Tuula Tiihonen, Project Director, Capacity of Renewal, Sitra

**From data to improved outcomes toward value-based care – case examples from Finland**

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Towards prevention and high-value interventions

Factors that impact individual health outcomes:

10% Healthcare

20% Environmental & Social factors

30% Genomics

40% Lifestyle factors

Source: Ali Torkamani, Scripps Research Translational Institute
Genetic risk factors account for 50% of the risk for coronary heart disease

**KardioKompassi®**
- utilizes both individual genome information and traditional health data.
- provides more accurate disease risk estimate than any other clinical method.

Non-genetic risk factors

Genetic risk factors
KardioKompassi® is an interactive tool for improved prediction and communication of risk to individuals.

Overall personal risk for CVD

CHD-risk displayed as a function of age

Disease risk in the population
The preliminary study results* show that personalized information motivates individuals to reduce their disease risk

88.4% of participants were inspired to take better care of their health

13.7% had achieved sustained weight loss (-3 kg)

17% of smokers had quit smoking

By utilizing tools like KardioKompassi®, individuals at high risk could be identified early enough

*GeneRISK-study 2018: 7328 participants (45-65 years), attitudes at 1.5 years of follow-up
Does preventive care save money?

- Tele-based health coaching program (the TERVA trial 2006-2009*) for type 2 diabetes and coronary artery disease in Southern Finland—eight-year randomized post-trial follow-up study (N=1034)
- The goal was to motivate the patient to achieve a goal that enhances quality of life and improves health.
- The patients in the intervention group were called approximately 10–12 times during the intervention period (1 year).

*The health-coaching intervention included eight key recommendations developed by Pfizer Health Solution
The total costs of a tele-based health-coaching intervention

Data was linked to Finnish national health and social care registries and electronic health records (EHR)

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After 2,5 years the cumulated cost was lower in the intervention group and the difference grew steadily
Health coaching improved the Quality of life with moderate costs

Patients who received intervention, cost savings were **5953€/patient**

- Costs were **14%** lower than control group: high cost effectiveness was seen in type 2 diabetes patient, modest cost effectiveness in Coronary artery disease patients

- Costs savings accrued from:
  - **57%** Health care
  - **36%** Secondary care
  - **21%** Primary care
  - **43%** Social care (long-term care)

The total cost savings in Päijät-Häme area were **5 077 909€**

Source: E Oksman, M Linna: “Tele-based health coaching program for type 2 diabetes and coronary artery disease reduces health care and long-term care costs – eight-year randomized post-trial follow-up study, 2018
Health Benefit Analysis is a new way to select the most effective treatments for individuals and find the care gaps.

HBA tool is a personal and systematic care needs assessment drawn up by combining information from several different sources.

- For each patient, the most important interventions are put on top based on personal risk assessment (baseline risk).
- Benefits and harms of interventions should be estimated individually for each patient.
- The population is listed and sorted by care gap and potential health benefit.

Algorithms assess person’s complaints.
Health benefit analysis step 1

- The electronic health records send the data of all people to the CDS service (EBMeDS) which analyzes the data using all CDS rules.

- Example:
  300 rules x 10,000 people = 3 million analyzes
Hba is a tool for making a care plan and shared decisions between the patient and the doctor

1. HBA could be used as a risk assessment tool for better prevention.

2. The care gap for each person is reported as decision support reminders suggesting interventions.
Health data dashboard of all people cared for by provider organization
Health data of diabetes patients filtered out of the population cared for by Saarikka
HBA tool has been developed by reorganizing the best medical knowledge
Value emerges for the individual as improved patient experience and better health outcome.

Contact information:

Tuula Tiihonen
project director, human-driven health
The Finnish Innovation Fund Sitra

tuula.tiihonen@sitra.fi

+358 (294) 618 269
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