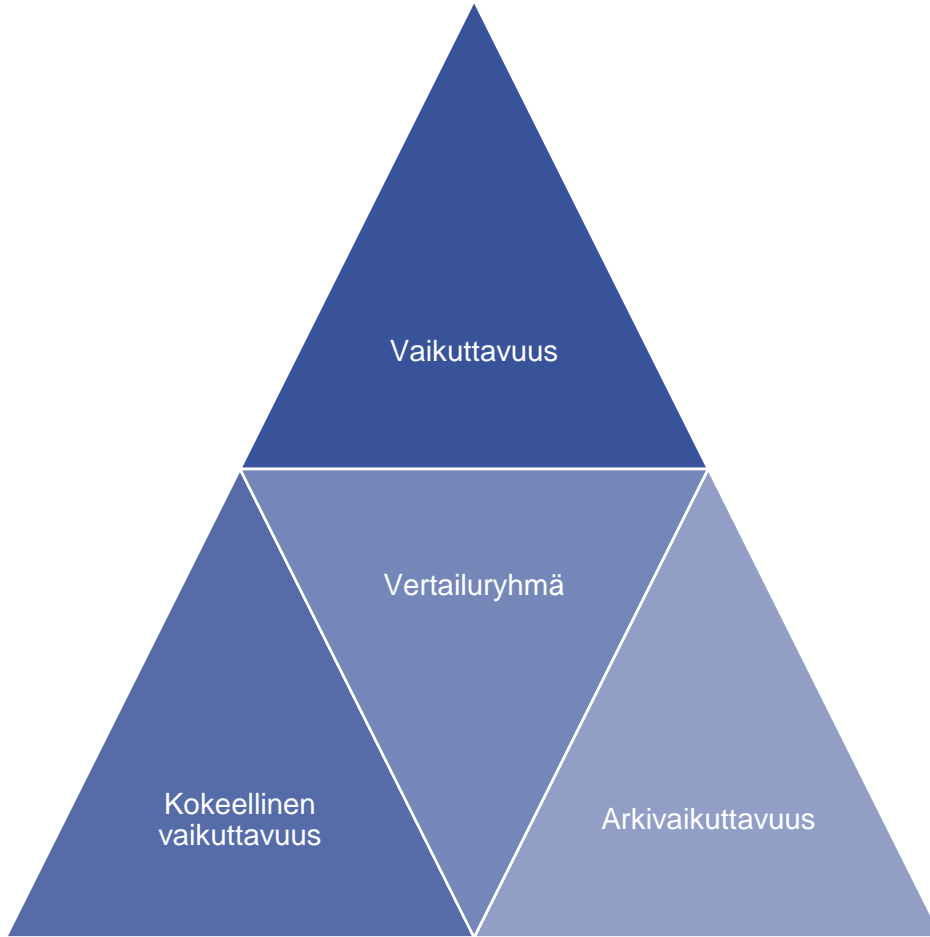




Digitaalisten terveyspalveluiden vaikuttavuustutkimus

13.3.2024 Miia Jansson



Agenda

- Mitä on vaikuttavuus?
- Mitä on näytön aste?
- Miten vaikuttavuutta voi arvioida?



