Workshop 4

Information solutions

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Strengthening health systems response to NCDs through aligned information solutions

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Health system information solutions for NCDs

Tino Martí
Tatjana Prenda Trupec
NCD-related information solutions challenges

- Challenges in establishing regular and integrated monitoring of NCD-related behaviours, equity in NCD outcomes and related health systems performance;

- Insufficient use of population health information to establish risk profiles to assist population health management;

- Underuse of electronic medical record systems, shared by primary and specialist care levels for better coordinated and integrated health services;

- Failure to use large amounts of valuable data generated through existing information solutions to improve system performance.
Potential of aligned information solutions

• Population health management
• Condition management in primary care
• Coordination across providers for seamless care
• Health care provision at a distance
• Self-management and patient empowerment
Selected information solutions

NCD population interventions

NCD individual interventions

1. Health risk stratification
2. Electronic medical records
3. Health information exchange
4. Telehealth and telemonitoring
5. Personal health records

PERSON-CENTRED and SELF-CARE

INTEGRATED CARE
Population health intelligence supports the system-wide deployment of integrated care strategies for chronic patients and helps to monitor population health outcomes.

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<tbody>
<tr>
<td>Israel</td>
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<tr>
<td>Italy</td>
<td>Proactive care management for congestive heart failure and multi-morbidity patients using a risk stratification tool in Veneto</td>
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<td>Spain</td>
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Optimizing the use of **electronic medical records** can lead to new models of people-centred care, allowing multidisciplinary primary care teams to coordinate and collaborate on patients’ needs through information exchange and critical decision support.

<table>
<thead>
<tr>
<th>Country</th>
<th>Description</th>
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<tbody>
<tr>
<td>Denmark</td>
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<tr>
<td>Croatia</td>
<td>Primary care and chronic diseases panels: preventive check-ups and risks associated with NCDs integrated in electronic records</td>
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<td>Israel</td>
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Innovative health information system

Better management of NCDs,
↓ secondary complications,
↓ specialist consultations

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Health information exchange
Exchange and integration of clinically relevant data can lead to significant improvements in clinical practice with tangible benefits for patients, including individualized treatment plans, improved quality of care and optimal use of care resources.

Denmark
Estonia
Catalonia, Spain
Israel

Shared electronic health record (HC3) to exchange clinical data between primary care, hospitals, long-term care and social services.
Advances in telehealth and telemonitoring allow regionalization, concentration and decentralization of services to be reconsidered and thereby increase accessibility, quality and efficiency.

Scotland, UK

5 acute telestroke networks for stroke thrombolysis using CT assessed by neurologists and videoconference with the patient.

Norway
Giving patients access to their own health data and expanded personalized services through personal health records can empower them and improve their engagement.

Denmark
Sundhed.dk give access to information and communication with health services, treatment and monitoring at home.

Catalonia, Spain
## Implementation sequencing for leapfrogging

<table>
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<tr>
<th>Wave</th>
<th>Infrastructure</th>
<th>EMR-EHR</th>
<th>Telehealth and e-services</th>
<th>Personal health data</th>
<th>Health analytics</th>
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<tbody>
<tr>
<td>First</td>
<td>Set up basic technological and network infrastructure</td>
<td>Digitize medical records: EMR</td>
<td>Develop first e-services: e-booking, e-prescription</td>
<td>Set up health portals with health information</td>
<td>Develop health information dashboards for NCDs monitoring</td>
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<td>Second</td>
<td>Improve to an advanced and reliable technological and network infrastructure</td>
<td>Interconnect EMR through shared EHR</td>
<td>Expand interconnection to all health and care providers</td>
<td>Grant access to patients’ data through PHR</td>
<td>Apply population health risk stratification for proactive care</td>
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<td>Third</td>
<td>Set up an interoperability platform (Health information exchange)</td>
<td>Expand interconnection to all health and care providers</td>
<td>Scale-up telehealth and telamonitoring at national/subnational level</td>
<td>Improve PHR offering with personalized information and services</td>
<td>Improve risk stratification with mental and social data</td>
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<td>Fourth</td>
<td>Develop interoperability services between providers</td>
<td>Integrate CDSS in integrated care pathways</td>
<td>Allow third-party telehealth applications to interoperate</td>
<td>Allow third-party m-health applications for patients</td>
<td>Health big data and AI analytics connecting with non-health sectors</td>
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Implementation sequencing for leapfrogging

Personal health records

Personal health data
- Set up health portals with health information
- Grant access to patients’ data through PHR
- Improve PHR offering with personalized information and services
- Allow third-party m-health applications for patients
More policy implications and recommendations in chapter 14
Thank you

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