independence of vulnerable individuals by:

- ▶ Ensuring faster response time for emergencies
- ▶ Optimizing staffing levels and capacity
- ▶ Reducing the frequency of in-person check-ins and, sometimes, subsites for living in an assisted living facility

... along with several risk factors:

- ▶ Safety and privacy concerns
- ▶ Reluctance from existing staff in using technology at the expense of professional judgment
- ▶ Ingrained cultural attitudes toward family care of the elderly
- ▶ Concerns over algorithmic bias
- ▶ Lack of human co-creation and validation in modeling strategies
- ▶ Prohibitive costs of many cobots and humanoids

# 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 harmed, 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



### 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

# 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.

## 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.

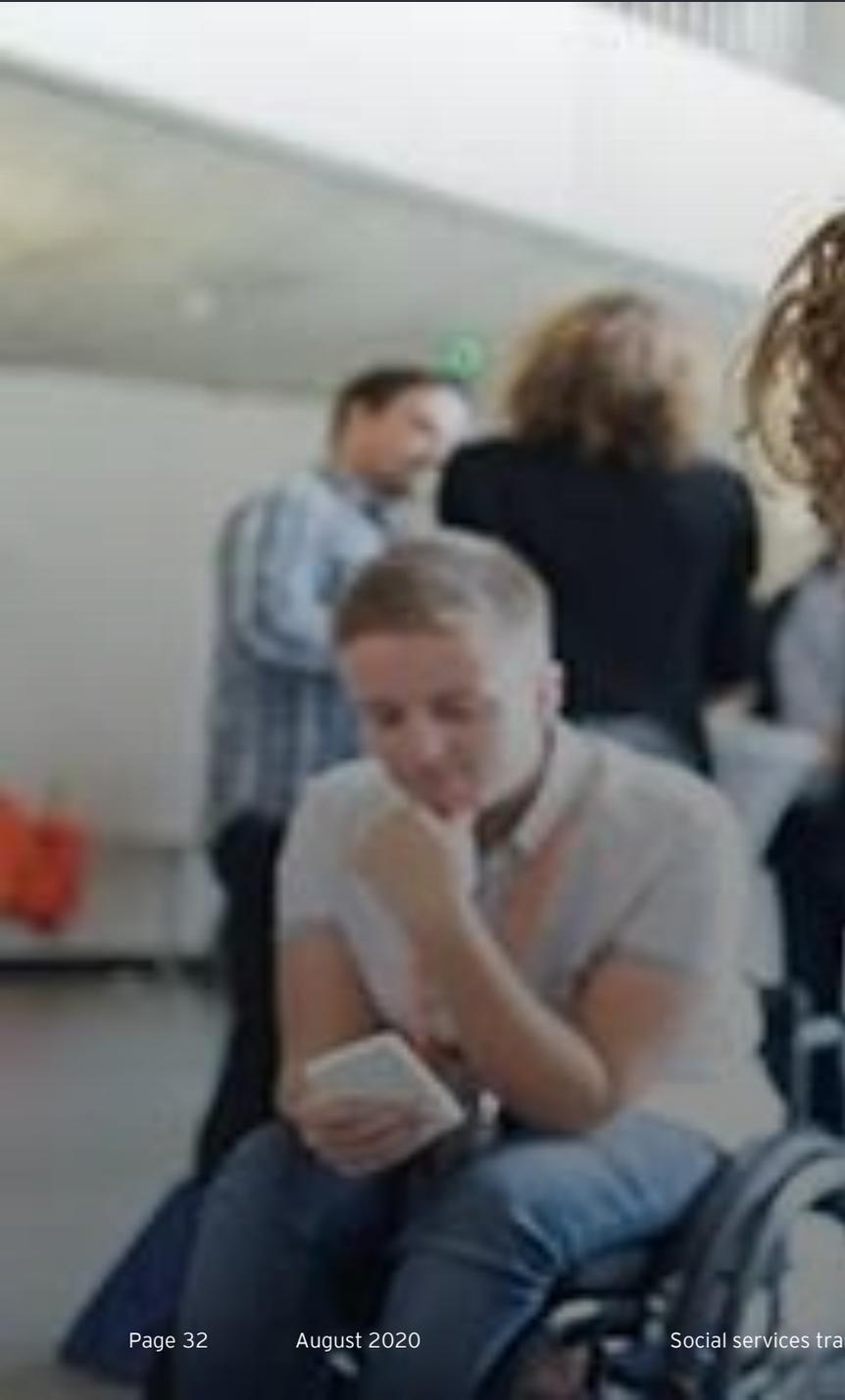
From identifying risk factors such as absence from school to home repair requests, the technology was able to provide a whole-of-system view of services for vulnerable children and their families. This helped to better align their expenditures with outcomes.

