

[MyHealthAvatar: Your Lifetime Companion for Healthcare](#)



MyHealthAvatar

## A Demonstration of 4D Digital Avatar Infrastructure for Access of Complete Patient Information

FP7-ICT-9-5.2 – VPH - 600929

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## MYHEALTHAVATAR - CONTENT




MyHealthAvatar



- Context and Background
- Legal and ethical issues
- Patient Engagement and Survey Evidence
- Demonstration of MyHealthAvatar



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**Benefit**

- Involve citizens/patients in self-management
- Help citizens/patients tell doctors about their previous health history
- Help citizens/patients tell doctors what they do outside the hospitals
- Help citizens/patients stay on the right track of self-healthcare (e.g. exercises, medications)
- Allow for individualized health assessment

## Facts

- FP7
- 2.4 Million Euros
- 1<sup>st</sup> Mar 2013 – 28<sup>th</sup> Feb 2016
- Leading organization: Bedfordshire

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## Some Legal and Ethical Issues raised about MyHealthAvatar



- Data security and privacy
- Informed Consent
- Information sharing between care services

## Response to some Legal and Ethical Issues raised about MyHealthAvatar



- Data security and privacy - encryption
- Informed Consent – build in protocols
- Information sharing between care services – build in protocols

## Information Governance & eHealth

IG sits alongside the other governance initiatives to ensure that personal information is handled legally, securely, efficiently and effectively supporting the overarching aim of delivering the best possible care.

In England there is working model known as the NHS IG Toolkit. So far there are 26 versions of this toolkit designed for different organisations.



## Information Governance & eHealth

[Acute Trust](#)  
[Ambulance Trust](#)  
[Any Qualified Provider - Clinical Services](#)  
[Any Qualified Provider - Non Clinical Services](#)  
[Area Team/Region/Hosted Body](#)  
[Clinical Commissioning Group](#)  
[Commercial Third Party](#)  
[Commissioning Support Unit](#)  
[Community Health Provider](#)  
[Community Pharmacy/DAC](#)  
[Data Service for Commissioners](#)  
[Dental Practice](#)  
[Eye Care Service](#)  
[General Practice](#)  
[Health and Social Care](#)  
[Information Centre](#)  
[Hosted Secondary Use Team/Project](#)  
[Local Authority](#)  
[Mental Health Trust](#)  
[NHS Business Partner/ITC/ALB](#)  
[NHS Business Services Authority](#)  
[NHS England](#)  
[Prison Health](#)  
[Public Health England](#)  
[Secondary Use Organisation](#)  
[Voluntary Sector Organisation](#)

## Information Governance & eHealth

The IG requirements for Commercial Third are given as an example:

1. Information Governance Management
2. Confidentiality and Data Protection Assurance
3. Information Security Assurance



## Information Governance & eHealth

Requirements for Information Governance Management:

1. Responsibility for IG has been assigned to appropriate staff.
2. There is an IG policy that addresses overall IG requirements
3. All contracts (eg. staff) contain clauses that clearly identify IG responsibilities.
4. All staff receive relevant IG training.

## Information Governance & eHealth

### Requirements for Confidentiality and Data Protection Assurance

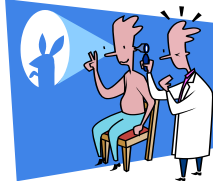
1. Personal information is shared for care where there is a lawful basis to do so and objections to the disclosure of confidential personal information are respected.
2. There are appropriate audit procedures to monitor access to confidential personal information.
3. All person identifiable data processed outside the UK complies with the Data Protection Act and Government guidelines.
4. All new processes, services, information systems and other relevant information assets are developed and implemented in a secure and structured manner.
5. All transfers of personal and sensitive information are conducted in a secure and confidential manner.