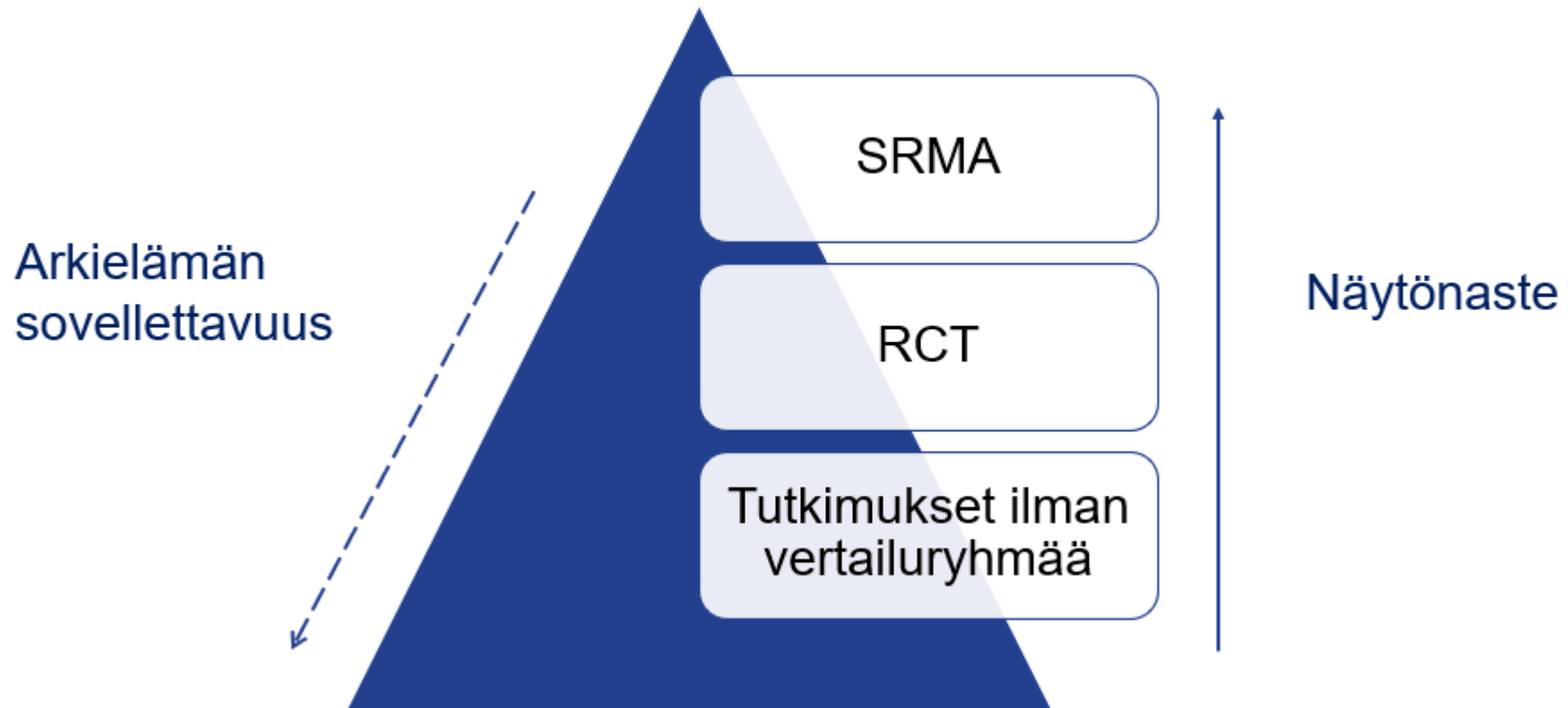
Mitä on vaikuttavuus?

- Palvelun tai intervention vaikutus ihmisten hyvinvointiin, terveyteen tai toimintakykyyn
- Terveysthuollon palveluvalikoiman näkökulmasta aikaansaatuja terveyshyötyjen suhde kokonaiskustannuksiin
- Edellyttää vertailuryhmää ja arviointiasetelmaa!*



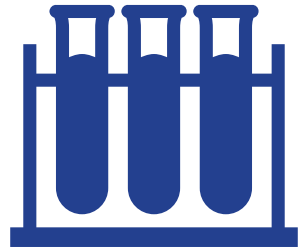


Terveydenhuollon vaikuttavuus edellyttää vertailuryhmää ja arviointiasetelmaa





Miten vaikuttavuutta voi arvioida?



