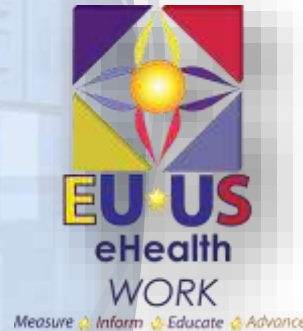




# The EU\*US eHealth Work Project: Project Overview



## Measuring, Informing, Educating and Advancing eHealth

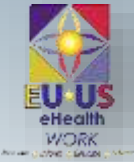
This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 727552

EUUSEHEALTHWORK



# Objective

- The EU-US eHealth Work Project has had an overall goal of mapping, quantifying, and projecting the need, supply and demand for digital workforce skills and competences
- With its stakeholders, the project Consortium will ultimately utilize these results to further develop skills and training programs for the healthcare workforce post-project



# The EU\*US eHealth Work Project: Transatlantic, Groundbreaking, Different

- Built on a foundation of work done in eHealth workforce development and digital skills enhancement
- Expanded on a history of innovation and practical tool and resource development
- Integrated healthcare clinicians, academia and global associations
- Included a large and growing stakeholder community



# Working Together: The Consortium

- The Consortium is built of networks with partners from academia, healthcare associations and providers/industry
- The project consortium is a “network of networks” and includes:
  - Omni Micro Systems/Omni Med Solutions GmbH (Project Coordinator) (Germany)
  - HIMSS (Health Information Management Systems Society) via the TIGER (Technology Informatics Guiding Education Reform) Initiative
  - EHTEL (European Health Telematics Association) (Belgium)
  - University of Applied Sciences Osnabrück (Germany)
  - Tampere University of Technology (Finland)
  - Steinbeis 2i GmbH (Germany)
- The consortium is working together in partnership on most project tasks and deliverables, especially those with great impact on the project





# Consortium Team Leaders

EU\*US eHealth Work Consortium:

Project Coordination Team:



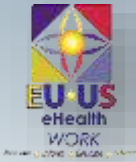
Rachelle Blake, Project Coordinator  
Omni Micro Systems/Omni Med Solutions GmbH  
Hamburg, Germany



Angelique Blake, Project Manager  
Omni Micro Systems/Omni Med Solutions GmbH  
Hamburg, Germany



# Consortium Members (cont'd)



## EU\*US eHealth Work Consortium:



Toria Shaw, Project Team Lead  
HIMSS TIGER Initiative  
Chicago, Illinois, USA



Ursula Hübner, Project Lead  
Fachhochschule Osnabrück (University of Applied  
Sciences), Osnabrück, Germany



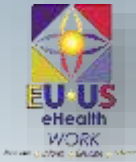
Johannes Thye, Project Team Co-Lead  
Fachhochschule Osnabrück (University of Applied  
Sciences), Osnabrück, Germany



Alpo Värri, Project Team Lead  
Tampere University of Technology  
Tampere, Finland



# Consortium Members (cont'd)



## EU\*US eHealth Work Consortium:



Milla Jauhiainen, Project Team Member  
Tampere University of Technology  
Tampere, Finland



Johanna Tolonen, Project Team Member  
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Tampere, Finland



Stephan Schug, MD, Project Team Co-Lead  
EHTEL, Frankfurt, Germany  
Brussels, Belgium



Rachelle Kaye, Project Team Co-Lead  
EHTEL, Tel Aviv, Israel  
Brussels, Belgium



Hicham Abghay, Project Team Member  
S2i  
Stuttgart, Germany



# The Project: Overview

- Begun in September 2016, the 21-month project involved research, synthesis, resource and tool development, and dissemination related to the eHealth/health information technology workforce
- The project was organized into the following work packages (WP leaders indicated in parentheses):
  - Management (OMS)
  - Mapping (FH OS)
  - Access (TUT)
  - Assessment (HIMSS)
  - Strengthening (EHTEL)





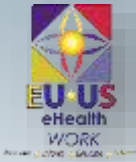
# Work Streams

The EU\*US eHealth Work Project carried out objectives in four major areas of focus, corresponding to the four major work packages (not including management):

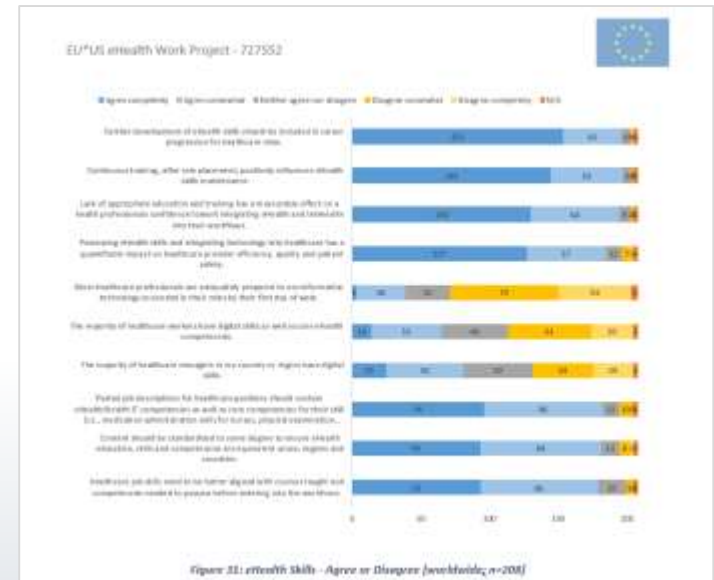
- **Measure (Mapping)**
  - We are executing the tasks of measurement by *performing surveys, analyzing the results through gap analyses, and compiling the findings from case studies*, which document the continuing need, supply, demand and trends for workforce skills and competences
- **Inform (Access)**
  - We are informing new and incumbent eHealth workforce members, pertinent actors, stakeholders and others in the health information and technology field regarding the results of our measurements through *newsletters, stakeholder sessions and participation in dissemination events*
- **Educate (Assessment)**
  - We are educating by *building a set of foundational curricula for digital skills in eHealth, enhancing and augmenting the HITCOMP Tool and Repository, and building an interactive web platform* usable by students, new and incumbent healthcare workers and practitioners, educators, governments and industry
- **Advance (Strengthening)**
  - We are advancing the field of eHealth/health IT and further enhancing workforce building initiatives by *disseminating and exploiting the work generated under this project, utilizing our "network of networks"* in a perpetually evolving process of information, resource and tool development



# Mapping/Assessing Needs, Gaps and Trends of the eHealth Workforce: Survey → Gap Analysis → Case Studies

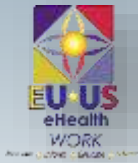


- The Goal of the EU\*US eHealth Work Project was to identify, map and provide resources to support the needs, gaps and trends of the eHealth Workforce
- We did this through these mechanisms:
  - Significant Deliverables
    - eHealth Survey
    - Gap Analysis
    - Case Studies
    - HITComp Rebuild and Expansion
    - Foundational Curriculum
    - Skills and Knowledge Assessment and Development Framework (SKAD)
    - Interactive Web Platform (IWP)
  - Major Events
    - Project Dissemination Events
    - EU-US Collaboration Event at HIMSS17 in Orlando, Florida (February 2017)
    - Stakeholder Event in Helsinki, Finland (May 2017)
    - Stakeholder Event in Oldenburg, Germany (September 2017)
    - Final Conference in Brussels, Belgium (April 2018)





# Mapping/Assessing Needs, Gaps and Trends of the eHealth Workforce: Survey → Gap Analysis → Case Studies (cont'd)



## Survey of Current State of eHealth Needs

- **Timeframe:** Survey ran February through May 2017
- **Priority:** Flagship of our project
- **Goal:** Capture information to identify global health IT/eHealth workforce development needs, trends and gaps
- **Target:** Over 1,000 respondents

### Survey addressed:

- Availability of eHealth courses
- Certification & Certificates
- Digital skills gaps
- eHealth promotion/importance
- Online tools / courses
  
- Gender disparities
- eHealth education funding
- eHealth situation in politics

**EU-US eHealth WORK**

HOCHSCHULE OSNABRÜCK  
OMNI  
HIMSS  
EHTEL  
TAMPERE UNIVERSITY OF TECHNOLOGY  
STEINBEIS-EUROPA-ZENTRUM

**Survey for Recommendations on eHealth Workforce Education, Training, Status, Competencies, Needs and Trends**

Thank you for your willingness to participate in this survey and for sharing your expert opinion on global eHealth workforce development. Based on your responses, this survey should not take longer than 30 minutes.

