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Digitally integrated care task force
members

EHTEL's digitally integrated care task force: Two years of engagement – short report

This short report provides a brief overview of the 2017-2019 work of one of EHTEL's task forces. It outlines the two main pieces of work undertaken over the course of two years:
one on models of integrated care and their relationship with digital technologies, and the other on integrated-care related chat-based systems. The first is a scoping exercise; the second is "technology watch".
An ANNEX outlines the history of the group.

EHTEL Digitally integrated care task force

<https://www.ehtel.eu/activities/wg-tasks-forces/integrated-care-task-force.html>

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Collaborating for Digital Health and Care in Europe

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Introduction to EHTEL's digitally integrated care task force

This brief report provides a rapid overview of the **two main pieces of work** produced by EHTEL's digitally integrated care task force.

The first piece of work concentrated on **models of integrated care**. The second piece of work took a look at **integrated care chat-based platforms**.

The work is described in the order in which it was done. **The** first piece of work is a **scoping exercise**; the second is a rapid **"technology watch"** exercise. The value of the second assignment is shown through its early insight into the fact that users who are interested in their health **can be willing to "trade off" ease-of-use versus confidentiality**.

An **ANNEX** highlights the background history of the task force.

Digital futures for integrated care

In the initial stage of its work in the first half of 2017, the task force conducted a rapid overview of various **definitions of integrated care** ranging from 2002 to 2016. It focused on the definition developed by the World Health Organization on people-centred healthcare systems, multi-dimensional needs, and the involvement of "coordinated multidisciplinary team[s] of providers working across settings and levels of care".

It also collected **five models of integrated care** developed over the same 15-year time-period (2002-2016) that had focused on **chronic care, chronic conditions, integrated care, and integrated health services delivery**. The last of the five models combined a variety of **populations** with a range of **system enablers** (including health technologies and e-health), different **service delivery processes**, and forms of **change management**.

This collection of materials enabled the task force to outline and name a series of **"integrated care strategies"**.

As a result, the task force was able to put together a "meta-model" of domains and sub-domains on **chronic conditions and integrated care**. The domains are to be "actionable" (i.e., actions can be taken based on them).

The six basic domains listed in the meta-model are the **health system, community, patients, providers, outcomes, and funding**. (See Table 1 below.)

Table 1: An actionable integrated care meta-model

Domain	Subdomain
Health system	Self-management support
	Clinical information systems
	Delivery system redesign
	Decision support
	Health care organization
	Health and social care organization
Community	Build healthy public policy
	Create supportive environments
	Strengthen community action
Patients	Informed, activated patients
	Activated community
Providers	Prepared, proactive practice teams
	Prepared, proactive community partners
Outcomes	Productive interactions and relationships
	Population health outcomes
	Functional and clinical outcomes
Funding	Funding mechanisms

While the task force was interested in the content of the large Gartner Hype Cycle¹ listing of up to 40 useful technologies in the field of integrated care, it focused on a more limited set of **six applied technologies**:

- Health information exchange (HIE)
- Telemedicine
- Analytics
- Mobility
- Intelligent devices / Internet of Things (IoT)
- Robotics.

The task force classified these technologies according to six type of care: **community-based care; connected care; disease, care, and case management; home-based health care; personalised care; and preventative care.**

For each area, the task force was able to list at least **one example system or service** that was, if not already available, at least under development in Europe in 2016 (some were in fact elements in research and innovation projects): the EURORDIS portal²; the PeopleWho

¹ <https://www.gartner.com/en/newsroom/press-releases/2017-08-15-gartner-identifies-three-megatrends-that-will-drive-digital-business-into-the-next-decade>

² <https://www.eurordis.org>

portal; Well.Me health kiosks³; the Smart Ambulance project; Philips Medido⁴; a blood glucose monitoring implantable chip; the TEKI (Microsoft Kinect) project; the AEGLE project⁵; the DigiRehab consortium⁶; and the ACTIVAGE project⁷.

An overview of the **six technologies** and the ways in which, in the context of **connected care**, they can help systems, providers, populations/communities, and families/patients was outlined in the task force's internal report (see Figure 1 below).