## Information Governance & eHealth

### Requirements for Information Security Assurance

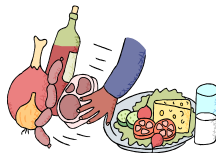
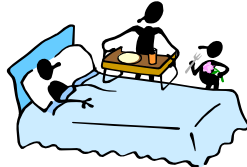
1. Operating and application information systems (under the organisation's control) support appropriate access control functionality and documented and managed access rights are in place for all users of these systems.
2. Policies and procedures are in place to ensure ICT networks operate securely.
3. Policy and procedures ensure mobile and teleworking are secure.
4. There is an information asset register that includes all key information, software, hardware and services.
5. Unauthorised access to the premises, equipment, records and other assets is prevented.
6. There are documented plans and procedures to support business continuity in the event of power failures, system failures, network disasters and other disruptions.
7. There are documented incident management and reporting procedures.
8. All information assets that hold, or are, personal data are protected by appropriate organisational and technical measures.

## WHAT IS PATIENT ENGAGEMENT?



Engagement signifies that a person is involved in a process through which he or she harmonizes robust information and professional advice with his or her own needs, preferences and abilities in order to prevent, cure and manage illness.

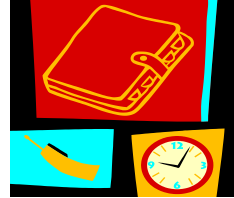
## PATIENT ENGAGEMENT MATTERS



- Improves the experience of care
- Improves health of populations
- Reduces cost of health care per person
- Offers opportunity to change patients' behaviour
- Improves management of ill health



## CASE FOR PATIENT ENGAGEMENT



Accenture poll 2012

- Patients want to access their personal medical information – 83%
- Want to use self service options – 90%
- Book, change or cancel appointments by internet – 72%
- Book, change or cancel appointments by mobile – 68%

## CASE FOR PATIENT ENGAGEMENT

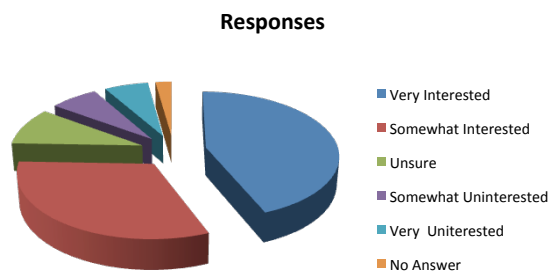


Accenture poll 2012 (cont.d)

- Receive digital reminders for preventive or follow-up care by internet – 88%
- Receive digital reminders for preventive or follow-up care by mobile – 63%
- Refill prescriptions digitally by internet – 72%
- Refill prescriptions digitally by mobile – 73%

## MyHealthAvatar Survey

**Are you interested in scheduling and coordinating medical appointments?**



## FOCUS ON PATIENT ENGAGEMENT

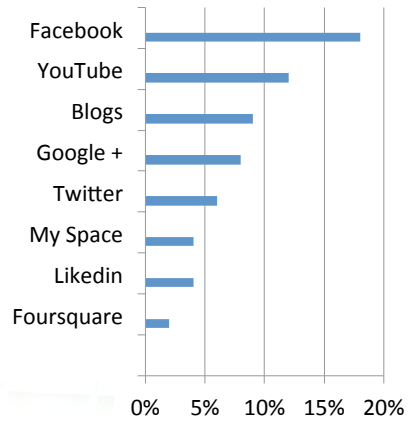


- Patient satisfaction is a key metric
- Quality outcomes require engaged patients
- This may require secure messaging, access to their clinical records, reminders about appointments or when to take medication and patient-specific education