## 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.



## Social services agencies are promoting positive choices through behavioral nudges, gamification and design-centered thinking

The rapid integration of behavioral economics into social services is leading to a greater understanding of how citizens access services and new ways to empower people to select better outcomes.

- ▶ Behavioral insights (BI) teams are realigning incentives between citizens and agencies to overcome cognitive biases and improve social outcomes.
- ▶ To address questions of the effectiveness and scalability of BI, government entities are incorporating better social interventions through ethnographic research and gamification.
- ▶ This builds on the expansion of policy labs, hackathons and design-centered thinking to provide a testing ground for new ideas and better policy interventions.

# Behavioral insight teams are realigning incentives between citizens and agencies to overcome cognitive biases and improve social outcomes

Social services organizations have been exploring insights from behavioral economics and decision-making sciences, including psychology, cognitive science and organizational theory. All of these are used as strategies to change negative habits and ingrained behaviors that may impede access to services.

Some governments are testing the use of nudges to help lessen the burden on call centers and reduce hardships from delayed or canceled unemployment benefits. In Australia, for example, more than 80,000 jobseekers (every two weeks) fail to report income verifications on time. By sending SMS reminders, the Department of Human Services was able to increase on-time reporting by 13.5 percentage points, reduce payment cancellations by about 43% and save about 6,000 working hours of the frontline staff annually.<sup>38</sup>

More than 200 institutions have established behavioral insights teams worldwide, with central and subnational governments encouraging to experiment further with social services.<sup>39</sup> For example, Singapore reframed their messaging strategy to increase participation in foster care, while the city of Philadelphia leveraged personalized reminders to encourage greater enrollment of the elderly in utility discount programs.<sup>40</sup>

## How can BI teams assist social services?

Citizens seeking government assistance often do not understand the information being provided to them or do not pay attention to what is actually being asked of them.

BI teams aim to make small design changes in policies to help vulnerable citizens overcome cognitive biases that prevented them from acting in their own interest. These biases include habits, such as:

- ▶ **Overvaluing** the status quo relative to better alternatives
- ▶ **Fixating** on the vulnerability of their current situation
- ▶ **Overestimating** their own abilities to cope with the situation rather than relying on assistance
- ▶ **Falling back** on most recent memories to help them understand complex or conflicting messaging

Organizations can rely on “nudges” to encourage people to take action through:

- ▶ **Implementation prompts** by encouraging people to take an action by mapping out actions in steps
- ▶ **Frequent and personalized reminders** to encourage and activate a sense of urgency
- ▶ **Narratives** to activate, recall and retain particular ideas
- ▶ **Reframing messages** around positive outcomes to increase the likelihood of action

# To address questions over BI's effectiveness, government entities are leveraging ethnographic research and gamification to improve behavioral interventions

Despite the increasing popularity of behavioral insights in social services, some policymakers have expressed skepticism over BI's effectiveness, applicability and ethics.

