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WELCOME TO HEALTH SCIENCES
HENK BAKKER

• Patient/ healthcare professional

• Institution/ organization

• Society
HEALTH SCIENCES

• A health scientist looks for ways to make health (care) services more effective and/or efficient
  • Processes
  • Systems
  • Products

• At the level of:
  • The patient or caretaker
  • Health organization (i.e. hospital)
  • Society (health care system, insurance)

• University of Twente: specific focus on Technology and a systematic approach (methodology)

• Analyze, Design, Implement, Evaluate
CAREER PERSPECTIVE

• Health policy advisor
  local, regional, national, international level

• Researcher

• Member of board of directors health care organization

• Researcher

• Quality manager

• Health technology industry (Philips, Demcon)

• Health process innovator within nursing, physiotherapy,

• …….
Geld voor 2016 op, ziekenhuis dicht

Zorgkosten
Twee ziekenhuizen in het noorden van het land nemen dit jaar geen patiënten meer op, want er is geen geld meer. Hoe kan dat? Vier vragen.

Kim Bos & Karin de Mik  21 oktober 2016

Harde kritiek op jeugdzorg bij gemeente

Infection Prevention and Management
Continuous automated monitoring of HAIs
Identify Adverse Trends
Implement improvement initiatives
Assess effectiveness of all interventions
Timely, Enhanced Surveillance

DE CENTRALISATIE Jeugdzorg Nederland, GGZ Nederland en gehandicaptenkoepel VGN constateren dat hulp is verslechterd.

Health Services
Monitoring Infections & Spreading
Gemeenschappelijke gezondheidszorg in borsteling ziekenhuizen. Ziekenhuizen die de hulp aan patiënten afstrekken, hebben er vragen over. De gevraagde hulp is niet vrijblijvend en is alleen mogelijk als er geen andere gevraagde hulp is. Daarom wordt de hulp aan patiënten afgesproken met het hulpverlenende orgaan. Het gesprek met de hulpverlenende organisatie wordt gedaan in het belang van de patiënt en de patiënt is er van bewust.
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<td>Personalized Monitoring &amp; Coaching (eHealth)</td>
<td>201600024 (15 EC) Methods for Early Health Technology Assessment</td>
<td>201600027 (5 EC) eHealth Development: A Holistic Approach</td>
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METHODS FOR EARLY HEALTH TECHNOLOGY ASSESSMENT

Main topics

• Health technology assessment
• Health economics
• Clinical outcomes assessment
MICRO TRACK
PERSONALISED MONITORING AND COACHING
Personalised monitoring & coaching

Health Sciences Master track – 1B

Prof. Dr. Lisette van Gemert-Pijnen
(Track coordinator)
### Q2

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PERSONALIZED HEALTHCARE
IN A DATA DRIVEN SOCIETY

- Personalized healthcare
  - Tailoring products, services to needs of *individual* clients
  - From disease-centered to patient-centered; *health as the ability to adapt and to self manage*, (Huber, 2011)

- Rapid growth of data collected via technology opens new ways:
  - Combining data from several sources to personalize coaching
  - Data management: ethical, clinical, behaviour challenges..
WEARABLES: MONITORING TO SUPPORT REAL TIME COACHING

24/7 Consumer eHealth, Internet of Things.
WEARABLES @WORK; @ HOME

- Unobtrusive life-tracking 24h
- Context & lifestyle, mood, stress
- Just in time personalized feedback

- Prevention of complications
- Empowerment
- Engagement

- How to frame and personalize feedback using space time data connected with work stress, lifestyle data……..
PATIENT PORTALS: MONITORING TO PREVENT COMPLICATIONS

- Education
- Lifestyle
- Implementation
MONITORING & COACHING IN FORENSIC PSYCHIATRY

Using technology to…

- **Monitor** patients by collecting behavioral, biometric and mobility data
- Provide *personalized feedback* by means of *persuasive triggers* to prevent recidivism
- Increase awareness, capabilities to manage emotions, stress
SAFE CARE:
MONITORING TO PREVENT AB-RESISTENCE
Highly Resistant Micro Organism, e.g. MRSA; Zoonotics (Animal>humans)

Digital surveillance to track, trace infections and to develop a predictive model to detect and prevent outbreaks
GEOMAPPING PATIENTS AND ORGANIZATIONS
HUMANIZING TECHNOLOGY: HUMAN TOUCH IN HIGH TECH
EXAMPLES MASTER ASSIGNMENTS

- Identifying bottlenecks in the compliance to hygiene guidelines, translating these into requirements for technology?
- The use and cost-effectiveness of personal health records in chronic care
- Developing an app to track postoperative complications
- Developing an interactive platform for tailored risk communication
- Developing and evaluating coaching principles in chronic heart failure
FREE ONLINE COURSE

eHealth: Combining Psychology, Technology and Health

How can technology make you healthy? Learn about the design, application, implementation and evaluation of eHealth.

Go to course – starts 7 Nov

www.futurelearn.com/courses/ehealth
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MESO TRACK
OPTIMIZATION OF HEALTHCARE PROCESSES
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FINANCE & HEALTH CARE PURCHASING

Healthcare purchasing as a management issue: both from the perspective of a healthcare provider and a healthcare insurer / municipality.

• How can contracting healthcare help in reducing healthcare expenses and/or improve the quality of healthcare?

• How can healthcare providers use their purchasing function to more efficiently and effectively contract suppliers?

• How can healthcare providers respond to insurance companies and municipalities (healthcare selling)? Et cetera.
The objective of this course is to provide students with various tools/instruments for the analysis and optimization of health.

Operations Management is the activity of managing the resources which are devoted to the production and delivery of products and services.

- planning and scheduling
- capacity management
- inventory control
- warehousing
- maintenance management
- transportation
QUALITY MANAGEMENT IN HEALTHCARE

Quality and Safety issues are becoming increasingly important in health care organizations, especially in those with complex, technological processes.

- Quality management, benchmarking, accreditation and improvement techniques
- benchmarking and the relation with efficiency
- trends influencing future development.
- the effects of Big Data
- the impact of value based health care.
- safety, risk management and reputation effects.
EXAMPLES OF MASTERTHESIS

- Evaluation of a quality and safety game to improve quality of care in the NKI-AVL.

- Cost-effectiveness of the Diabetic Foot Clinic in Samoa.

- Budget Impact Analysis of the MaMaLoc in localizing breast cancer during surgery.
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MACRO TRACK
INNOVATION IN PUBLIC HEALTH
The health care delivery system

Populations at risk, migration
Safety and the built environment
Impact of ecological degradation
Packaging marketing foodstuffs
Recreational safety
Anti-biotics resistance
Smoking cessation
Toxicity of foodstuffs
Self-reliance of the aging population
Cross-border pandemic strategies
Risk of particulate matter
Assessment of care interventions
Cholesterol, blood pressure, obesity
Third world perspective
How do people/Research organizations/institutions work together?
Research

What patterns can we identify?
Research: What can we learn from that?
Application

How can I facilitate the process of policy-making?
How can I promote/facilitate interaction between various agents?
Application

How can I give voice to people, so that their interests are heard?
Conditions in the field of public health? How does money flow in public health?
Conditions

What consequences may we expect?
QUESTIONS?

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