COVID-19 Response

Practical ways of using Digital/ Digital health

April 2020

EY

Building a better working world

Agenda

1.	Introduction	5 min.
2.	Sharing of practical approaches in dealing with COVID-19	30-40 min.
4.	Wrap up and next steps	15 min.

1. Introduction

COVID-19 crisis: Now, Next and Beyond

TOPIC	SECTOR POV	ACTIONS - NOW	ACTIONS - NEXT	ACTIONS - BEYOND
Government and Public Policy	1. Emergency policy changes that impact the health sector 2. Geopolitical implications including travel restrictions and supply chain impacts that result in testing shortages	1. Unprecedented public policy changes 2. Significant stimulus packages and economy management 3. COVID as notifiable disease	1. Recession management 2. Economy recovery policies 3. Public/private bail-outs	1. Government resilience transformation 2. Health sector reform
Employee Health and Well Being	1. Significant impact to morale and widespread burnout during sustained peak infection period 2. Risk of infection, particularly for front line staff	1. Securing maximum required supplies for protective clothing 2. Rapid implementation of virtual care technologies to reduce contact for critical front line staff	1. Implementation and optimisation of new ways of working that protect frontline clinical workers 2. Reinforce processes for clinical staff to work at top of their qualification	1. People and Culture transformation 2. Virtual care expansion
Talent and Workforce	1. Workforce shortages during peak virus outbreak due to 1) demand and 2) increase sickness of frontline staff being infected by the virus	1. Workforce analysis and modelling to predict deficit and infection rate 2. Call back retired key staff to increase capacity 3. Virtual care solutions to free capacity	1. Model workforce capacity and risks as the curve reaches peak and until the end of surge 2. Continuous education on COVID best practices, as they are emerging	1. Care model transformation
Technology and Information Security	1. Rapid need to set up technology infrastructure for care solutions and for remote working e.g. enhanced network connectivity, corporate solutions	1. Rapid technology deployment for triage and patient management	1. Stabilisation of technology solutions rapidly deployed	1. Digital strategy and transformation 2. Tech-enabled smart Hospital establishment

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2. EY sharing on practical approach in dealing with COVID-19

Strategic approach to address the pandemic

1
Slow Spread

Slow the spread of the virus

2
Reduce Surge

Reduce the anticipated surge in health care use

3
Enable Access

Provide patients with the right level of access, care and access to medicines

4
Expand Testing

Expand testing capability to increase available hospital capacity

5
Tailor Isolation

Tailor isolation to minimize transmission of COVID-19

Key points in response to the Covid-19 pandemic

What are some of the major issues?

Challenges

- Covid-19 is highly consequential for governments globally. The ongoing outbreak underscores three urgent tasks.
- Firstly, quick response to the current public health emergency is necessary. Key action areas are: limiting contagion, stockpiling critical medical supplies, diverting funds to emergency research, and prioritizing resources to reach populations most at risk.
- Secondly, focus on maintaining essential core functions including security, the food supply chain, and education is vital.
- Thirdly, there should be preparation for the possibility of a significant global economic downturn.

What should be done?

While it may be too early to fully understand the severity of this crisis and its long-term implications, there are several areas where focus is needed, including:

- **Citizens and service delivery** – ensuring citizen safety and protection, and the ability to keep delivering essential services.
- **Employees** – focusing on their overall health and well-being.
- **Public policy response** – putting in place policies and guidance to cope with the short-term impacts.
- **Stakeholder communications** – communicating to ensure clarity on public safety, security, and financial measures – in particular to the hardest to reach groups.
- **Risk, technology and information security** – focusing on strategic and operational risks to government services, from business continuity to cybersecurity

EY's view on key government actions linked to eHealth in Dealing with COVID-19

Crisis management mobilisation

Digital health platforms and telehealth for access to medical care and information

Rapid deployment of cloud and mobile applications
+
AI-driven triaging

Ensuring IT infrastructure supports remote working

Data-driven crisis experience management

e-Learning at scale to ensure daily practice sharing and update

Rapid diagnostic to identify key processes and effort of on site personnel for business continuity

Main issues identified:

- Government organizations suffering from siloed departments and processes need an integrated approach to ensure continuity of critical operations during crises.
- Governments have been slow to adopt digital applications important for business continuity and have instead relied on basic technology.