This questionnaire has the following overall topics:

- Demographics
- Politics and Government
- eHealth Training and Education



# Survey



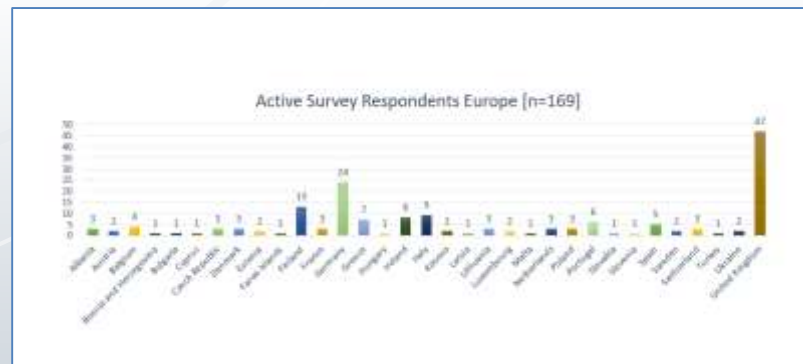
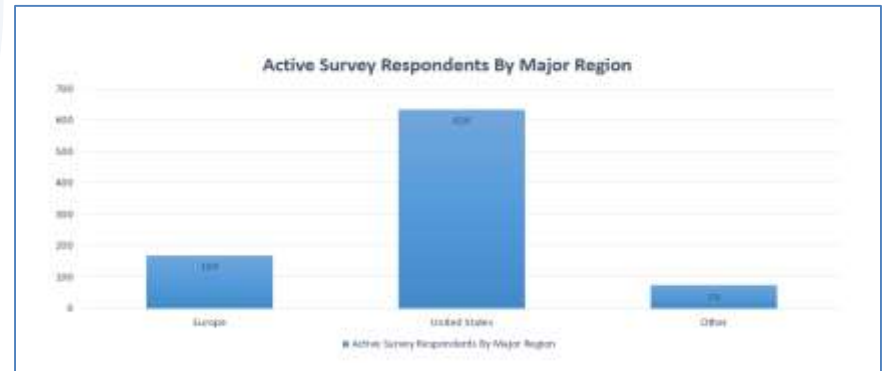
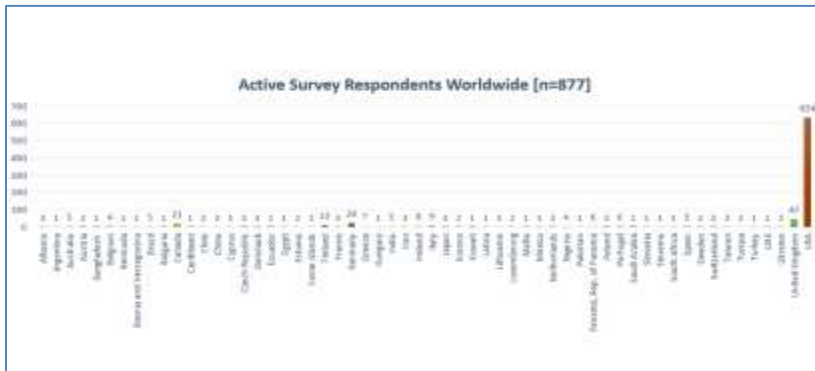
- Within the first few months, the Project conducted a comprehensive *Survey of Current State and Needs of the eHealth Workforce* in order to document real world issues, challenges, and gaps that may be present within the eHealth field
- The survey evaluated the impact of education, skills, training and other conditions on the successful development and sustainment of a proficient, digitally-skilled workforce
- The following slides show the findings from the survey intersected with analytic results from the gap analysis



# Survey Highlights - Demographics

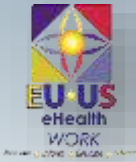
- **Country/Region**

- A total of 1080 participants responded to the survey worldwide
- Of this number, 877 participants (81%) (called “Active Survey Respondents”) proceeded to take at least a portion of the survey
- The majority of Active Survey Respondents were from the United States (72%), while about one-fifth of the respondents were from Europe (19%). There was also a fair global distribution.
- European respondents came from a variety of European states, with the largest majority representing the United Kingdom, Germany and Finland.

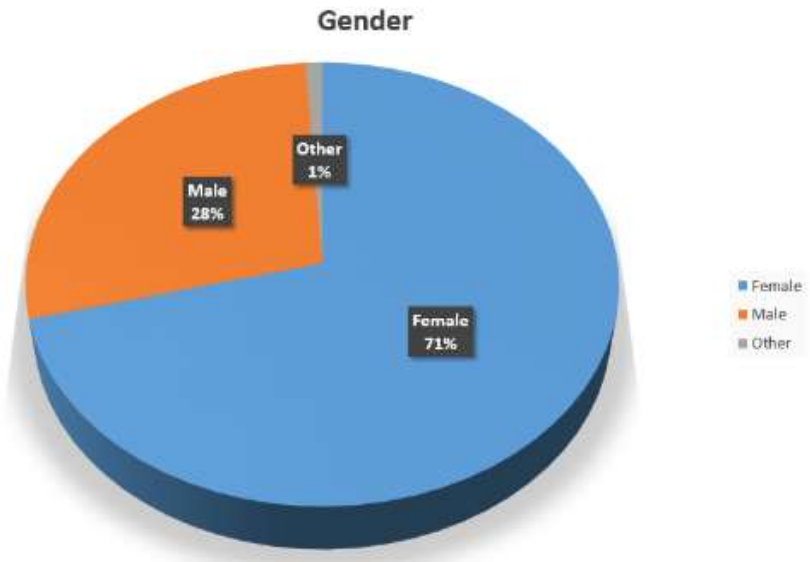




# Survey Highlights – Demographics (cont'd)

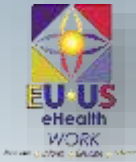


- **Gender:**
  - The EU\*US eHealth Work project is committed to improving gender equality
  - We included a query on gender in our survey to evaluate current trends regarding the number of women in the current eHealth market, as well as their progress in securing better education and training
  - From a purely statistical perspective, this question showed positive progress in terms of gender equality

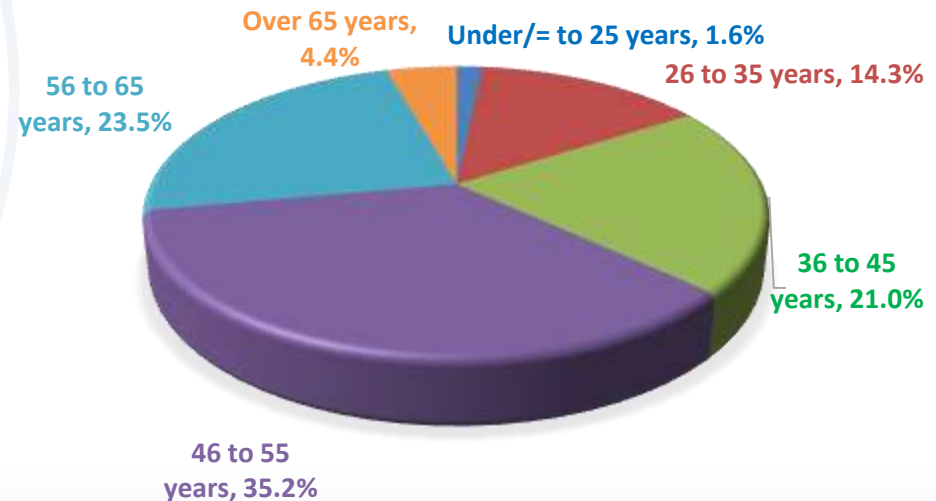




# Survey Highlights – Demographics (cont'd)



- **Age:**
  - The majority of Active Survey Respondents were in the age group that would typically respond to at least 15 to 20 years of career experience, in the 46-55 year age group
  - Also significant is that over half (63%) of the respondents are approaching or in the “ageing worker” category