To address these concerns, BI teams are incorporating design-centered thinking on the basis of qualitative and ethnographic research to ensure they accord with reality. In Bangladesh, for example, a public innovation unit, a2i, along with Nesta established a methodology to promote empathy through visits to service delivery centers. By witnessing first hand, the pain points in accessing services, BI teams were able to design more effective interventions.<sup>41</sup>

BI teams are also embedding interventions within computer and digital games to increase the appeal of participation. Gamification strategies have helped to promote policy co-creation by vulnerable groups, which are normally excluded from policy design process. For example, UN-Habitat, Microsoft and Mojang developed a computer game, Block-by-Block, to encourage the involvement of disadvantaged communities in the urban planning decisions.<sup>42</sup>

## Top reasons for opposition toward adoption of BI in public services

22%

of public servants surveyed reported resistance to applying BI in their organization

### Top reasons for opposition

- ▶ Skepticism on effectiveness and applicability
- ▶ Resistance to change and innovation
- ▶ Ethical concerns
- ▶ Media and stakeholder criticism
- ▶ Ethical and effectiveness concerns

Source: OECD. "Behavioural Insights and Public Policy: Lessons from Around the World", 2017 Available from: <https://dx.doi.org/10.1787/9789264270480-en>, accessed 27 August 2020.

# This builds on the expansion of policy labs, hackathons and design-centered thinking to provide a testing ground for new ideas and better policy interventions

The fragmentation of social services across different providers in the public, nonprofit and private sectors provides the potential for increased knowledge and cooperation. One challenge in harnessing diverse viewpoints for better policymaking has been a lack of venues to share ideas and foster innovation.

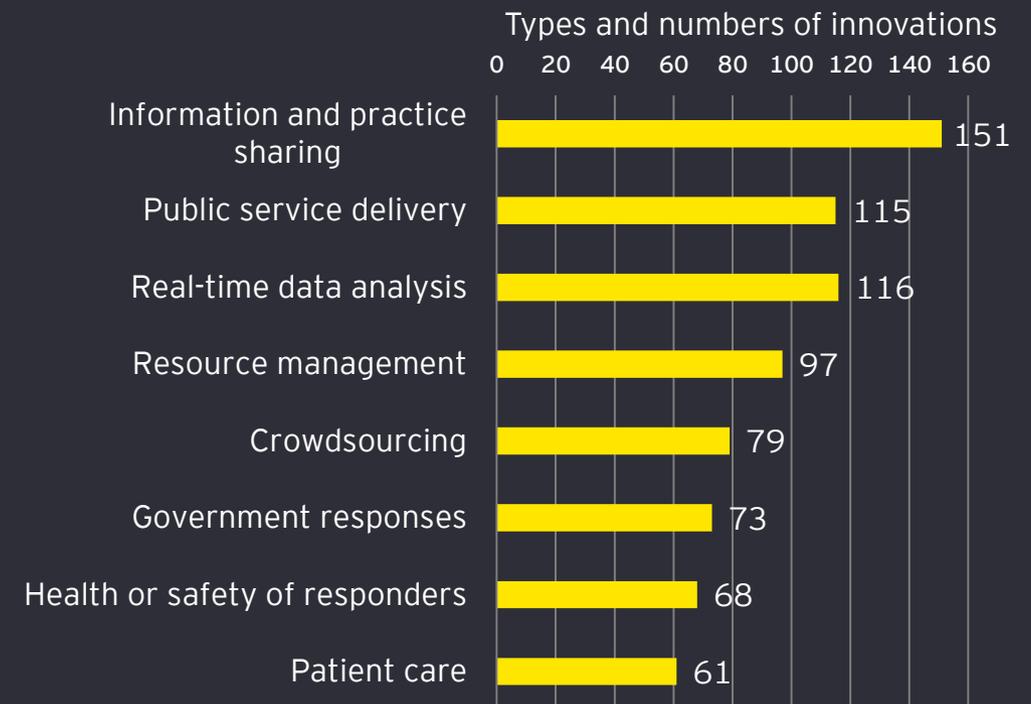
To close this gap, more than 180 policy labs have been setup to incubate ideas and provide a testing bed for staging policies.<sup>43</sup> Through these labs, providers work with citizens and community partners in the co-creation of policies and services. These policy labs are also leading the way in launching open challenges and hackathons to discover solutions to increase the efficiency, coordination and delivery of social services.