Kokeellinen vaikuttavuus

Satunnaistettu kontrolloitu koe*

Kustannusvaikuttavuus



Arkivaikuttavuus

Vertaiskontrolloitu tutkimus

Arkikustannusvaikuttavuus

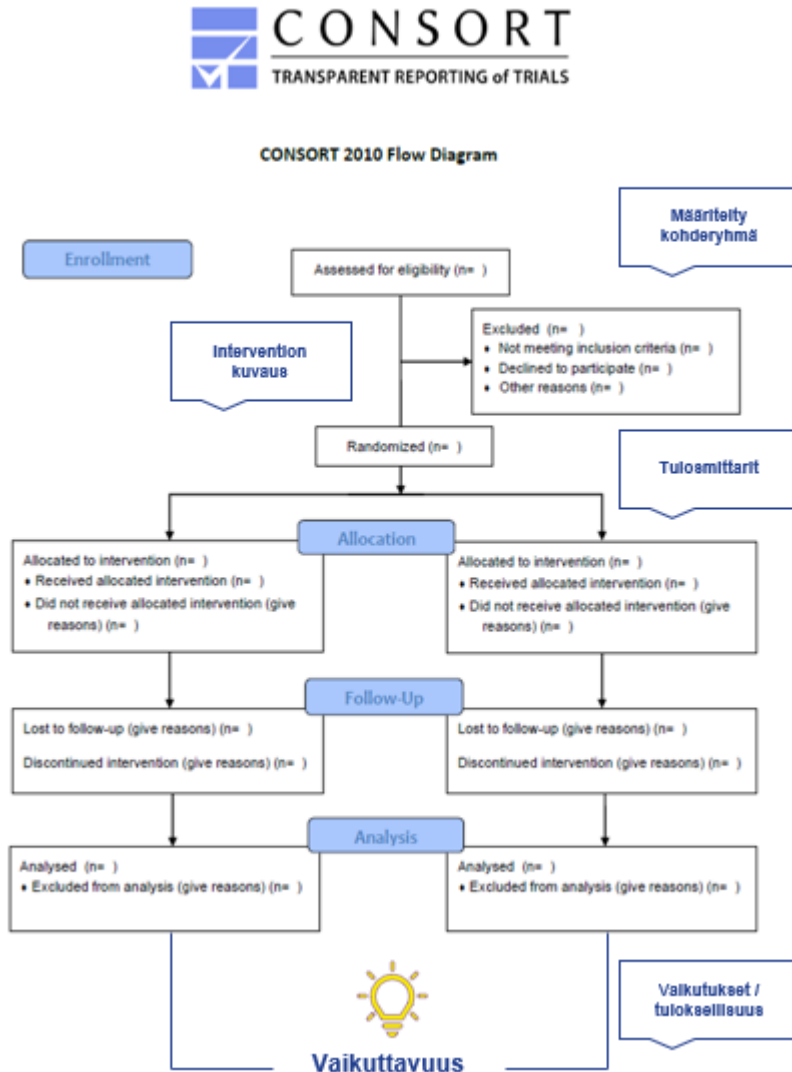
Malmivaara 2015; doi: 10.3109/07853890.2015.1027255



Hoitotulosten mittaaminen ennen – jälkeen-asetelmassa jättää
vaikuttavuuden tuntemattomaksi!



Kokeellinen vaikuttavuus



Satunnaistettu kontrolloitu koe:

1. Voima-analyysi
2. Satunnaistaminen
3. Sokkouttaminen
4. Tilaspesifit tulospittarit*
5. Hoitoaieanalyysi (ITT)
6. Sovellettavuus ⇕

Kuvio 1. Muokattu CONSORT 2010 vuokaavio



Intervention kuvaus





Tilaspesifit tulospittarit



45+

Sets of Patient-Centered Outcome Measures

60%

Measures for 60% of disease burden

>450

implementation settings in 42 countries

>30000

VBHC network

>1000

Global consortium of clinical and patient co-creators

<https://www.ichom.org/patient-centered-outcome-measures/>



Taloudellinen arviointi

Kustannusten minimointi (CMA)

- Hyöty-kustannussuhde (>1)
- Nettohyöty (+)

Kustannusvaikuttavuus (CEA)