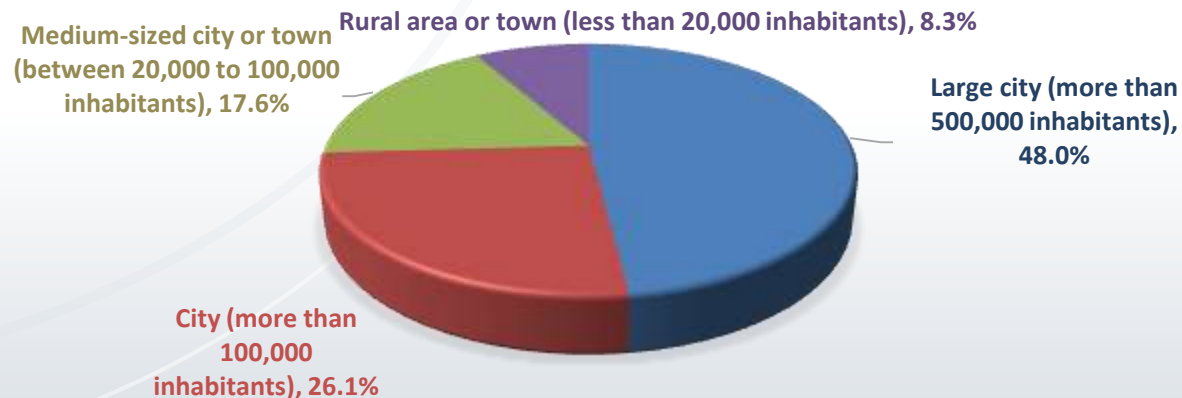


# Survey Highlights – Demographics (cont'd)



- **Primary Workplace**

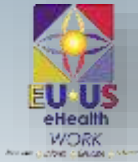
- In terms of primary workplace location, the majority of Active Survey Respondents (48%) came from a large city (identified as more than 500,000 inhabitants), which is more likely to have a technology infrastructure that supports eHealth.







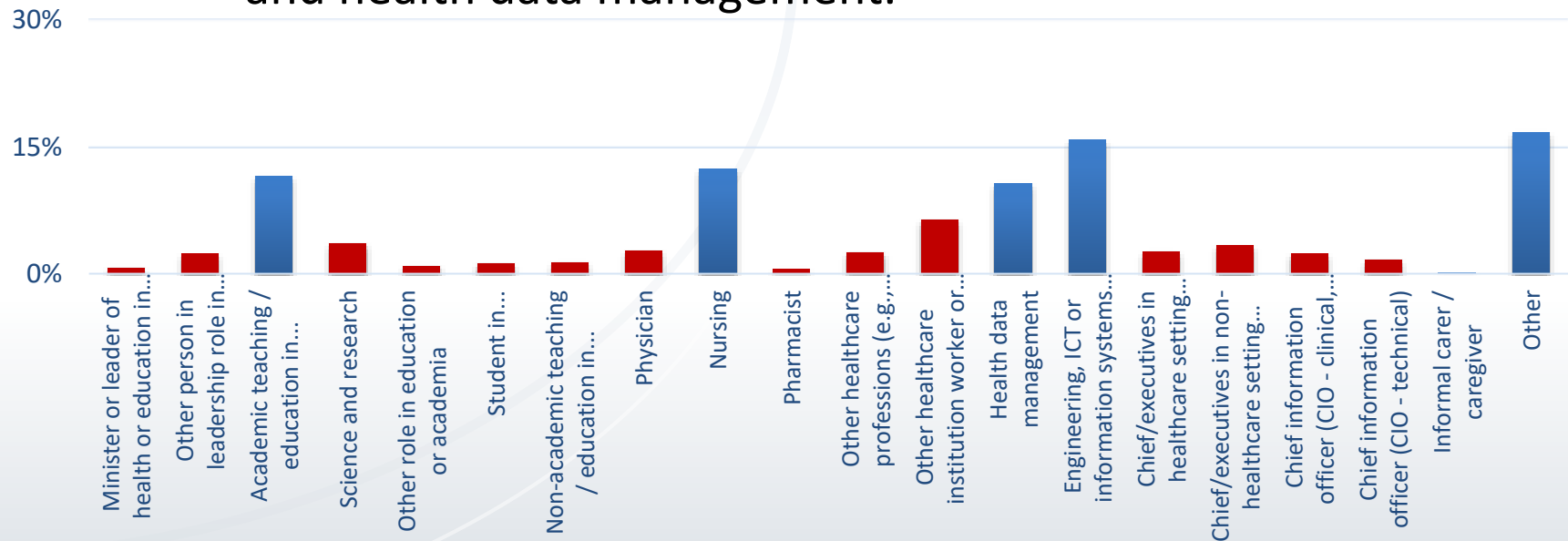
# Survey Highlights – Demographics (cont'd)



- **Primary Professional Activity (cont'd)**

- Respondents fulfill a variety of roles

- The majority of respondents identified themselves as “Other” followed closely by Engineering, ICT or information systems specialist in healthcare settings, nursing, academic teaching and health data management.



*Which of the following roles / categories best describe your primary professional activity?*



# Survey Highlights – Gender Disparities



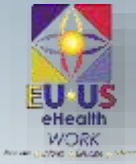
- Data was collected regarding gender disparities in the healthcare sector
  - A large percentage of our respondents are indeed aware of gender disparities within the healthcare sector
    - The majority of respondents who answered identified disparities in Engineering/ICT or information systems specialists, followed by chief/executives in nursing/physician roles, with the lowest found among pharmacists
    - 42.8% said there were no systems in place to help address these disparities
    - These results seem to support findings that gender gaps remain in the labour market, and that women are still over-represented in lower paid sectors and under-represented in decision-making positions

## Are gender disparities being adequately addressed?

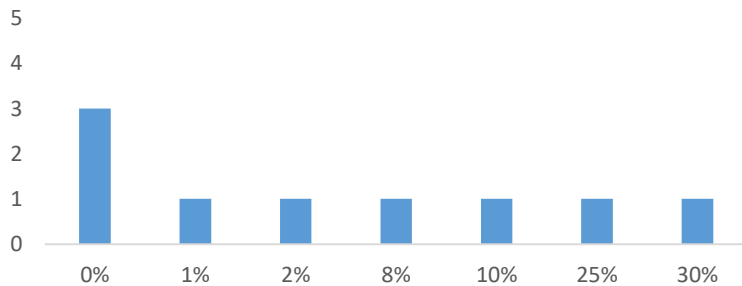




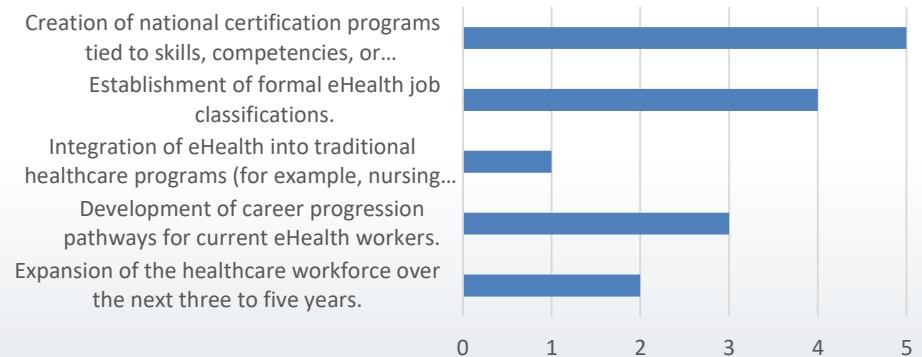
# Survey Highlights – Funding Priorities



- Though few participants responded to the funding priorities questions, the results paint a clear picture that eHealth is lacking in funding and resources, or at least that this information is not widely available or applicable to those who need or potentially use it the most



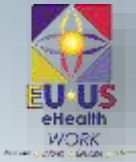
*What is the total funding allocation, by percentage, for eHealth in your overall health budget?*



*Please rank the following funding priorities identified by your ministry in relation to eHealth within your country or region, from one to five*