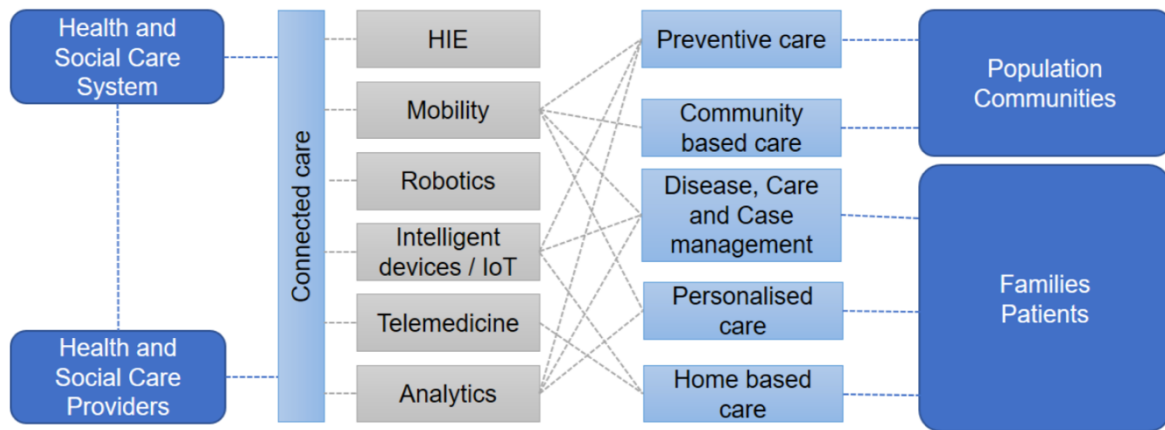


Figure 1: A technology enabled integrated care model

Integrated care chat-based platforms

In the second stage of its work in late 2017, the task force selected a single type of technology that its members wished to explore collectively in detail. The members chose a technology of which their own task force members had had previous experience: an **integrated care chat-based platform**.

The task force was interested in exploring the implications of **disruptive technologies** for integrated care.

The group started with an interest in **WhatsApp**⁸, a messaging system that joined Facebook in 2014⁹. By 2016, the application had gathered a user base of one billion people; by 2019, it has collected 1.5 billion users in 180 countries.

The task force observed that patients in a number of countries were contacting their doctors and health and care professionals, using WhatsApp¹⁰.

³ <https://well.me>

⁴ <https://www.philips.com/a-w/about/news/archive/standard/news/press/2016/20160601-connected-technology-solutions-dramatically-improve-medication-adherence-according-to-new-study-from-philips.html>

⁵ <http://www.aegle-uhealth.eu/en/>

⁶ <http://www.digirehab.org>

⁷ <http://www.activageproject.eu>

⁸ <https://www.whatsapp.com>

⁹ <https://www.facebook.com>

¹⁰ Ritika RAWLANI and Tino MARTI of TicSALUT (Catalonia, Spain) <https://ticsalutsocial.cat/en/> made a presentation of the task force's work in Brussels, Belgium on 15 November 2017, entitled "Digital health supporting integrated care: Chat-based EHRs".

Overall, the **online review of websites, electronic journals, and blogs** conducted by the task force showed that there was a **number of trends developing**.

Examples of the trends include a **strong patient interest** in contacting their health and care professionals, particularly via the use of chat. People/patients preferred the **ease of use** (“convenience”) of a simple messaging application. In contrast, they found that **using secure portals was more onerous**. There was even evidence that the **health and care professionals (“physicians”)** considered WhatsApp to be an **easy mechanism** to contact their patients; care teams had similar experiences. Healthcare professionals were using WhatsApp to **communicate among themselves** about their patients and their conditions.

Successful and rapid growth of the use of WhatsApp took place in, for example:

- **Brazil**: Information circulated rapidly via WhatsApp in 2015 about the spread of the Zika virus.
- **England**: When the country experienced a number of emergencies in the middle of the decade, information spread quickly¹¹.

More recently, the European Commission has announced that it is **funding research initiatives that use WhatsApp** that have led to much appreciated initiatives in sub-Saharan Africa that have **supported surgical interventions**.¹²¹³

In the example of England, these experiences led to the **development of guidelines** in November 2018 about **how to use messaging systems in acute medical settings**, and offered guidance especially on **securing devices, protecting patient confidentiality** and patient data.

The Catalanian health system built itself an **encrypted messaging system**.

The 2016/2017 literature already illustrated some **difficulties and/or constraints with smart messaging systems**. For example:

- How to maintain patient privacy and confidentiality.
- How to retain information that ought to be kept in a patient’s (electronic) health record.
- What happens when patients ask questions that perhaps others deem to be “unimportant”.