## Case study: EUvsVIRUS

EY teams played a central role in supporting the European Commission host *EUvsVIRUS*, the world's largest-ever hackathon. The crowdsourcing activity brought together more than 20,000 innovators across civil society, the private sector and governments to develop more than 2,000 novel solutions. Over a weekend, innovators developed the following solutions to support vulnerable groups during the crisis (as lockdowns are eased):

- ▶ Connecting vulnerable groups with volunteers
- ▶ Gaining access to critical supplies
- ▶ Introducing gamification technologies
- ▶ Encouraging behavioral changes to maintain social distancing

## Governments, nonprofits and private providers have been collaborating and innovating at speed to respond to the pandemic



Source: "COVID-19 Innovative Response Tracker", OECD-OPSI website, <https://oecd-opsi.org/covid-response/>, accessed 8 June 2020.



## Challenging government finances will place greater emphasis on alternative social financing strategies

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Governments will look to develop new long-term financing strategies and social investment models to meet the increased demand for social services after economic stimulus measures are withdrawn.

- ▶ The unprecedented levels of economic relief packages from the COVID-19 pandemic will further accelerate the use of alternative social investment strategies.
- ▶ As social investing matures, investors may become more risk-acceptant and produce longer-term value.

# The economic relief packages to counter the pandemic will further accelerate the use of alternative social financing strategies

Governments around the world have rolled out more than US\$11t as part of economic relief assistance to counter the effects of the pandemic, which will worsen pre-existing budgetary constraints. As a result, governments will look to strengthen alternative financing strategies, such as social impact investing, to cover the gap.

Innovative financing models such as payment by outcomes (PbOs), pay-for-results contracts and social impact bonds (SIBs) are effectively improving the delivery of outcomes and transferring risks to private investors, and nonprofits and civil society organizations.

We expect that linking spending with outcomes will continue to encourage outside investments, minimize the cost burden on citizens and government, and focus more on delivering high-quality services.

## What are the pandemic's effects on social impact investing?<sup>44</sup>

- ▶ Social impact investing has been largely able to adjust to the crisis by leveraging its focus on outcomes rather than processes.
- ▶ Organizations can, therefore, be more agile in changing services while still striving to achieve their long-term goals.
- ▶ Some investors are also providing bridge funding to support service providers in implementing alternative delivery models.
- ▶ Contracts are being extended and contingencies are being built in for future disruption.
- ▶ Investments are also being made to upgrade data collection systems in a remote setting.

### Impact investment

#### Capital and contracting agreements

1. Investors providing capital
2. Type of services and mode of delivery determined
3. Data collection support received
4. Contracts negotiated and signed

#### Outcome metrics

1. Outcome metrics agreed by stakeholders
2. Independent verification of data and evaluation criteria
3. Operational risk born by investors

# As social investing matures, investors may benefit from better evaluation tools to become more risk-acceptant and produce more long-term value