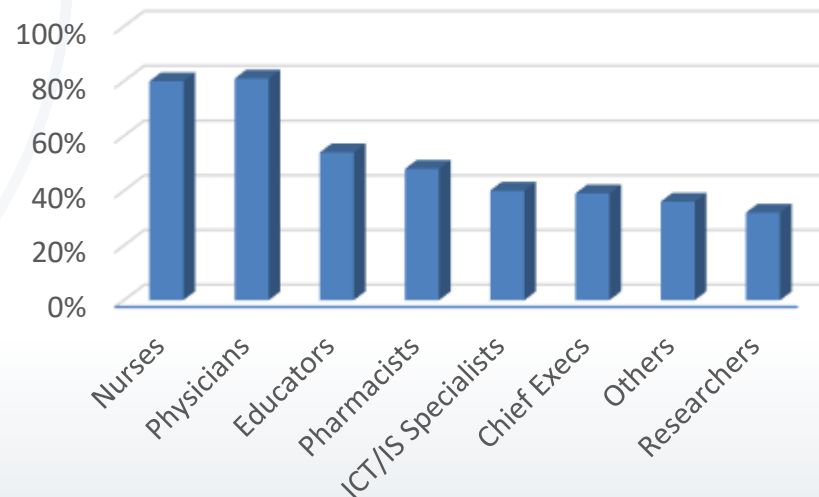


# Survey Highlights - eHealth Knowledge and Skills



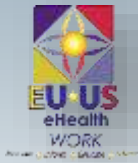
- Our results showed the most pressing needs for eHealth training, among the interdisciplinary team, continue to be for nurses and physicians. Educators are also thought to need to keep up to date in their eHealth training.

Pressing Needs for eHealth Training

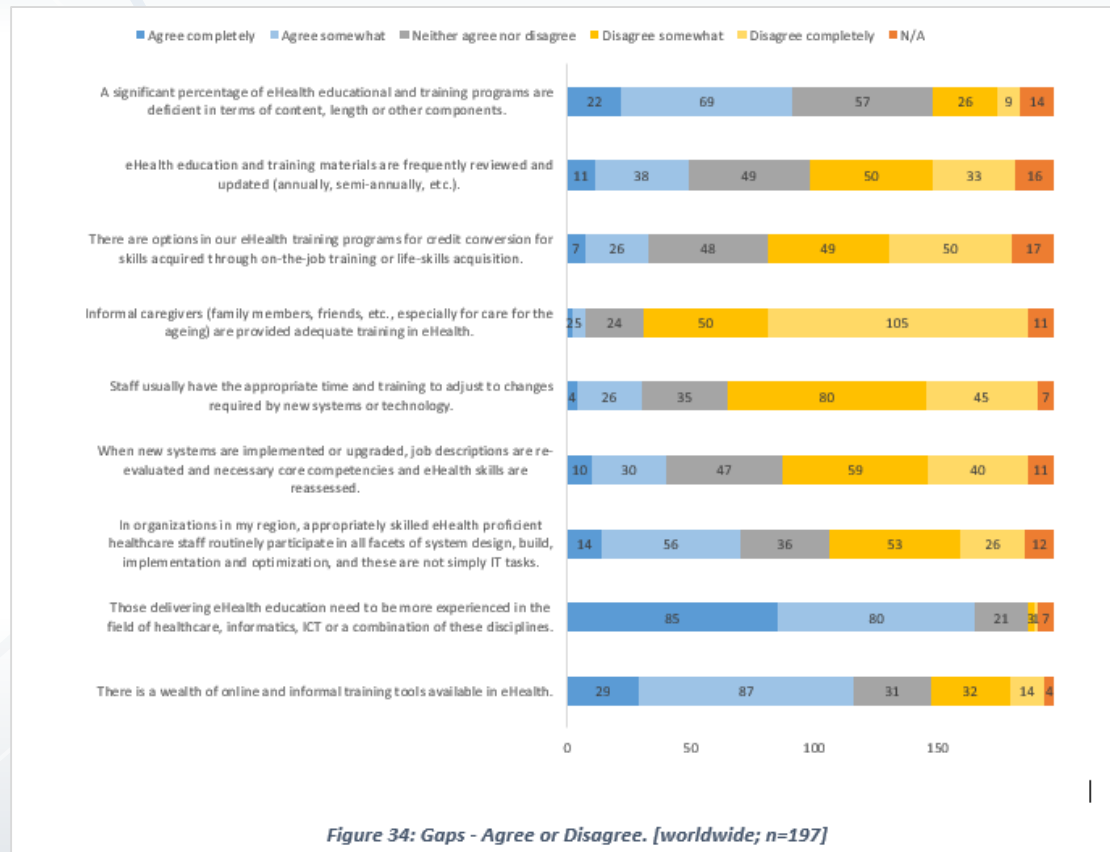




# Survey Highlights – Training for Informal Care Givers and Involvement of End-Users in Implementations



- Our respondents think informal care givers need more opportunities for education
- They also tend to think health organizations need to be more proactive in involving end-users, especially clinicians, in health systems and technology implementations

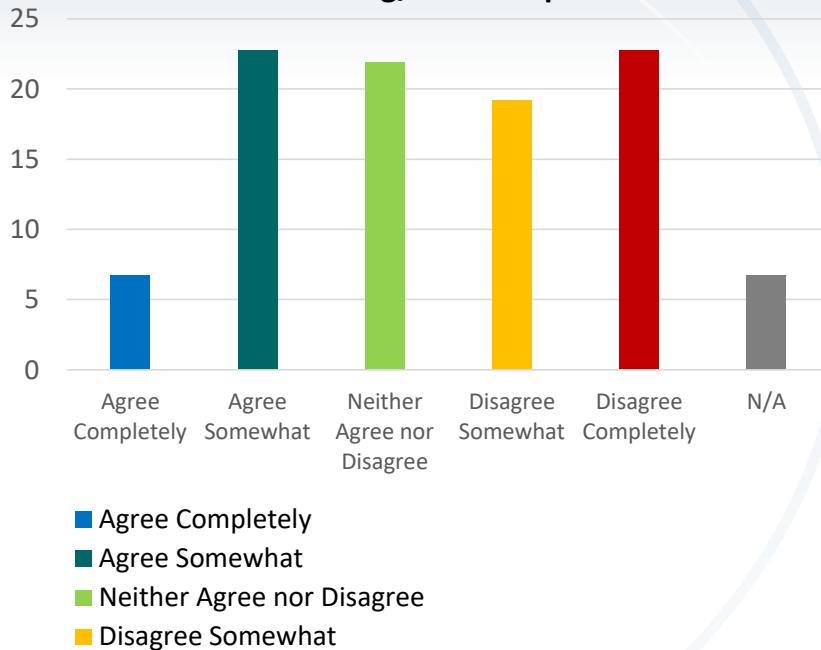




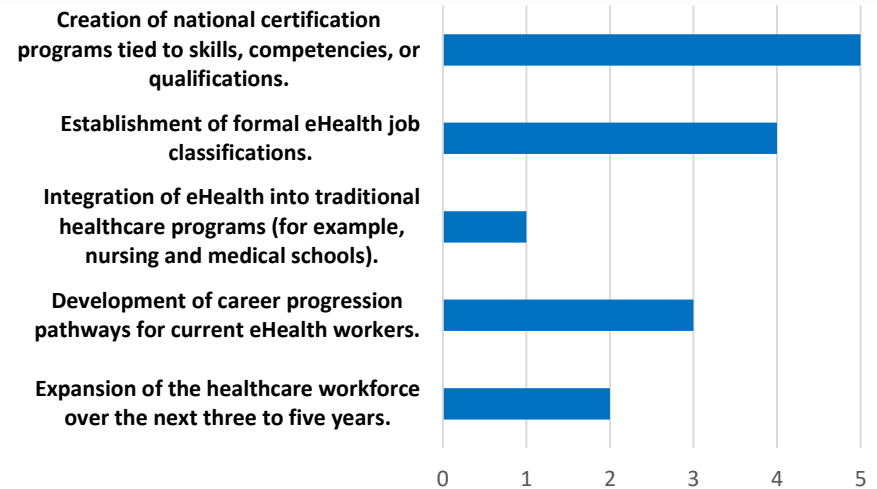
# Overall Survey Highlights



There is standardized baseline eHealth training or skills assessment for all healthcare workers as part of their on-boarding/new hire process



What are the eHealth funding priorities identified by health and education departments/ministries within your country or region?