The available online literature conducted by the task force enabled its members to create a tabular overview of some of the **characteristics of instant messaging services**. The relevant aspects ranged over the **timing of the services**, the **uses** to which they could be put, the **types of users**, and important characteristics such as, on the one hand, **user-friendliness** and, on the other, **privacy/security issues**. These characteristics of instant messaging services are displayed (below) in alphabetic order:

- Integration with electronic health records/electronic medical records.
- Privacy/security.
- Real-time or asynchronous.
- Use for administration.
- Use for broadcasts.
- Use for diagnosis.
- Use for general advice.
- Use for group conversations.
- User-friendliness.

¹¹ <https://digital.nhs.uk/data-and-information/looking-after-information/data-security-and-information-governance/information-governance-alliance-iga/information-governance-resources/information-governance-and-technology-resources>

¹² <https://ec.europa.eu/digital-single-market/en/news/real-time-whatsapp-advice-aids-surgery-rural-malawi>

¹³ <https://horizon-magazine.eu/article/real-time-whatsapp-advice-aids-surgery-rural-malawi.html>

Returning to these issues in 2019, the not-for-profit organisation, HIMSS, announced via one of its news services that an application like **WhatsApp could be classified as a potential “privacy and clinical timebomb”** for NHS England¹⁴.

Such an exposé means that the **upsides and downsides** of the use of integrated care-related chat-based systems are **as pressing today as they were two years ago**.

The “writing was on the wall” was certainly in terms of **the task force’s 2017 insights** which indicated that “trade-offs” were being taken between ease-of-use, confidentiality, and data protection.

By mid-May 2019, news continued to circulate that, while WhatsApp voice calls might **incorporate vulnerabilities and “back doors”**, systems designers were working fast to rectify any system weaknesses.

To conclude, the opportunities and challenges of smart messaging systems are perhaps even more relevant today than they were in 2016/2017. The **uptake in the healthcare arena has increased** but **many of the constraints have not yet been addressed**. This points to the need for further work in this area.

¹⁴ HIMSS MobiHealth News (3 April 2019) uses figures from a recent large hospital study and a wider survey to describe some of the latent possibilities of What’s App:
https://www.mobihealthnews.com/content/whatsapp-use-nhs-‘privacy-and-clinical-safety-timebomb’?mkt_tok=eyJpIjoiTkRkbFI6QTRNV001WVRoaSIsInQiOiJWcXI0WlInMFo0c2VibThDbDRIZUlsQ0Jib3hIUWMxcEVPbWxXcE9QeVwveWNnVWtvT1VkZFAzbnRNZGV3Nmlac3ROc2NteWtRY0NjYUQ1OHZoa3JnczJUeTNQVG5sckZENkZFc3JxaEdZcWNXYlZTd1wvbHRzRXh2U3ZZbW5uYkw2In0%3D



Collaborating for Digital Health and Care in Europe

ANNEX: Background

The digitally integrated care task force was launched in mid-2017.

Aims: Its three aims were to:

- Explore the digital futures of integrated care from a practical health policy and management perspective.
- Identify current world class technology-enabled integrated care experiences informed by EHTEL members or found elsewhere.
- Merge both exercises in a technical report called “Roadmap for the future of digital integrated care”.

Activities and meetings: A small group of EHTEL members contributed to its activities. These were chiefly: Assuta Medical Centers (Israel), NHS24 (Scotland), and TicSALUT (Catalonia, Spain). They were supported by Kronikgune (Basque Country, Spain) and the University of Edinburgh (Scotland).

First, the task force members outlined the aims and scope of the task force. Then, they examined together a core set of issues: a definition of integrated care, the digital technologies likely to influence integrated care, and a set of key, pertinent challenges. After this general scoping exercise, the members focused on a single upcoming technology – smart messaging systems. They investigated the opportunities for its use and the challenges it can pose to its users.

The task force met regularly– mostly using conferencing systems. Its members also met physically in **Barcelona, Spain**, in September 2017, and made presentations at some **Brussels-based workshops** later in autumn 2017.

Documents: Two (internal) 20-page reports were developed by the task force in 2017.

The task force members produced three preliminary documents: “Aims and scope”; “Digital futures for integrated care”; and “Electronic health record integrated chat-based interfaces”. Their content has largely been brought together in this short report entitled “*EHTEL’s digitally integrated care task force: Two years of engagement*”, to which this backgrounder is the ANNEX.

The task force is now seeking to publish its early investigatory work in an integrated care-related magazine.