## CASE FOR PATIENT ENGAGEMENT

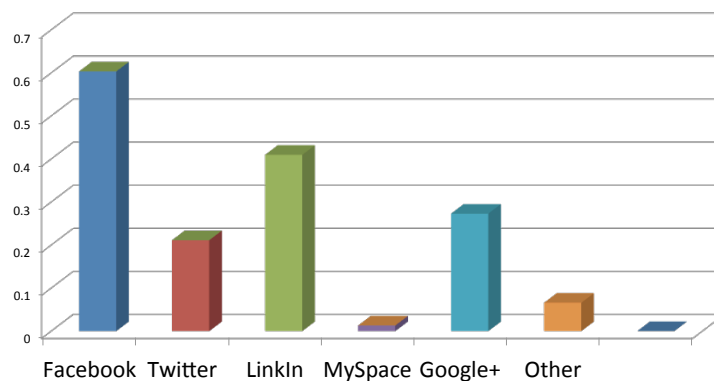
We are increasingly using social media tools for healthcare as recent chart for peer to peer interactions indicates.

PWC survey in 2012 reported about one-third respondents used social media for healthcare.

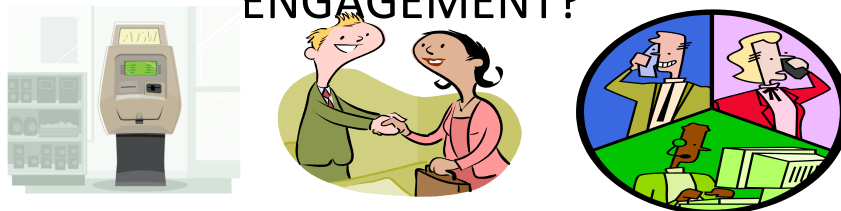


## MyHealthAvatar Survey

**Are you a member of any of the following online social networking services?**



## WHAT DRIVES PATIENT ENGAGEMENT?

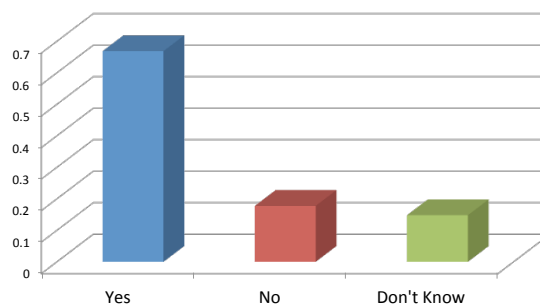


Convenience – you cannot affect behaviour unless trust has been established

- Meet people where they are
- Provide services that simplify their lives
- Make every interaction simple and seamless

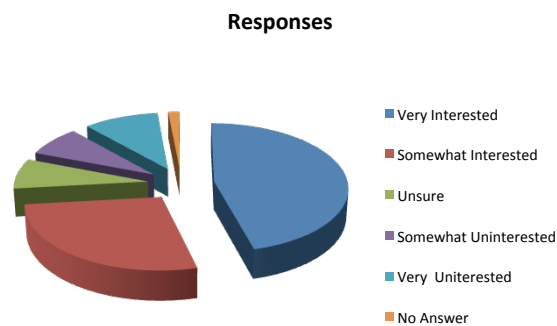
## MyHealthAvatar Survey

**Would you be interested in a new, secure, advanced and personal health platform that lets you gather, store, analyse and visualise your health information online?**



## MyHealthAvatar Survey

Would you like to find personalised information about the diseases, drugs, vitamins, food, etc.?

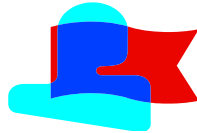


## POTENTIAL BENEFITS TO REFLECT FROM PATIENT ENGAGEMENT



- Prescription refill cuts staff time – suggested 50%
- Online results reduce printing and mailing costs
- Direct scheduling reduces no show/did not attend rates – suggested 35%
- Reminders increase medication adherence
- Self service increases patient satisfaction