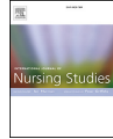
- Inkrementaalinen kustannusvaikuttavuus (ICER)
- $(\text{Kustannus A} - \text{Kustannus B}) / (\text{Hoitotulos A} - \text{Hoitotulos B})$

Kustannusutiliteetti (CUA)

- Laatu-painotteiset elinvuodet (QALY)
- Haittapainotteiset elinvuodet (DALY)

Kustannus-hyöty (CBA)

- Hyötykustannussuhde (BCR)
- Nettonykyarvo (NPV) = $\sum_{t=0}^n (\text{Benefits} - \text{costs})_t / (1+r)^t$



Impact of digital services on healthcare and social welfare: An umbrella review

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ABSTRACT

Background: Digital services can be effective and cost-efficient options for treating non-communicable diseases, but generalizability is limited due to heterogeneous treatment effects. This umbrella review aims to evaluate the impact of digital services on population health, costs, and patient and healthcare professional satisfaction, and to identify facilitators and barriers to using digital services in healthcare and social welfare.

Methods: The protocol of the study was registered on the 4th of September 2022 to the International Prospective Register of Systematic Reviews, PROSPERO (CRD42022355635). The review was performed using the Centre for Reviews and Dissemination, Cochrane, Ovid Medline, Scopus, and Web of Science in June 2022. The methodological quality of the included reviews was assessed. The impact of digital services was categorized as no evidence, no dominance, and mixed and positive effect. Inductive content analysis was used to identify facilitators and barriers. **Results:** A total of 66 studies were included in the review, 64 % of which were evaluated as high quality. Studies on the impact of digital services in social welfare were not identified. Sixty-five percent of reviews evaluated the impact of digital services on population health with mixed effects; 21 % were on costs with mixed effects; 27 % were on patient satisfaction with positive effects; and 7.6 % were on healthcare professionals' satisfaction with mixed effects. Various features, allocation, end-user support, organized services, and service development facilitated the use of digital services. Correspondingly, barriers were related to service limitations, digital competency, funding- and service strategies, resources and change management.

Conclusions: Compared to usual care, digital services had a mixed impact on population health and costs with high satisfaction in patients. Mixed healthcare professionals' satisfaction was associated with the use of digital services, and it was less studied. To ensure successful implementation and sustainability of digital services, attention must be paid to address barriers and supporting facilitators at all levels.

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What is already known

- Digital services have been rapidly developed in recent years to address global healthcare and social welfare challenges.
- The implementation of digital services is hindered due to the lack of knowledge of their impact and of the facilitators and barriers affecting usage.

What this paper adds

- Digital services have a mixed impact on population health and costs with high patient satisfaction and mixed healthcare professional satisfaction.
- Various facilitators and barriers affect the use of digital services which need to be considered.
- Further diverse and long-term research utilizing the quadruple aim framework is needed to evaluate the impact of digital services on healthcare and especially in social welfare services.

