The Importance of Digital Skills in Healthcare

Enabling Professionals to drive Digital Health

Armin Ritter, Fraunhofer Academy, June 24, 2021
The Fraunhofer-Gesellschaft undertakes applied research of direct utility to private and public enterprise and of wide benefit to society.

29,000 staff

75 institutes and research units

Finance volume

- €2.8 billion
- €2.4 billion

Contract Research

- Major infrastructure capital expenditure and defense research
- Almost 30% is contributed by the German federal and states Governments
- More than 70% is derived from contracts with industry and from publicly financed research projects.

2020
Fields of research
[& education]

- Health and Environment
- Communication and Knowledge
- Production and Supply of Services
- Mobility and Transport
- Energy and Resources
- Security and Protection
Why Transformative Digitals Skills for Healthcare Program?

Health organizations remain largely unprepared to benefit from digital innovations.
Germany trails far behind several other countries...

... potential for quality and efficiency remains untapped.

Economic Forces

HC spending as share of GDP: + 5% p.a.
Telemedicine industry: + 19% p.a.
Virtual diagnostics & home care: + 15% p.a.

Current Challenge: Acceleration in digital transformation

Healthcare systems are under pressure

Gap between demand and supply

4.1 Mio. Healthcare Professionals shortage till 2030

Increasing demand
- Scale and complexity of HC needs
- Personalized & convenient services

Decreasing capacity
- Constrained resources
- Gap between supply and demand

The who, what, where and how of work are re-architected.

The three driving forces of HC transformation

**Economy**
- High growth in the digital HC market
- Increased healthcare spending

**Society**
- Healthcare systems are under pressure
- Gap between supply and demand

**Technology**
- Re-architecting work and workplace
- Increased healthcare productivity

Unique opportunity:
Digital Transformation is vital to shape the future of healthcare

mHealth: 400 billion cost savings in 5-year period

... and is key to closing the gap between supply and demand in healthcare

Digital Technologies allow efficiencies at a lower cost

The problem: Digital technologies are useless without skills to match

Urgent need to provide Healthcare Professionals with digital skills to drive digital innovations

... and close the gap between supply and demand in healthcare

Top 3 challenges

1. **Bureaucracy in healthcare (57.4%)**
2. **Cost of technology (50.3%)**
3. **Finding the right technologies (49.0%)**
4. **Training staff to adequately use technology (35.8%)**
5. **Complexity of technology (28.9%)**
6. **Challenges in sharing patient data (27.7%)**
7. **Convincing staff of the benefits of technology (20.5%)**
8. **Scaling up the use cases of technologies (16.1%)**
9. **Existence of evidence of outcomes (12.5%)**

Unmet educational needs among professionals from the entire healthcare ecosystem include:

- Hospitals
- Clinicians
- Nurses
- Medtec
- Multi-professional teams
- Consultants
- Business Analysts
- ICT professionals
- Payers
- Pharma-ceuticals
- Health Managers
- Education & research
- Service Provider

14
Digital Skills

Technologies
- AI
  - Machine Learning
- Cybersecurity
- Prototyping
- Telehealth
  - mHealth
  - EHR
- Data Analytics
- Leading Change
- (Cognitive) Robotics
- Integrated Health
- Usability Design & UX

Methodologies
- Design & UX

Leading Change
Empowering Health Professionals

Online Training Program

M1: Essential Skills for Innovative Healthcare
M2: Leading the Healthcare Transformation
M3: Smart Devices for Healthcare Professionals
M4: Security of Computerised Systems in Healthcare
M5: Usability and User Experience (UX) of Medical Devices
M6: Machine Learning for Precision Medicine
M7: Integrated Healthcare
M8: Health Economics
Benefits for Healthcare System

Operational Efficiency
- Automation and robotics for care and hospital logistic services
- More allocation of nurse/physicians time to patients treatment

Redefined care delivery
- "Air traffic control" command centres to better manage patient capacity
- Interoperable data from different sources for improved decision making
Use Cases for the hospital of the future

Video Interviews
Expert Interviews Series

at Oxford University Hospitals NHS Foundation Trust (OUH)
International Program

New perspectives and insights from around the world

Status 2020

20% International participants
80% European Participants
Time investment & Certification

- On average, a module lasts 4-5 weeks, one week per learning unit.
- Average learning effort is between 15 and 20 hours for a module.
  - 2/3 self-paced learning with individual and team work.
  - 1/3 virtual life sessions.
- Certification of completion.
Participants journeys towards the TDS Program

Healthcare Transformation Champion Certificate
All 8 modules

Healthcare Technology Certificate
2 Technology Modules
M1 Essential Skills
M2 Leading Change

Healthcare Transformation Certificate
M1 Essential Skills
M2 Leading Change
M8 Health Economics

Selection of individual module(s)
The Team

Solving big healthcare challenges
Clinical use cases and validation

Leading-edge Technology
Experts in Learning

Driving data science &
Human-Computer-Interaction in Health
Start your digital transformation journey

Armin Ritter
Fraunhofer Academy
Business Unit Manager Corporate Learning
armin.ritter@zv.fraunhofer.de
https://s.fhg.de/transformativedigitalskills