

# The MovingLife Project

MOBILE eHealth for the VINdication of Global  
LIFEstyle change and disease management solutions



Stakeholders Conference  
The MovingLife Roadmaps

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Technologies and  
Applications

# mHealth Roadmaps



Medical Uptake



Socio-Economic  
Factors



# Medical Uptake Roadmap

**Patient empowerment and  
Individualisation**

**Medical Guidelines**



**User Acceptance**

**Patient-doctor interaction**

**Personalised Health Systems**

## Patient empowerment and individualisation

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*mHealth has a great potential to empower patients to be able to manage the care of chronic illness outside hospitals and clinics.*

- Acknowledge heterogeneity of patients
  - Educate patients in the use of mHealth
  - Individualism as key to integration
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- ☐ Overcome differences in ability and motivation
  - ☐ Possibility to opt out of prescribed mHealth-based treatment.

## Patient-doctor interaction

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*A change in the patient-doctor relationship is expected.*

- New skills and a redefinition of the role of the clinical staff.
  - Training for future clinicians will need to be designed.
  - Role of Universities/Hospitals in provide new training.
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- ☐ Healthcare staff needs evidence-based proof in order to trust new mHealth solutions.
  - ☐ Maximise the expected improvement of the quality and/or the efficacy of the healthcare professionals' work.

*Presently medical guidelines show big differences across but also within Member States.*

- Minimum standards and templates and integrated care pathways are needed.
- ☐ Reaching consensus in creating new guidelines for mHealth with local engagement and decisions at national level.

*The success of mHealth will be particularly determined by the trust of the users*

- Developing several points of access to health services.
  - Establish uniform regulations to increase trust.
  - Ensure usability and quality of mHealth solutions.
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- ☐ Fostering competition between mHealth solutions.
  - ☐ Involving mobile phone operators, mobile health companies, and call centres.



## Personalized health systems

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*Data is centrally stored within institutions. Data is not available across borders and in some European countries data is not even accessible across regions on a national level.*

- Cross border accessibility of data, based on flexible and secure data storage and sharing platform, as the ones currently investigated in cloud computing approaches.
- EU should consider standardizing the exchange of data and tagging data in order to improve safety for the patient.
- Define ownership of the health data and the responsibility of a given healthcare professional to act upon these if necessary.



# Technologies and Applications Roadmap

**Interoperability  
and Standardization**



**Security and Safety**

**Connectivity  
and Interferences**

**Apps as medical devices**

## Interoperability and Standardisation

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*There are not widely adopted, interoperable standards and software and hardware does not work with each other.*

- Implement neutral, trustworthy, transparent standards.
- Semantic interoperability (for both software and hardware)
  - ❑ Industrial standards associations, in strong cooperation with EU, National Healthcare Systems and National Governments, should stimulate and/or harmonize standardization efforts.

*Secure storage and distribution of personal electronic health records, such as where they are stored.*

- Cloud computing paradigms may represent an opportunity.
- Maintaining confidentiality and integrity of the information stored in all forms and ensuring data backup and recovery processes.
  - ❑ It needs to be improved the patient perception of the control over his/her health record in cloud solutions,
  - ❑ the patient satisfaction to e.g. enable storing/moving patient health record simultaneously in multiply devices.

*Applications for mobile devices (Apps) are a growing market and have started to enter the healthcare sector.*

- Medical Device Directive (MDD) needs a revision.
- Trustworthy certifications for medical Apps.
  - ❑ A new authority to perform market surveillance and certification issue is needed.
  - ❑ Apps as medical devices should affect only those solutions that have a direct effect on treatment or diagnosis.
  - ❑ mHealth service providers should revise their business models and focus on a few relevant Apps.

## Connectivity and Interferences

*Lack of connectivity or interferences could be a put off factor for final users thus potentially affecting the impact and user acceptance of mHealth.*

- Ensure a ubiquitous broadband coverage.
- Convergence of systems into integrated medical devices.
- Robust communication in short-mid range Wi-Fi technologies.
  - ❑ Medical Apps should be able to run without a connection, whenever the application allows it.
  - ❑ Technology advances for robust communication should complement a sound regulatory framework in multiple directions (hardware and software).