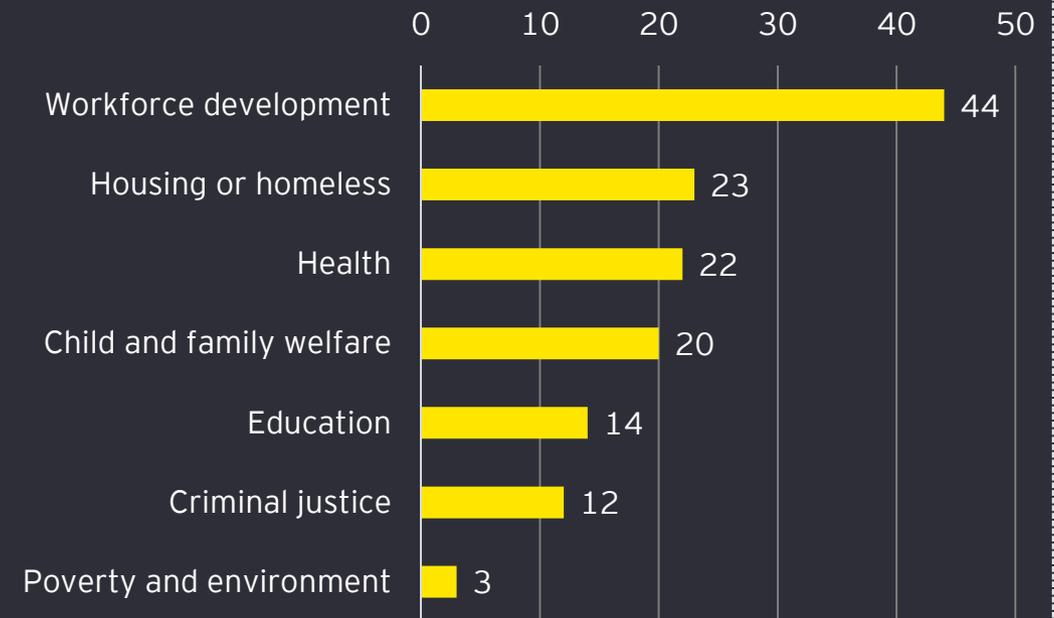
Social impact investing is rising in popularity with funds flowing to a diverse set of services. This is occurring against a backdrop of urgent calls for corporate responsibility and sustainable finance. We anticipate that social impact investing may benefit from this shift in corporate and social values by encouraging new investors. Some of these investors may be willing to take on riskier projects following the development of better data collection procedures and a standardized set of assessment methodologies.

Addressing upskilling, combatting homelessness and enhancing public health constitute more than half of the 136 social impact bonds currently implemented.

## US\$441m

raised in capital in 26 countries

### Social impact bonds by type



Source: "Impact bond global database," *Social Finance website*, <https://sibdatabse.socialfinance.org.uk/>, accessed 2 June 2020.



# Looking to the beyond

# 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<sup>45</sup>

### 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

### Senior care

- ▶ Determine eligibility and access qualified senior care benefits
- ▶ Get reminders of active aging Programs near one's residence through geolocation targeting

# ... 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.<sup>46</sup>

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.<sup>47</sup>

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.<sup>48</sup>

## 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

# In the post-pandemic environment, narrowing the digital divide and improving accessibility standards will become key priorities for service providers ...