COVID-19 preparedness assessment toolkit

- Quick indication of organisation's overall preparedness level for the COVID-19 pandemic
- Automatic mechanism for preparedness score

Delivery models for mission critical services

- Cross-reference of mission critical services with technological stock
- Work models for remote, hybrid and on-site services

Prioritization matrix of critical services

- Prioritising critical services and resources during a partial shutdown
- Listing of critical services for which critical continuity processes must be secured

Health systems and hospitals will need operational support to balance crisis management and ongoing routine care delivery

Main issues identified:

- Need for visibility and control measures for citizens in quarantine to maximise compliance.
- Low visability of nation wide resources (medical assets, supplies, drugs, devices, and medical human capital).
- Disruptions to supply chains and shortages of vital resources (e.g. medicines, protective gear, respirators and testing kits).
- Need to better anticipate demand and actively manage supply, including support from other sectors.
- Need to better manage scarce clinical resources.

Crisis management centre mobilization

- Establishment of crisis command center integrated with hospitals and health system
- Mobilizing resources/assets – staff, procedures
- Ensuring omni-channel integration
- Establishing dashboards/ analytics on capacities and demand (beds, theatres, diagnostics and financing) (UK and Ireland with EY Cognistreamer)
- Contact center assistance integrated with pandemic experience monitoring and reporting
- Contact tracing (with privacy encryption)

Clinical workforce and vital resource analysis and planning

- Analysis and action plan to reduce non-critical services, and optimize virtual care delivery
- Optimize processes to let the medical professionals focus on their job
- Refine schedules, procedures and infrastructure
- Establish predictive analytics for modelling workforce needs and vital resources/ supplies using cloud-based tools (e.g. Microsoft Azure stack)

Health systems around the world are looking to improve virtual care delivery, diagnosis and patient communications

Main issues identified:

- High risk of demand exceeding healthcare system capacity.
- Care delivery needed for patients quarantining in place and for inpatients requiring ongoing care.
- Inability to effectively triage patient population and respond rapidly to most vulnerable, high risk cases.
- Need to effectively track, trace and monitor patients requiring follow-up.
- Specialists need to use limited time as efficiently as possible and avoid infection.
- Need to take pulse of population in real time and manage communications.

Digital health platform

- Online voice and video consultations, basic eHealth services: ePrescription, eReferrals, Electronic Image sharing to avoid unnecessary visits
- COVID lab test e-referrals and reporting
- Connect health professionals via telemedicine, use corporate collaboration tools (e.g. MS Office 365, Webex, Infectious disease telemedicine tool in Chile)
- AI Chatbots to answer medical questions, collect patient condition information, classify patients and connect with doctors (Azure Cloud AI engine in US)
- Provision of real-time and historical data to professionals

AI-driven triage apps

- Apps for prevention, triage, location, monitoring and remote information provision for the public in real time (Italy)
- Provisioning of epidemiological data for real-time analytics
- Continuous collection of epidemiological data enables real-time analytics of patients reporting symptoms
- Location sharing to track the numbers and locations of patients likely to be infected (subject to patient consent) (GIS web app in India)

Communication to enforce patient adherence

- Using mobile operators data for location analytics
- Requesting a permission to leave home by SMS
- Surveillance of people at home (China)
- Randomized periodic requests to upload photos from the current location to verify adherence to quarantine rules (Poland)

Remote working requires a new model of work

Main issues identified:

- The unprecedented risk of Covid-19 is prompting governments and businesses to move towards virtual and remote ways of working.
- The shift to smart working models has been hindered by a reluctance to: change existing processes, implement employee training, and avoid initial costs.
- Increased risk of security breaches as a result of strong enough data privacy and security controls.

Analysis and benchmarking

- Analyze mission critical services to ensure quality and continuity during remote working
- Priorities and suggestions of smart working best practices

Drafting guidelines

- Digital tools for smart working on critical processes
- Determined the barriers and risks to large scale workforces working remotely

Creating training manuals

- Preparation of training material
- Communications to formalize the guidelines and inform employees

Design the new smart working model

- Develop and establish virtual models of operations, remote collaboration tools, communication and training
- Execute smart working labor contracts to turn a crisis response into a structural smart working

Ensuring IT infrastructure supports remote working

Main issues identified:

- Lack of robust IT infrastructure and processes to support agile ways of working on a large scale.
- A significant shift towards remote working can affect network performance, which has an impact the ability to execute processes and deliver citizen services and other outcomes.