Are gender disparities being adequately addressed?



Are there care delivery worker shortages in your country or region?





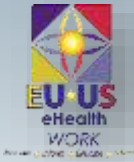
# Survey Highlights – Gap Analysis



- In addition to the *Survey*, the Project also conducted an extensive *Gap Analysis* on the *Survey* results, with findings demonstrating 10 major gaps in skills, training, funding and other areas of eHealth workforce preparation, development and advancement
- The relied on findings of closed questions and free texts of the EU\*US eHealth Work Survey
- It reflects the opinion of experts who oversee the entire field (closed questions) as well as the voice of the broad field of health professionals (free text).



# Survey Highlights – Gap Analysis



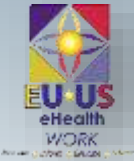
We identified 10 major gaps on the analysis (Starred gaps represent those related to training and skills):

- ★ – **GAP 1: eHealth knowledge and skills of healthcare professionals:** *This gap defined a trend that the majority of healthcare managers and healthcare workers do not have digital skills. Moreover, most healthcare professionals are not adequately prepared to use information technology (IT).*
- ★ – **GAP 2: eHealth knowledge and skills of informal care givers:** *Adequate training for informal caregivers (family members, friends, etc., especially for care for the ageing) is missing in a large number of cases all around the world.*
- ★ – **GAP 3: Knowledge and skills of teachers and trainers:** *The experience of educators in the field of healthcare, informatics, ICT or a combination of these disciplines needs to be improved.*
- ★ – **GAP 4: Availability of courses and programmes at various levels and for various professions:** *The number of eHealth courses and programmes is limited throughout Europe (and globally), in particular in the areas of the secondary levels, post-secondary levels, and traditional curricula in health education including medical and nursing schools, and in a lack of certifications and on-boarding processes for new hires.*
- ★ – **GAP 5: Quality and quantity of eHealth training material:** *Training material and tools are not available online and/or need to be better designed. There also seems to be a lack of credit conversion for skills acquired.*





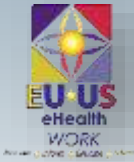
# Survey Highlights – Gap Analysis (cont'd)



- ★ – **GAP 6: Adaptation of job descriptions, training on the job, staff development:** *There are deficiencies in preparing staff and adjusting job descriptions to changes that happen due to implementations of electronic health systems as well as the use of new eHealth tools and methods.*
- **GAP 7: eHealth infrastructure:** *Many countries in Europe (and globally) do not have an appropriate eHealth infrastructure.*
- ★ – **GAP 8: eHealth usage:** *As eHealth adoption in many parts of Europe is only slowly increasing and healthcare professionals are not encouraged to use eHealth, they are not in a position to utilize eHealth to ensure continuity of care between different care episodes and settings. This is one of the major gaps, as patients with chronic conditions could definitely benefit from information continuity.*
- **GAP 9: Acceptance and usability of systems:** *Users are not involved in their organisations to participate in the different phases of systems engineering and IT life cycle management.*
- **GAP 10: Shortage of health professionals and gender disparities:** *There is a shortage of health care professionals in all countries; this has implications also to eHealth such as the availability of clinicians working in this sector. Furthermore, there are still gender disparities, particularly in the technology-oriented field.*



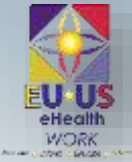
# Survey Results: Guidelines for Best Practices



- The survey results demonstrated that in order to maintain a highly IT skilled healthcare workforce, with the continuous development of pertinent eHealth related knowledge and skills in current curricula, improving awareness of eHealth and continuous training according to the different professionals' needs must continue to be addressed.
- In addition, the healthcare workforce, including all stakeholders and actors in the eHealth and health information technology community worldwide, especially in Europe and in North America, must be actively and continuously included in the development of eHealth solutions.
- Based on these results, the following twelve recommendations were developed as guidelines for “best practices” in eHealth workforce development education, training and skills by the EU-US eHealth Work Project Consortium.



# Survey Results: Guidelines for Best Practices (cont'd)

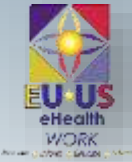


## Guidelines for “best practices”:

1. Raise the awareness of healthcare decision makers at all levels in terms of eHealth opportunities and applications, job requirements and continuous education needs.
2. Bridge the gap between ICT and clinicians by providing digital skills to clinicians, by offering clinical workflow insights to information systems specialists, and by sharing informatics methods with all members of the extended healthcare team.
3. Ensure all healthcare staff are given enough time and training to adjust to implementations, changes and optimizations required by eHealth systems.
4. Integrate core eHealth competencies into traditional healthcare training, curricula and courseware, including for the standard healthcare professions (e.g., nursing, physicians, pharmacists, allied health, etc.), at all educational levels (from secondary through post-graduate levels), and encourage recognition of eHealth competence through certification.



# Survey Results: Guidelines for Best Practices (cont'd)



## Guidelines for “best practices” (cont'd):

5. Equip all those who work with eHealth systems and healthcare technology, including informal caregivers and nonprofessional workers, with the necessary training and skills to use such systems.
6. Teach the teachers, as they are the gatekeepers at an early stage of education and multipliers at all stages of education and training.
7. Actively engage and integrate women and other disadvantaged groups in eHealth workforce development, especially in engineering/information and communications technology (ICT)/information systems, clinical leadership, and chief executive roles and positions.
8. Design eHealth training, including instructor-led, online and blended learning courses, with up-to-date, real-world clinical, informatics and technology scenarios, in modular format when possible, preparing learners to be successful in their roles, from their first day of work throughout their career progression and advancement.



# Survey Results: Guidelines for Best Practices (cont'd)



## Guidelines for “best practices” (cont'd):

9. Update and evaluate eHealth courseware and training materials frequently for improved outcomes.
10. Align eHealth roles with skills and competencies required for success and future growth, along with the required training and education needed to achieve competence in the roles, learning and adapting from occupational standards on local, regional, national and international levels.
11. Enable healthcare providers to better integrate information technology into clinical workflows by providing them with digital skills, and engaging them in system selection, design and development, testing and training, deployment and optimization.
12. Promote the industry of eHealth by encouraging, advancing, and strengthening the integration of clinical practice, informatics and technology in the healthcare workforce, especially where the opportunity exists to enhance interoperability, care coordination, and active and healthy ageing.



# Case Studies

- As a next step, 22 *Global Case Studies* were compiled to capture examples from institutions and organizations with strategies that showcase and demonstrate real-world issues, challenges and/or gaps that further underscore the findings of both the *Survey* and the *Gap Analysis*
- The case studies showcase or demonstrate:
  - Real world cases of issues, challenges or gaps identified in our Survey and Gap Analysis
  - Remedies proposed, concepts identified or solutions implemented for bridging gaps and overcoming challenges in these areas
  - Examples of successes and best practices in eHealth education and training, skills preparation, competency assessment and/or workforce development
- In addition to providing studies from major areas in the European Union and United States, we also included case studies that reflect realities and challenges in select developing countries and regions

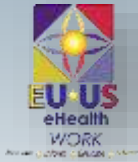


# Case Studies

- The case studies originated from the following countries:
  - Europe
    - Austria
    - Denmark
    - Estonia
    - Finland (2)
    - Germany
    - Latvia
    - Norway (2)
    - Portugal
    - Slovenia
    - Sweden
    - United Kingdom (3)
  - United States (2)
  - Canada
  - Israel
  - Nigeria
  - Saudi Arabia
  - India



# Case Study (Example)



EU\*US eHealth Work Project - 727552



Case Study Annex by Country



## EU\*US eHealth Work Project H2020-SC1-HCO13-2016

*Mapping Skills and Competencies; Providing Access to Knowledge, Tools and Platforms; and Strengthening, Disseminating and Exploiting Success Outcomes for a Skilled Transatlantic eHealth Workforce*

Austria

### Case Study: An Online-based Master's Program in Health Information Management for Health Care Professionals

University of Health Sciences, Medical Informatics and Technology (UMIT) in Hall in Tirol, Austria

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 727552 EUUSEHEALTHWORK

Deliverable 4.3 Case Studies I and II

Page 32

EU\*US eHealth Work Project - 727552



**TITLE** An Online-based Master's Program in Health Information Management for Health Care Professionals

#### AUTHOR

Professor Elske Ammenwerth, DrSC, FACMI, Head, Institute of Health Informatics at the University of Health Sciences, Medical Informatics and Technology, Hall in Tirol, Austria. Dr. Ammenwerth is an international expert in health informatics education and is currently establishing an online-based master's degree program in health information management at UMIT.