# Socio-Economic Factors Roadmap



**Data Protection and Privacy**

**Interoperability of Healthcare systems**

**New Actors in Healthcare**

**Liability**



**Reimbursement Schemes**

**Inclusion and Ethical Guidelines**

*Legal safeguards for data protection and privacy will therefore have a crucial role in the future success of mHealth.*

- The development of a clear framework is needed, and one that is able to adapt quickly to future developments.
  - More specific guidance from EU is crucial, and additional communications directives or regulations could illustrate the application of the proposed changes for mHealth solutions.
  - Stronger emphasis on privacy by design is needed.
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- ❑ Higher amount of flexibility of data protection and privacy legislation is needed in order to respond to changes in technology

## New actors in healthcare

*Healthcare will no longer be provided only by the traditional caregivers like nurses or physicians.*

- Improving existing guidelines to address the complexity of new processes.
- Harmonization of regulation concerning these new professions at the European level.
  - ❑ Increasing importance of computer scientists.
  - ❑ Changing role of physicians and nurses.
  - ❑ Boundaries in healthcare are expected to become blurry due to a different perception of health and lifestyle.

## Reimbursement Schemas

*Reimbursement is of crucial importance for the success or failure of new technologies and innovations in healthcare.*

- The acceptance of mHealth as a reimbursable act in all European healthcare systems is of pivotal importance.
- A stronger cooperation of Member States in the reimbursement of cross border mHealth services, facilitated by the EU.
  - ❑ It is equally important to re-organise healthcare at national level.
  - ❑ Focus on equity is necessary.

## Inclusion and Ethical Guidelines

*mHealth will be of crucial importance in this area*

- The realization of inclusive, patient-centred approaches will create a general base for the acceleration of mHealth.
- Ethical guidelines concerning mHealth will help to increase the acceptance by safeguarding these issues but also by promoting patients' fundamental rights.
  - ❑ Accessibility has to be guaranteed in financial terms as well as in educating care providers and patients in the use of new technologies.

*Liability varies enormously across different national systems.*

- Liability needs to be, where possible, harmonized at the European level during the next years, in order to guarantee legal certainty for both providers and users of mHealth.

## Interoperability of healthcare systems

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*It should not be neglected that interoperability also plays a role in a socio-economic context.*

- Coordination of therapies to facilitate interoperability.
- Harmonisation of standards at national and European level.
- ☐ Main advantages of mHealth in creating interoperable healthcare systems are:
  - ☐ Improving healthcare systems and reducing healthcare costs.
  - ☐ Increasing patient empowerment



**Please see us here:**

[www.moving-life.eu](http://www.moving-life.eu)