Readiness analysis

- Organization's technological readiness and gaps analysis
- Identification of technological solutions (hardware/software) to be deployed rapidly

Technology setup

- Arrange access to your systems to enable work remotely whilst ensuring your data is secure and managed well
- Deploy robots to support key back-office processes in finance, payroll and HR
- Development of remote working models, activation of the selected tools, admin/ user guides, training and communication contents

Adoption support

- New working models and efficient/effective use of new digital tools
- Develop dashboards and improvement actions

Technical training

- Train the organizational population on correct and regular use of the tools and working methods introduced
- Development of training schedules, sessions and communication plans

Effective crisis management requires a real-time conversation with people to make data-driven decisions

Main issues identified:

- During a crisis, governments struggle to connect with their own populations as communication is all one-way.
- Given the restrictions on public gatherings, there is a need for better ways of connecting digitally for insights into people's experience and attitudes.
- Leaders need a continuous update of data to understand the evolving situation.
- And a need to identify populations most at risk to formulate rapid response plans.

Epidemic experience management, monitoring and reporting via mobile digital channel

- Relaying government information
- Checking health status
- Call center assistance
- Taking the pulse of the population in real-time (e.g. Community engagement platform in India for supporting hygiene practices)
- Taking the pulse of healthcare workers

Predictive analytics for emergency response & recovery

- AI to identify populations at risk
- Improved emergency response time
- Integrated analysis of massive amounts of data into existing crisis management center
- Long-term predictive planning based on data collected

Data-driven crisis management enablement

- Data-driven insights contingency planning and emergency management
- Crisis management solutions at scale that are responsive to citizens
- Data-driven insights for resource deployment to ensure speed as well as efficacy

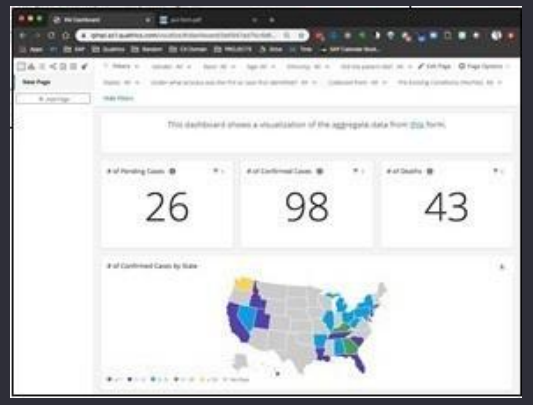
Helping governments manage COVID-19 through experience management (2/2)

Case Reporting and Monitoring Solution

Case Reporting and Monitoring Solution offers an automated government form that tracks suspected and confirmed cases of COVID-19. It allows the health care system to automate the distribution of the latest COVID-19 information to the public. By sharing and analyzing the results in real time, it helps to manage the flow of information and better manage resources.

Key benefits:

- Customized, automated form to track suspected and confirmed cases of COVID-19
- Unclog the influx of information to the health care facilities to better manage available resources
- Continuously track the evolution of results – types of requests, geography, profile of patients, etc.



COVID-19 Pre-Screen and Routing

The COVID-19 Pre-Screen and Routing solution uses guided FAQs to help people triage their needs before calling into public health departments. It can also be used by any health or government organization to provide accurate information at scale, while automatically creating reports to identify trends, patterns and gaps in information requests.

Key benefits:

- Reduce strain on public health organizations by providing automated, self-guided answers and the right resources to address the most common questions from the public about COVID-19
- Identify individuals who may already be exhibiting symptoms of COVID-19 and direct them to the right local resources to get the appropriate care
- Keep a finger on the pulse of community concerns by understanding and spotting trends in the data and determining if the information being provided is meeting the needs of the public

Helping governments manage COVID-19 through experience management (1/2)

Call Center Assistant

Governments are creating ad hoc call centers, pulling staff off their everyday jobs to staff the lines. There is limited training for these staff and no unified data collection tools. Call Center
Assistant provides a digital form used internally that functions as a "call-center-in-a-box," allowing governments to track the most crucial information from calls.

Key benefits:

- Easy enablement of ad hoc call center staff
- Links to validated knowledge bases
- Unified data collection for aggregation and analysis

Healthcare Workforce Pulse

Hospitals and health systems are struggling to keep up with demand. The frontline workforce is on 24/7 and feeling the strain. Qualtrics has created the Healthcare Workforce Pulse solution to enable health care administrators and leaders
to rapidly understand, prioritize, and respond to immediate needs across their teams.