#### ORGANIZATION

The University for Health Sciences, Medical Informatics and Technology (UMIT) is owned by the state of Tirol and is located in Hall in Tirol, Austria. As a modern university, UMIT is specialized in new vocational fields and research areas and thus responds to the latest challenges in health care and technology.

Focus areas include: Mechatronics, Medical Technology, Medical and Biomedical Informatics, Psychology, Physiotherapy, Health Sciences, Nursing Science and Gerontology, supplemented by university training courses. UMIT offers high-quality academic education and advanced training in fields that have turned out to be of increasing importance in modern health care and technology.

#### BACKGROUND

Modern health care is unthinkable without modern health information technology (IT). Traditionally, Austrian universities offer full-time programmes in medical informatics (MI) or health informatics (HI) at the bachelor and master degree levels.

However, health care professionals, such as physicians and nurses, also need a solid basis on topics related to health IT to be able to efficiently select, implement and use modern health IT systems such as electronic patient records (EPRs). Until recently, these health IT topics were not integrated into basic curricula in medicine, nursing or related programs in Austria. Thus, both physicians and nurses often lack basic competencies in health IT. As a consequence, the "voice of the users" is not heard when designing, selecting and implementing health IT solutions, leading to insufficiently designed and user-"unfriendly" systems that do not fully exploit the inherent possibilities of health IT.

A recent market analysis also confirmed that the health IT industry is looking to hire health care professionals who have an in-depth knowledge of their professional fields, and who combine this with competencies in health IT and health information management (HIM).

This motivated UMIT, as Tyrolean state university, to establish postgraduate courses and programs on HIM for health care professionals.

We define "health informatics management" as management of health information systems, covering fields such as design, development, adoption and application of IT-based innovations in healthcare. HIM thus offers a management-oriented and organizational-oriented access to health informatics.

#### STATUS/CURRENT DEVELOPMENTS

UMIT has a long history in educating specialists in MI. Between 2001 and 2015, UMIT offered full-time bachelor and master degree programmes in MI. Since 2004, nursing science students receive one introductory module on nursing informatics (NI), both in their bachelor as well as in their master programme.

Deliverable 4.3 Case Studies I and II

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# Providing Access to eHealth Tools, Resources and Innovations: HITCOMP -> Foundational Curricula -> SKAD -> IWP

- What is the HITCOMP Tool? *Health Information Technology Competencies*
- Unlike other resources, it is a tool that can be used for eHealth and digital skills research, educational development, skills assessment and career progression



Health Information Technology Competencies  
*empowering a digitally skilled health workforce*





# Providing Access to eHealth Tools, Resources and Innovations: HITCOMP

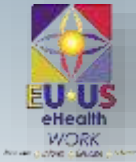


- Developing innovative tools and resources has been an important part of the EU\*US eHealth Work Project. In fact, we have developed over 10 unique tools and resources over the lifetime of the project.
- HITComp was the first of these resources, the concept actually being begun under our predecessor project: the EU-US eHealth Collaboration begun in 2013. Unlike other resources, HITComp is an open source online tool that can be used for eHealth and digital skills research, educational development, skills assessment and career progression.
- Access HITComp at [www.hitcomp.org](http://www.hitcomp.org)





# HITComp

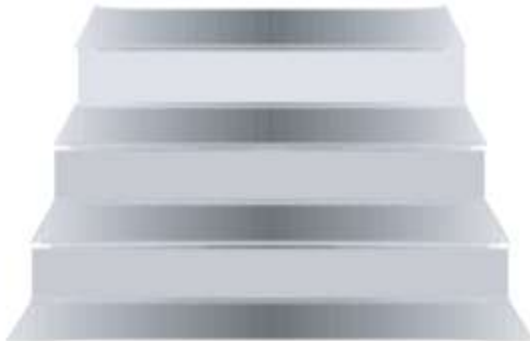
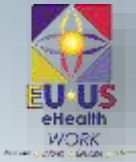


- HITComp is a global eHealth roles, competencies and education research and information tool and resource
  - Contains over 1000 competencies in five healthcare domains, including Direct Patient Care, Informatics, Administration, ICT and Research/Biotechnology
- Also includes information and reference data on over 250 healthcare and allied health roles, with equivalents in five major European languages
  - Includes Bloom's taxonomy and is aligned with online and other educational resources
- Its roles and competencies are fully aligned to the project's Foundational Curriculum; it is linked to the curriculum as well as other educational programs





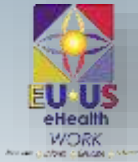
# Foundational Curriculum



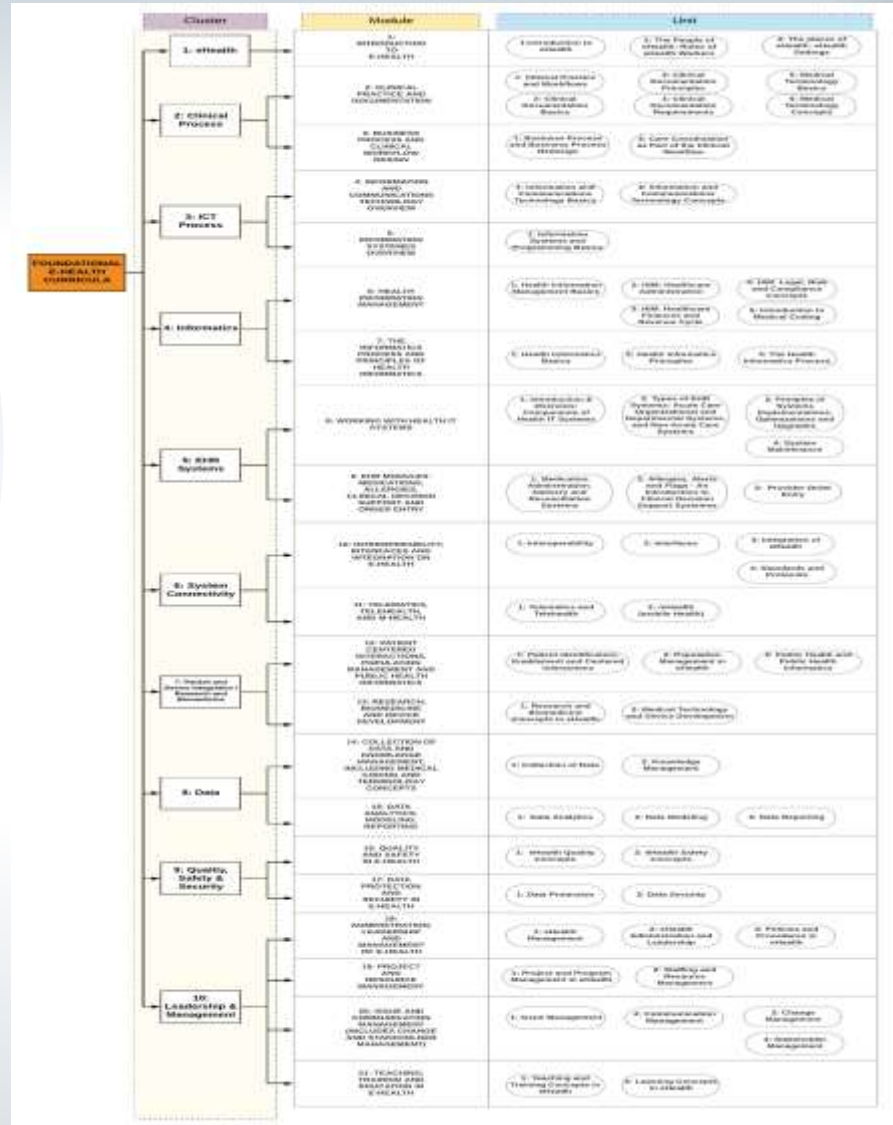
- The EU\*US eHealth Foundational Curriculum is a global introductory online course in eHealth
- It provides baseline and basic eHealth skills (digital competency in healthcare) upon completion