**Roadmaps are available at:**

<http://www.moving-life.eu/downloads.php>

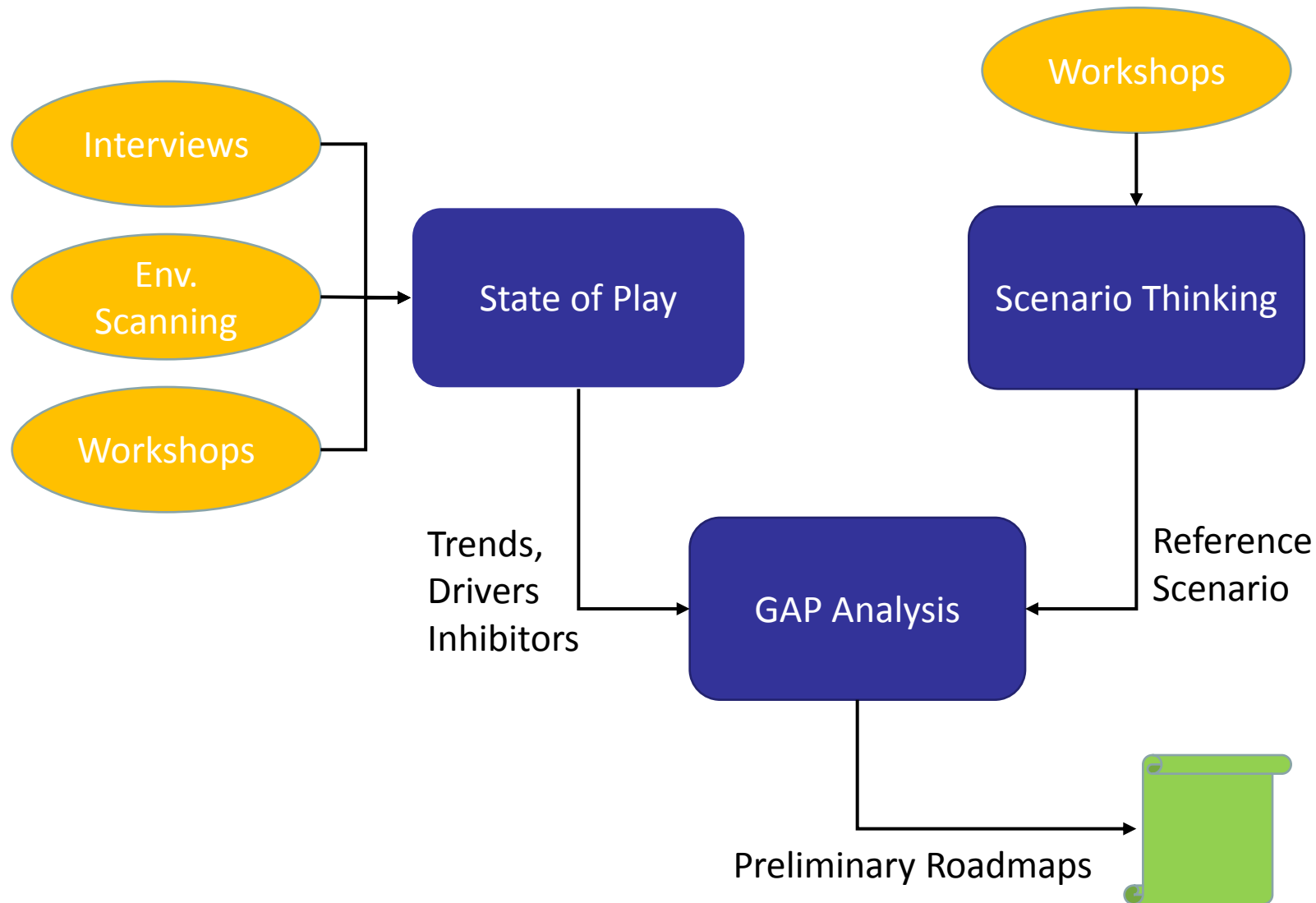
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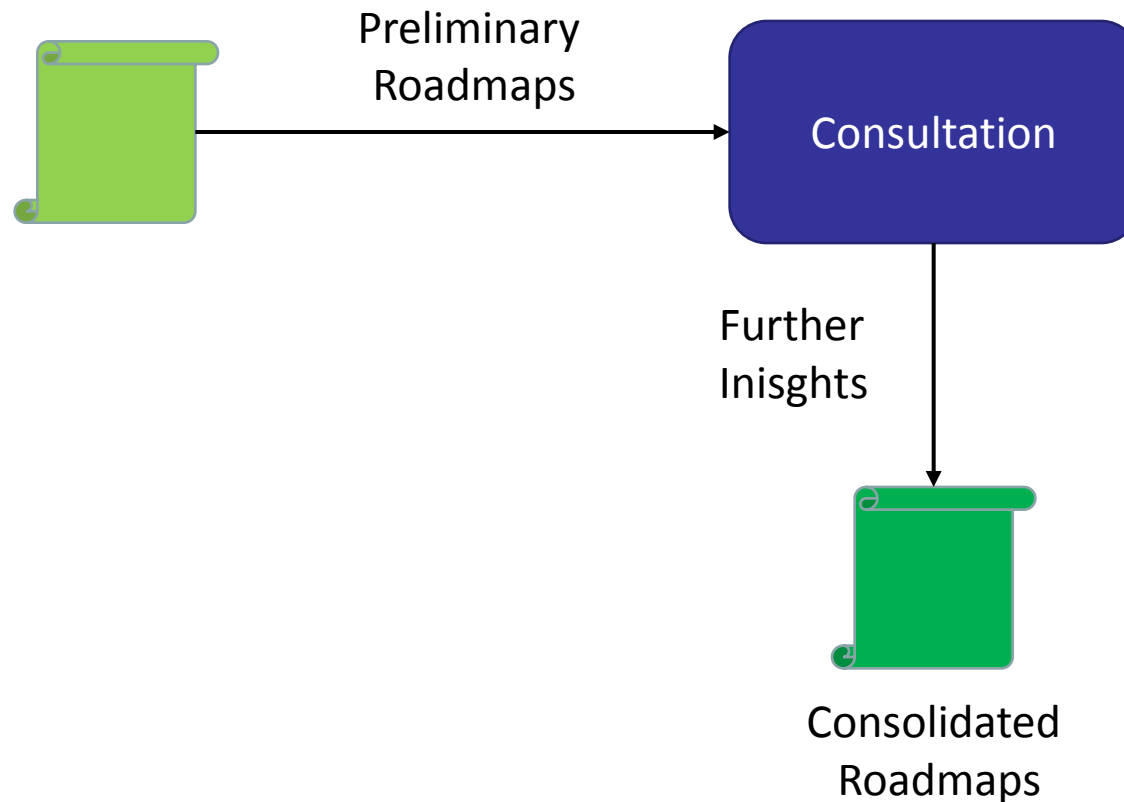
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# ➤➤➤ Preliminary Roadmaps



# Consolidated Roadmaps



- 28 open/closed questions
- 45 participant
  - 26 Academics
  - 8 Health care prof
  - 6 Health care Reseachers
  - 4 Industry/Service Providers
- 8 EU countries
- 6 extra EU countries