Key benefits:

- Assess resource needs
- Evaluate safety risks
- Monitor resilience and burnout of first responders

e-learning and digital solutions can maintain the continuity of learning during disruption

Main issues identified:

- Medical professionals must be constantly informed on new methods on fighting COVID, learn and adapt them quickly
- Governments have to overcome the digital divide to quickly deploy technology and subsidize ICT for lower-income households.

Strengthening digital learning delivery

- Prepare for digital learning needs
- Assess the capabilities and select online education enablers
- Mobile-first applications for learning and experience sharing

Enhanced e-learning strategies

- Incorporating technologies into hybrid learning models
- Assess and implement artificial intelligence and virtual reality solutions to augment traditional modes of digital learning

Mobilizing national e-learning platforms

- Adapt and operationalize the national e-learning platforms to provide targeted learning contents and experience sharing to healthcare system (Professionals, patients)
- Contingency plans for increased demand for e-learning, mitigating cybersecurity threats

Community Action in Dealing with COVID-19

Technology and start-up world come together to launch public platforms in Response to COVID-19. Events are focused on creating dedicated solutions during online hackathons. Intense weekends during which several teams worked remotely on various economic and social problems, all of which are linked to the corona crisis.

These public online events invite developers, innovative companies, tech players, research institutions, creatives, and everyone who wants to join forces to, virtually, put the minds together and come up with innovative solutions to counter this crisis.

- Hackathon in Lithuania

(more: https://hackthecrisis.lt/)

- Hackathon in Latvia

(more: https://techchill.co/hackforce-hackathon-solutions-are-already-being-implemented/)

- Hackathon in Estonia

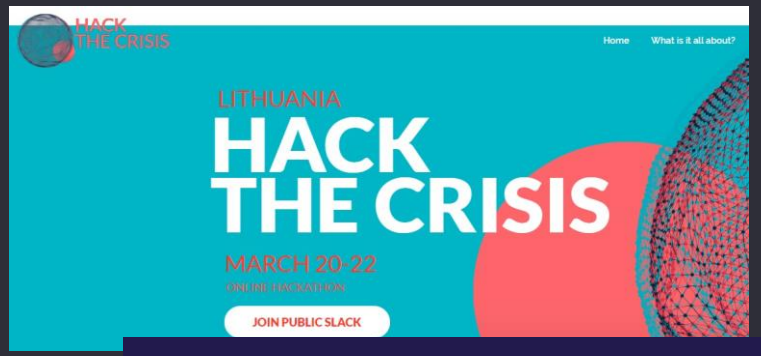
(more: https://accelerateestonia.ee/en/hack-the-crisis/)

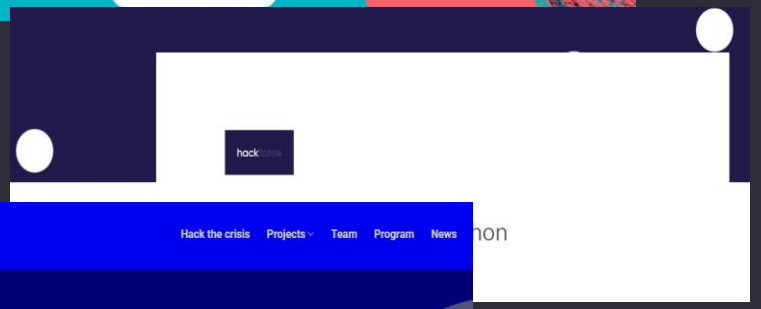
- Hackathon in Belgium

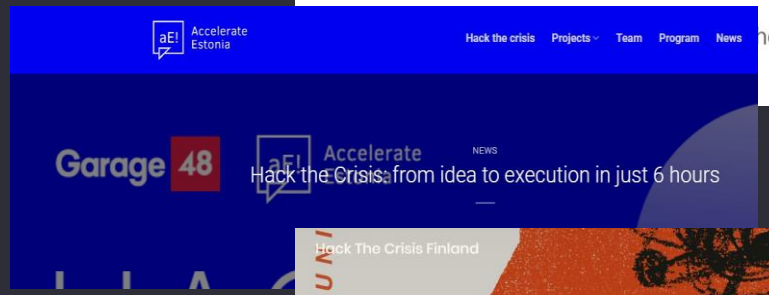
(more: https://www.hackthecrisis.be/nl/)

- Hackathon in Finland

(more: https://www.hackthecrisisfinland.com/)







4. Wrap up and the next steps