## CONNECTION CAN BUILD TRUST AND LOYALTY

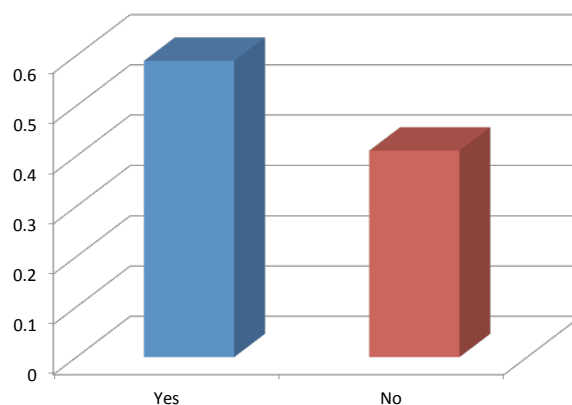


Data from various international sources includes:

- 66% patients would consider changing doctors to have their medical records on line
- Patients with on line access are 2.6 times more likely to stay with existing providers
- 51% patients believe doctors using on line tools are likely to make better decisions

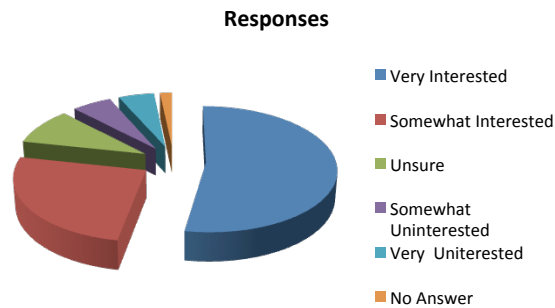
## MyHealthAvatar Survey

**Would you be interested in finding out more about Electronic Health Records (EHRs) in the frames of MyHealthAvatar project's web page?**



## MyHealthAvatar Survey

**Would you be interested in entering, importing, storing and exporting personal medical data (e.g. Electronic Health Records) ?**



## GOOD PATIENT ENGAGEMENT PRODUCES BETTER OUTCOMES

Quality Issue	More Activated Patients	Less Activated Patients
Readmitted to hospital within 30 days of discharge	12.8%	28%
Experiences a medical error	19.2%	35.8%
Suffer a health consequence because of poor communication among providers	13.2%	48.6%
Have poor care coordination among health care providers	12.6%	41.8%

## MyHealthAvatar Demonstration



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MyHealthAvatar

### Further development

- More sensors (e.g. iHealth, Medisana)
- Easy data input methods (e.g. voice, intelligent textbox)
- Data validation
- User profile completion
- PHR
- Allow some queries on the data
- Further refinements of Diary, Map and Timeline
- Planning & reminder
- Mobile apps
- Security
- APIs Further





## CCGV – our background

- awarded our first UK research council funding in 1987
  - in continuous receipt of external funding since then
- been involved in:
  - 31 international projects, 28 funded by the European Commission
    - Project Coordinator in 11 of these
  - 5 UK research council projects
  - overall, 47 successful external funding bids for research
    - total income generated – over £6 million
- partners have included:
  - **universities:** Stanford, Oxford, UCL, Pennsylvania, ETH Zurich, EPFL Lausanne, KCL, Edinburgh, .....
  - **multinationals:** Philips, Fiat, .....
  - **technological companies:** Ansys, Kitware, .....
  - **hospitals:** Moorfields, Charité (Berlin), Niguarda (Milan), Erasme (Brussels) ....
  - **SMEs:** in multiple countries

## Current projects

- *Dr Inventor* (FP7, 2014-2016) – scientific creativity
- *MyHealthAvatar* (FP7, 2013-2016) – healthcare/ health awareness system for the citizen
- *CHIC* (FP7, 2013-2017) – cancer
- *MyLifeHub* (EPSRC, 2014-16) – healthcare, with an emphasis on ophthalmology
- *iManageCancer* (H2020, 2015-2019) – cancer
- *CARRE* (FP7, 2013-2016) – co-morbidities, focusing on cardiorenal problems

eHealth Workshop – Oct 2014  
Middlesex University, London (UK)  
<http://tinyurl.com/ehealth2014>

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MyHealthAvatar

## Project site

[www.myhealthavatar.eu](http://www.myhealthavatar.eu)

[Myhealthavatar.org/mha](http://Myhealthavatar.org/mha)