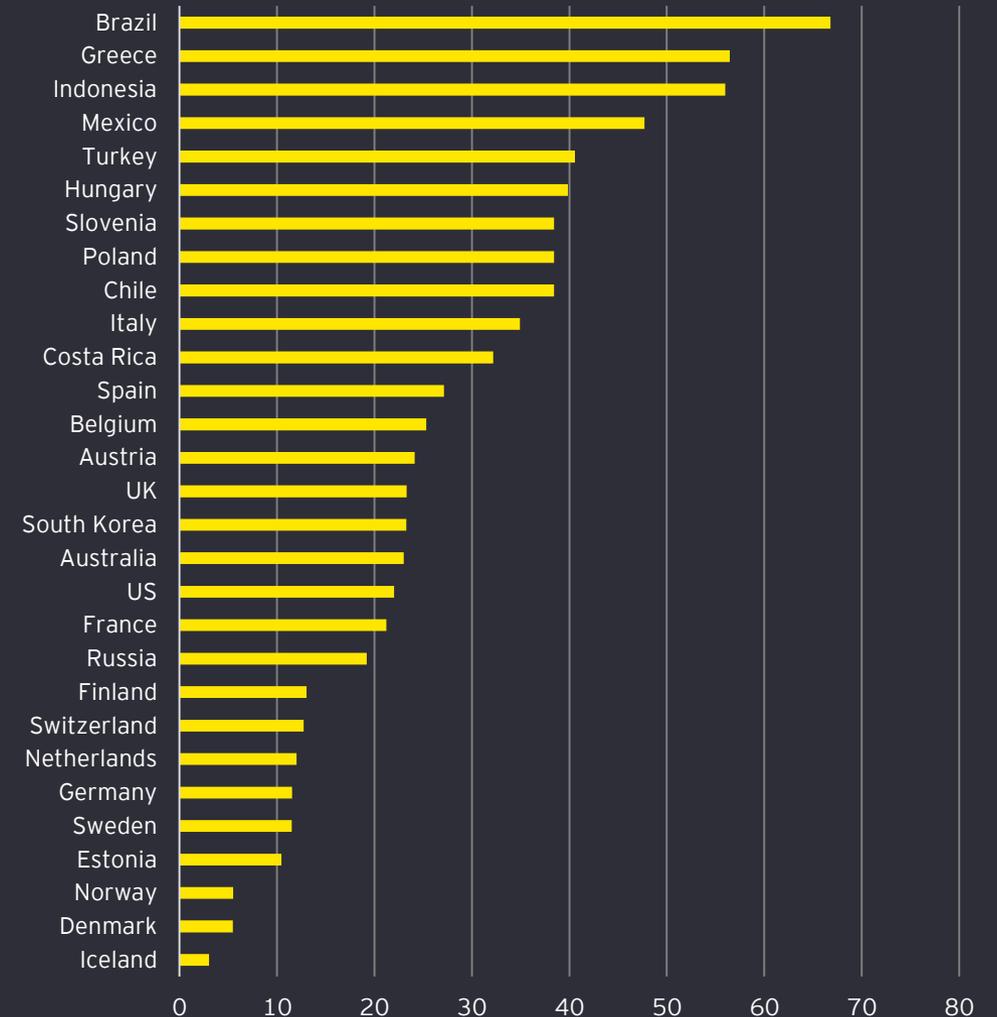
The sudden progression to remote service delivery during the pandemic has accentuated the digital divide and disproportionately challenged disabled individuals. The rapid development of new digital tools meant they were not always compliant with accessibility standards. There is considerable opportunity for investment in upgrading and incorporating accessibility standards into new digital platforms.

Relatedly, the acceleration of digital service delivery has accelerated the need to close the digital divide. During the pandemic, the closure of schools affected 90% of the world's student population. Globally, this meant that less than a quarter of students in low-income countries had access to remote learning during the shutdown.<sup>49</sup> However, even in high-income countries, internet access is not universal. Vulnerable children and workers are particularly at risk at being left behind during the shutdown.

To address these challenges, countries will increase investment in broadband infrastructure and digital upskilling, and reinforce accessibility standards.

Source: "Measuring the Digital Transformation," *OECD website*, <https://doi.org/10.1787/9789264311992-en>, accessed 23 June 2020.

Digital divide in internet use by education, 2018



(Percentage difference in usage between high and low education)