Kustannusvaikuttavuuden arviointi puutteellista

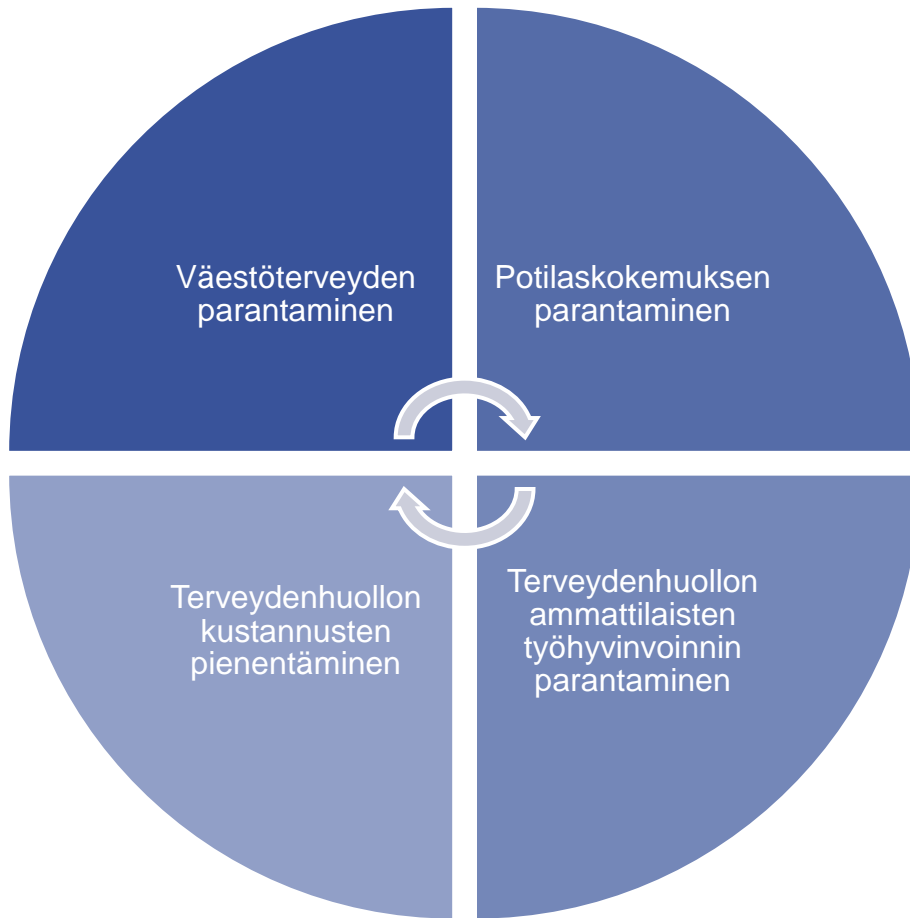
- ~20% järjestelmällisistä katsauksista arvioi kustannusvaikutuksia
- Digitaalisten palveluiden kustannushyödyistä eniten näyttöä:
 - Kardiologiassa
 - Ihotaudeissa
 - Palliatiivisessa hoidossa
 - Perusterveydenhuollossa



Kolmoismaalista nelimaaliin

Terveydenhuollon tavoitteet:

1. Saavutettavuus
2. Laatu
3. Yhdenvertaisuus
4. Vaikuttavuus
5. Turvallisuus
6. Kustannusvaikuttavuus



Patient reported outcome measure, PROM (Potilaan kokema terveyden ja hyvinvoinnin tila)

Patient reported experience measure, PREM (Potilaan kokemus sosiaali- ja terveydenhuollon asiakkaana olemisesta)



Kotiin vietäväksi



Vertailuryhmä

Kokeellisesta
arkivaikuttavuuteen?



Yhteneväiset tulospittarit

Kolmoismaalista
nelimaaliin
Jatkuva mittaus



Intervention kuvaus

Vaikutusmekanismit

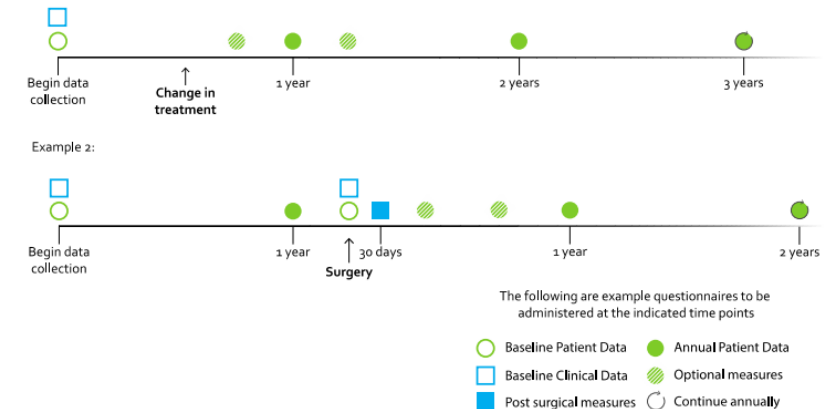


Figure 1. Data collection timeline.