# Foundational Curriculum (cont'd)



- The Foundational Curriculum is the project's flagship content for eLearning in Digital Healthcare
- Survey, gap analysis and case studies all made the need for development of a comprehensive foundational curriculum in eHealth a necessary component to the project's work
- The content loosely translates to the equivalent of a 60 unit/60 hour online course
- Includes 10 clusters (in pink), 21 modules (in orange), broken down into units (in blue) in 40 different areas of competency





# Foundational Curriculum (cont'd)



## Clusters:

<b>eHealth</b>
<b>Clinical Process</b>
<b>ICT Process</b>
<b>Informatics</b>
<b>EHR Systems</b>
<b>System Connectivity</b>
<b>Patient and Device Integration/ Research and Biomedicine</b>
<b>Data</b>
<b>Quality, Safety &amp; Security</b>
<b>Leadership &amp; Management</b>

## Modules:

<b>Introduction to eHealth</b>	
<b>Clinical Practice and Documentation</b>	<b>Patient Centered Interactions, Population Management and Public Health Informatics</b>
<b>Business Process and Clinical Workflow Design</b>	<b>Research, Biomedicine, and Device Development</b>
<b>Information and Communication Technology Overview</b>	<b>Collection of Data and Knowledge Management</b>
<b>Information Systems Overview</b>	<b>Data Analytics, Modeling and Reporting</b>
<b>Health Information Management</b>	<b>Quality and Safety in eHealth</b>
<b>The Informatics Process and Principles of Health Informatics</b>	<b>Data Protection and Security in eHealth</b>
<b>Working with Health IT Systems</b>	<b>Administration, Leadership and Management of eHealth</b>
<b>EHR Modules: Medications, Allergies, Clinical Decision Support and Order Entry</b>	<b>Project and Resource Management</b>
<b>Interoperability, Interfaces and Integration of eHealth</b>	<b>Issue and Communication Management (includes Change and Stakeholder Management)</b>
<b>Telematics, Telehealth and mHealth</b>	<b>Teaching, Training and Education in eHealth</b>

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 727552

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# Foundational Curriculum Samples



**Project and Program Management in eHealth**

Foundational Curricula:  
 Cluster 10: Leadership & Management  
 Module 19: Project and Resource Management  
 Unit 1: Project and Program Management in eHealth  
 FC-C10M19U1

Curriculum Developers: Angelique Blaké, Rachelle Blaké, Paulina Hollovaer, Saira Prasad, Milla Jutilainen, Johanna Toivonen, and Alpo Väiri

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**Health IT Project Life Cycle (cont'd)**

- Relying on the project management, technology management, and change management disciplines individually does not ensure project success
- Integrating all three increases the likelihood of project success
- The steps or phases below illustrate applying Project Management Institute's *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)* (PMI, 2008)
- The goal of the life cycle is to integrate project management, IT management, and change management disciplines

FC-C10M19U1

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**Project Management Triangle**

- The **Project Management Triangle** (called also the Triple Constraint, Iron Triangle or "Project Triangle") is a model of the performance and constraints of project management. It contends that:
- The quality of work is constrained by:
  - the project's budget (**cost**)
  - adherence to time planned/deadline for the project completion (**schedule**) and
  - the boundaries of the outputs of the project (**scope**)
- The project manager can trade between these constraints.. Changes in one constraint necessitate changes in others to compensate or project performance and quality will suffer.
- For example, a project can be completed faster by increasing budget or cutting scope. Similarly, increasing scope may require equivalent increases in budget and schedule. Cutting budget without adjusting schedule or scope will lead to lower quality.

FC-C10M19U1

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**Unit Review Exercise/Activity**

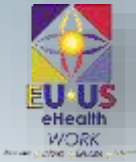
1. Consider a situation where your organization has an opportunity to replace a paper patient intake form with a digital patient intake form. Describe reasons why this project should be executed and what will be the benefits of it.
2. From the Project Management Plan on the right, answer the following questions:
  - a) What tasks are the seven project milestones indicated by diamonds on the Gantt Chart?
  - b) What tasks are the three critical paths, indicated by red bars on the Gantt Chart?
  - c) When is the project schedule to begin and end?

FC-C10M19U1

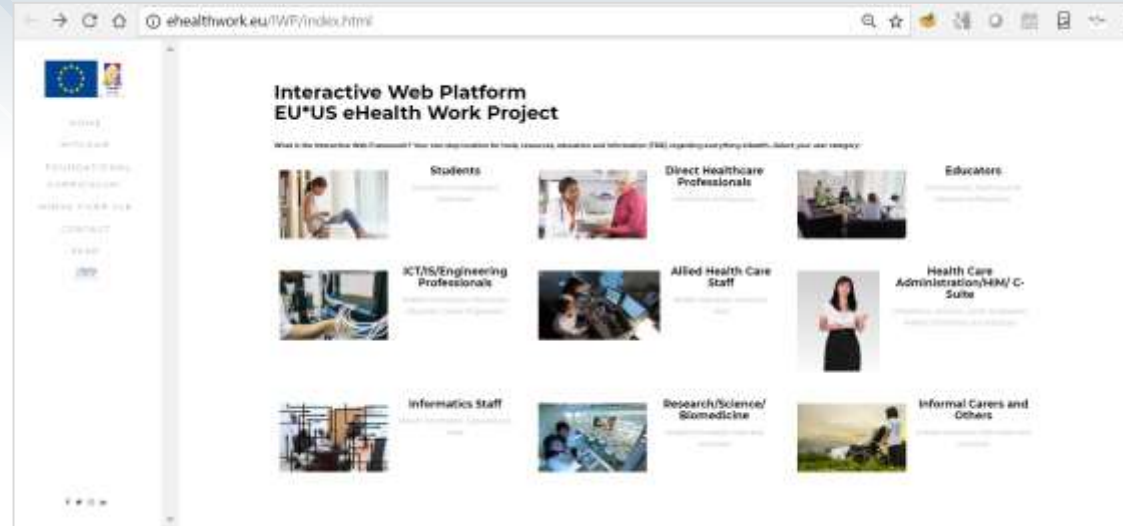
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# Interactive Web Platform



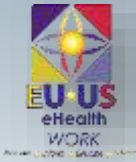
- The Interactive Web Platform (IWP) is a role-based learning and resource platform
- It includes several quotes from project stakeholders, statistics regarding the project, as well as links to other project tools and resources



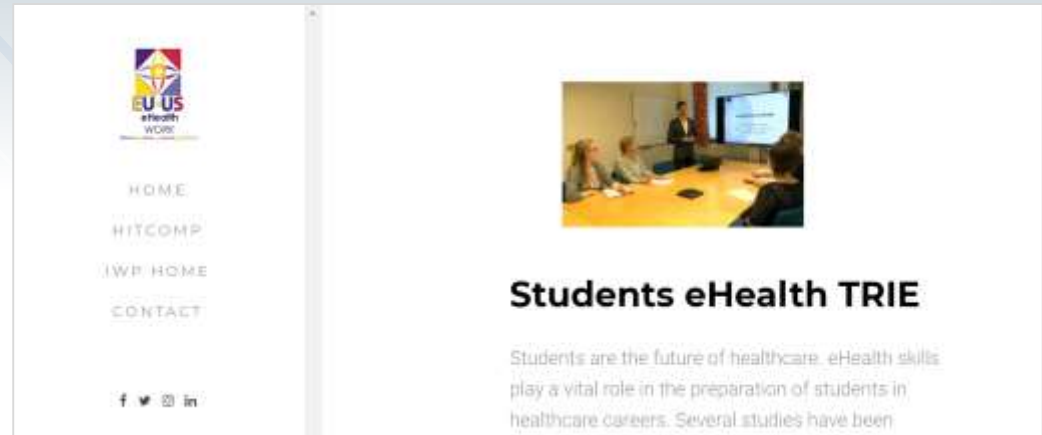




# Interactive Web Platform

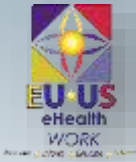


- The user chooses from a category of main roles:
  - student
  - direct healthcare professional
  - educator
  - ICT/IS professional
  - allied health care team member
  - HIM member, manager or executive
  - informatics staff
  - research/biomedicine
  - informal caregiver/other
- The user then navigates to a subpage, where he or she can discover a TRIE of information