# ... along with increased concerns over data privacy, algorithmic bias and cybersecurity

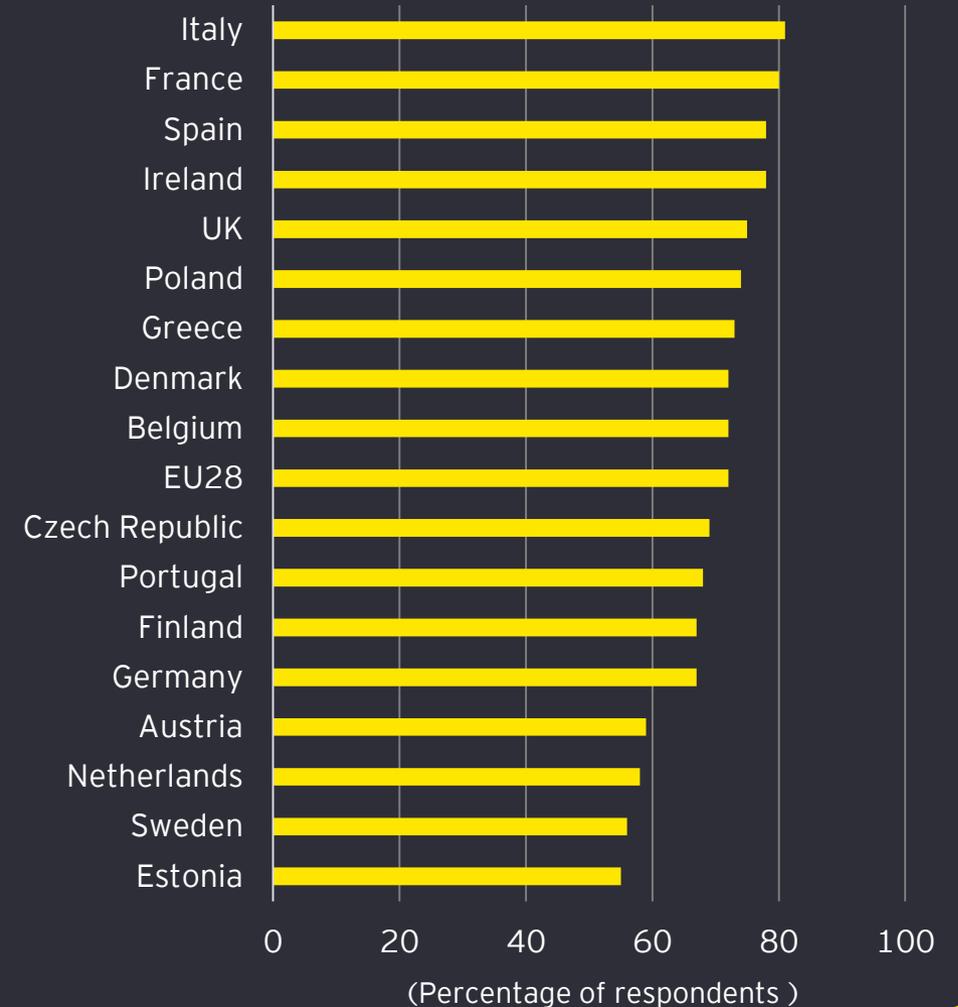
The new digital tools developed during the pandemic have varying degrees of privacy and cybersecurity features. While the use of geolocation data and unique identifiers have proved valuable in containing the pandemic, we anticipate increased scrutiny of data protection regulations and privacy standards in the post-pandemic world. This heightened awareness will drive “privacy-by-design” features to be embedded in the design of future digital applications and platforms.

The pandemic has also raised awareness of cybersecurity risks, including email phishing attempts impersonating governmental public health authorities, and malware websites mimicking official COVID-19-related government and institutional websites. All of this will increase greater scrutiny of cybersecurity.<sup>50</sup>

Moreover, the ethical implications of AI-enabled tools leveraged by governments during the pandemic will gain prominence. As the world recovers, we expect more countries to design and implement frameworks for countering algorithmic bias and regulating AI.

Source: “Special Eurobarometer 447,” *Eurostat website*, [http://ec.europa.eu/information\\_society/newsroom/image/document/2016-24/ebs\\_447\\_en\\_16136.pdf](http://ec.europa.eu/information_society/newsroom/image/document/2016-24/ebs_447_en_16136.pdf), accessed 23 June 2020.

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# Read the latest thinking



How can data tell a story that keeps a child safe?

End-to-end approach for leveraging data to help governments transform their child protection systems.



Understanding the impact of COVID-19 on out-of-home-care in Australia

Insights into how the pandemic is increasing strain in the Australian foster care system.



How government can provide strategic services for individual and family recovery?

The EY Vulnerable Person Platform allows governments to analyze structured and unstructured data and identify key risk indicators to support families in their recovery from the pandemic.



Will the road to recovery lead to an economy that's revived or reimagined?

Insights into how governments can reshape the recovery from COVID-19 pandemic in a way that will reframe the future to deliver a more sustainable and equitable revival.



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