Digital Health and The Israeli COVID-19 Response

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Ministry of Health
Israel
Vaccine doses administered in Israel

Vaccine doses administered in Israel (cumulative)

- 1st dose: 5,244,4
- 2nd dose: 4,785,534

Number of vaccine doses
Percent Vaccinated

Vaccinations by age group

- 90+
- 80-89
- 70-79
- 60-69
- 50-59
- 40-49
- 30-39
- 20-29
- 10-19

% 2nd Dose % 1st Dose
COVID-19 Operational Structure

**Professional Level**

MoH

- Health Division
- Medical Division
- Public Health
- Planning Directorate
- Regulatory Division
- Emergency Division
- Technology Division

**Budgeting**

- Elderly Protection
- Medical
- Public Health
- Logistics and Purchasing
- Supply Chain

**Accounting**

- Senior Homes
- Hospital Preparedness
- Research and Strategy
- Medical Purchasing
- Procurement and technology
- Pharmaceuticals and anesthetics

**Legal**

- Senior Centres
- HMO Preparedness
- Disrupting the Infection Chain
- Ventilators and critical care
- Anticipating and managing trends

**Media**

- Community
- Mental Health
- Tests and Contact Tracing
- Labs
- Labs and testing
- PPE

**Strategic Planning**

- Enforcement
- Enforcement

**HR**

- District Offices, HMOs, Hospitals
- Strategy – likely scenarios and preparedness for 2nd wave
- Information, Intelligence, Statistics, and Research
- Team Building (HR)
- Technology, Information Systems, and Digital Health

**HQ Staff**

- Main Desk – Joint Interministerial Task Force and Call Centre
- Elderly Protection
- Medical
- Public Health
- Logistics and Purchasing
- Supply Chain
- Senior Homes
- Hospital Preparedness
- Research and Strategy
- Medical Purchasing
- Disrupting the Infection Chain
- Senior Centres
- HMO Preparedness
- Tests and Contact Tracing
- Labs
- Enforcement
- Lab and testing
- PPE

**Organization and Planning**

- Strategy – likely scenarios and preparedness for 2nd wave
- Information, Intelligence, Statistics, and Research
- Team Building (HR)
- Technology, Information Systems, and Digital Health
- Organization, Methodology, Models, Processes, Playbook, Training
1. Strong, centralized national health system
2. National Health Insurance; coverage for all residents
3. 4 competing but cooperating national HMO’s
4. Personal ID numbers from birth
5. All community health care documented in Electronic Medical Records (EMR’s)
6. MoH has centrally linked data on every COVID test and every immunization dose
7. Extensive experience in Emergency Preparedness and Response
8. National psyche geared towards mobilizing in a crisis
9. Willing cooperation of all participating health organizations
Digital Health in the COVID-19 response

• Centralized health information systems:
  • Test results, with immediate text message notification
    • And thus, real-time national pandemic picture
  • Immunization records
  • COVID hospitalization records*
  • Mortality data*
  • COVID call center
  • Vaccine supply chain

*Not entirely digital
Traffic Light System

- Updated system for dealing with the rate of infection while also allowing safe economic reopening
- Decided by comparing three variables:
  - N – new cases per 10,000 residents
  - G – doubling ration \((R_o)\)
  - P – percent of total tests which were positive
- Zones are re-evaluated as needed, and at least biweekly

**Red Zones**
- Cities with especially high rate of infection
- 10 people indoor gathering
- 20 people outdoor gathering

**Orange Zones**
- Cities with high rate of infection
- 20% capacity indoor gatherings, no more than 25 people
- 40% capacity outdoor gatherings, no more than 50 people

**Yellow Zones**
- Cities with medium rate of infection
- 40% capacity indoor gatherings, no more than 50 people
- 60% capacity outdoor gatherings, no more than 100 people

**Green Zones**
- Cities with low rate of infection
- 60% capacity indoor gatherings, no more than 100 people
- 90% capacity outdoor gatherings, no more than 250 people

- Updated system for dealing with the rate of infection while also allowing safe economic reopening
- Decided by comparing three variables:
  - N – new cases per 10,000 residents
  - G – doubling ration \((R_o)\)
  - P – percent of total tests which were positive
- Zones are re-evaluated as needed, and at least biweekly
Green Pass v. Vaccination Certificate

Green Pass
(Domestic Use)

Vaccination Certificate
(International Use)

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Uses for Green Pass and VC

**Locations Operating the Green Pass**

- Restaurants and coffee shops (for inside seating)
- Culture halls
- Sports halls and stadiums
- Event halls and gardens
  - With a negative PCR test within 48 hours
- Gyms
- Indoor swimming pools and sporting venues
- Clubs
- Classes for adults
- Conferences and exhibitions
- Indoor attractions
- Synagogues, mosques, churches, and other houses of prayer which are certified in advance under the Green Pass

**Locations Operating the Purple Pass**

- Restaurants and coffee shops (for outside seating)
- Stores, malls, and shopping centers
- Synagogues, mosques, churches, and other houses of prayer
  - Limit on gathering: 20 indoors; 100 outside
- Alternative medicine, hairdressers, and beauty treatments
- Markets
- Outdoor swimming pools
- Outdoor attractions
- Outdoor extracurricular activities for children
- Museums
- Libraries
- Bed and Breakfasts
- Parks and nature reserves
Verification System

Approved Issuer → Private Key → Vaccination Certificate Submission → Public Key Directory → Israeli MOH → Approved Certificate → Border Control
Verification System

- Show or upload certificate
- Mobile App
- Cloud Service
- Public Key
- Revocation List

No online access to patient data
Epidemiological Curve 2020-2021
Lessons Learned

Technological tools were central in targeting patients through integrated national HIE and HMO EMRs, communications and booking systems.

Inventory planning and avoiding waste through integration with HMO appointment tracking systems.

Documentation and the green pass programme.
Thank you