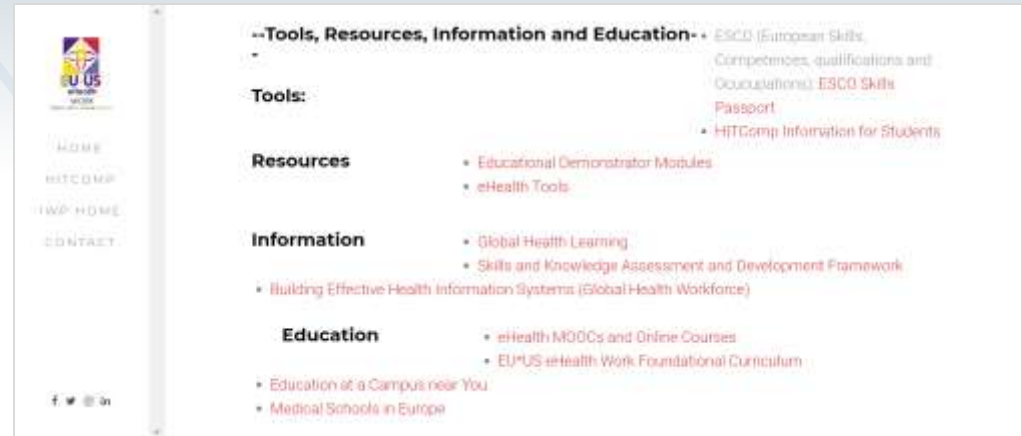




# Interactive Web Platform



- The TRIE includes:
  - Tools such as skills development and career progression tools
  - Resources such as the HIMSS Virtual Learning Environment, ESCO and Networking opportunities
  - Information such as related links and industry information
  - Education such as the Foundational Curriculum and other training opportunities





# Skills and Knowledge Assessment and Development Framework (SKAD)



The Skills and Knowledge Assessment and Development Framework (SKAD) is a survey-based user-generated self-assessment of eHealth skill level

**Skills Knowledge Assessment and Development Framework**

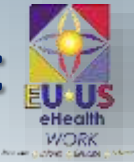
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# Skills & Knowledge Assessment & Development Framework (cont'd)



- The SKAD intersects with HITComp and generates assessment questions based on competencies based on user role, level and other parameters
- One goal of SKAD is to tie it to preparation for eHealth and HIT certification programs, such as HIMSS' CA/CPHIMS and other programs, such as EFMI certification
- SKAD also directs new students seeking further eHealth education to the Foundational Curriculum

**Familiarity with Devices:**  
Which computer devices or peripherals do you personally own? (select all that apply)

- A) Desktop computer
- B) Laptop computer
- C) Printer
- D) Scanner
- E) Tablet
- F) Thumb drive
- G) Other
- H) None

Clear Submit

Question 2 of 22

**Digital Skills and Abilities**  
Please rate your skill level with devices and digital content on a scale of 1-5 for each of the following troubleshooting activities, where 1 is "I can perform this function poorly or only with assistance" and 5 is "I can perform this function with expert ability"

	Expert Skill Level				
	1	2	3	4	5
A) I can resolve any kind of problem that might arise with a computer program, software or device.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B) I know who to turn to when I need support and assistance of the tech I use (don't work correctly).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C) I know how to get the training and skills I need when I use a new device, program or application.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
D) I am capable of identifying solutions myself when I (or/our) receive problems at first and it is necessary to perform tasks with new software, programs or devices.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Clear Submit

Question 16 of 22



# Interactive Educational Demonstrator Modules

- Cybersecurity video produced by TUT was presented at the Finland Event in May 2017
- Foundational curriculum video with applications to instructor-led instruction is a second demonstrator module
- Third module features HITComp, with hands-on demonstrations and use cases for educational, worker and management users



# Interactive Educational Demonstrator Modules (cont'd)





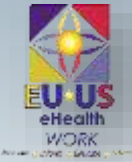
# Strengthening the eHealth Workforce

## Goals:

- Strengthen the impact of the project, its reach, and its outcomes, through the following mechanisms:
  - Disseminate: raise awareness at European and national/regional level about project's ambitions, lessons learned during the deployment phase and finally the end result
  - Exploit: create the necessary organisational elements to enable the use of the project results beyond the project's end



# Dissemination: Presenting the Results and Stakeholder Engagement Activities

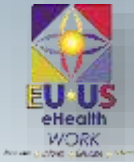


- MEDICA 2016, Düsseldorf, Germany: 14-15 November 2016
- WoHIT (World of Health IT), Barcelona, Spain, Presentations and networking, 21-22 November 2016
- European Summit on Digital Innovation for Active & Healthy Ageing, Brussels, Belgium, 5-8 December 2016
- EU-US Collaboration Event, Orlando, Florida, HIMSS Annual Conference and Convention, 21-22 February 2017
- EHTEL 2017 Symposium, Brussels, Belgium, Presentation and project dissemination, 15 March 2017
- Informatics for Health 2017, Preconference Tutorial and Presentation, Manchester Central, UK, April 24 – 26 2017
- conhIT 2017, Project Dissemination and stakeholder participation opportunities, Berlin, Germany, April 25 – 27, 2017
- Healthcare Workforce Planning Summit, Berlin, Germany, May 2017
- EU\*US eHealth Work Stakeholder Engagement Event I, Helsinki, Finland, 23-24 May 2017





# Dissemination: Presenting the Results and Stakeholder Engagement Activities (cont'd)



- eHealth Week 2017, Presentations and stakeholder participation opportunities, Saint Julian's, Malta, May 10 – 12, 2017
- Future Health Care Week, Amsterdam, Netherlands, June 2017
- MedInfo 2017, Presentations and panels/stakeholder participation opportunities, Xiamen, China August 21 – 25, 2017
- EU\*US eHealth Work Stakeholder Engagement Event II, Oldenburg, Germany, 19 September 2017
- MEDICA 2017, Presentations and panel, Düsseldorf, Germany: 15 November 2017
- Promis Health Sector Italian Ministry of Health, 19 January 2018
- conhIT 2018, Project Dissemination and stakeholder participation opportunities, Berlin, Germany, April 17, 2018
- EU\*US eHealth Work Final Conference, 25 April, 2018, in conjunction with MIE Conference, Gothenburg, Sweden



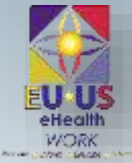
# Exploitation: Enabling the use of the project results beyond the project's end



- Ongoing and expanding partnerships with HIMSS North America and HIMSS Europe
- Engaging academic organizations to utilize foundational curricula
- Integrating HITComp, the Interactive Web Platform and the Skills and Knowledge Assessment Framework with other projects, other initiatives and continuing work of Consortium members and stakeholders, including the HIMSS TIGER VLE
- Aligning with the European Commission's Digital Skills Initiatives
- Creating additional tools and resources for assessing, monitoring and improving digital skills and competency in healthcare



# Why Does This Work Continue to be Relevant?



- Digitally skilled healthcare professionals are at the heart of person-centered coordinated care
- They are also the key to interoperability of systems, successful adoption of systems, and implementation of health information and technology
- But still gaps in skills, training and competence exist
- With other industries, information flow is important; with patient care, it is mission critical, and can be a life or death issue
- Nurses, doctors, pharmacists and other healthcare workers all need to be digitally skilled for 2030 and beyond
- It starts with building the eHealth Workforce, in the EU, the US and globally



# How You Can Support Our Work



- We need your help to continue disseminating information about the work of the project and keeping the momentum alive
- Log on to our website: [www.ehealthwork.org](http://www.ehealthwork.org) or [www.ehealthwork.eu](http://www.ehealthwork.eu)
- Help us in our efforts to:
  - Inform and educate current and future eHealth workers
  - Participate as a stakeholders in eHealth workforce development and European Commission digital skills events
  - Help disseminate and use your networks to exploit the results of this important work to make an impact in eHealth



# Thank you!

спасибо 谢谢  
GRACIAS 谢谢  
**THANK YOU**  
ありがとうございました MERCI  
DANKE धन्यवाद  
شُكْرًا OBRIGADO