

Auftaktsymposium des Netzwerk gegen Darmkrebs e.V.
zum **Darmkrebsmonat März 2025**
26. Februar 2025 online

Digitalisierung in der Früherkennung

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Digitalisierung im Gesundheitswesen



Bundesgesetzblatt

Teil I

2024

Ausgegeben zu Bonn am 26. März 2024

Nr. 101

Gesetz
zur Beschleunigung der Digitalisierung des Gesundheitswesens
(Digital-Gesetz – DigiG)*

Vom 22. März 2024

Whitepaper zur TI 2.0 bis 2025

gematik



Arena für digitale Medizin

- Nutzerzentrierung
- Technologiesprung
- Verlässlichkeit,
Vertrauenswürdigkeit
- Interdisziplinarität
- Interoperabilität
- Verfügbarkeit

Neue Strategien der Darmkrebsfrüherkennung

What is known:

1. Colorectal oncogenesis are accompanied by characteristic metabolic alterations (derived from both tumor cells and gut microorganisms).
2. Altered metabolites can be detected and served as early detection biomarkers for colorectal neoplasia.
3. Small sample size studies and the absence of a unified "gold standard" biomarker.

Future prospective:

1. In-depth studies on the metabolic mechanisms.
2. Update detection technologies to identify a broader range of metabolic biomarkers.
3. Develop detection reagents and conduct prospective validations.



What is known:

1. Enormous genetic and epigenetic changes being present at various stages of colorectal tumorigenesis.
2. Several biomarker reagents demonstrating superior detection performance, especially for precancerous lesions.
3. Multiple large-scale prospective clinical studies being conducted now.

Future prospective:

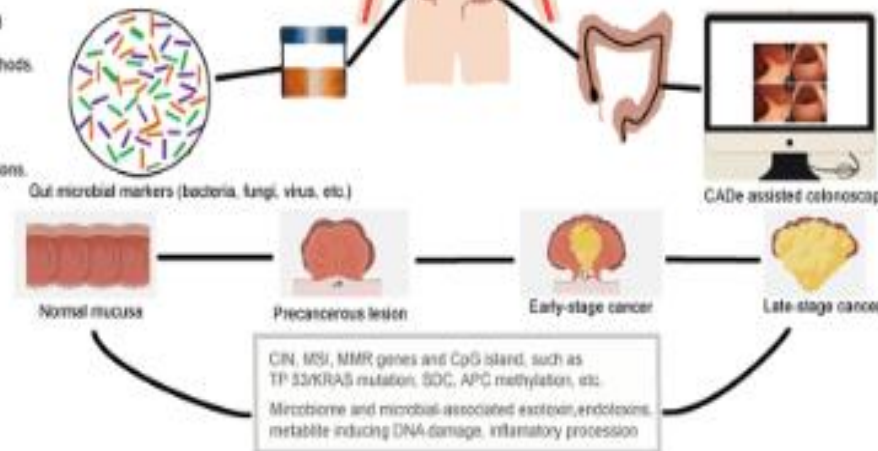
1. Reducing detection costs.
2. Developing more specific biomarkers for the detection, diagnosis, and prognostic evaluation of colorectal tumors.

What is known:

1. Gut microbiota are involved in the tumorigenesis of colorectal cancer.
2. Significant differences in gut microbiota are observed between individuals diagnosed with colorectal tumors and healthy individuals.
3. Gut microflora are promising tools for early detection compared to conventional methods.

Future prospective:

1. Prospective, population-based clinical studies are conducted to validate the performance of microbial biomarkers.
2. Focusing on investigating the microbial differences associated with precancerous lesions.



What is known:

1. CAde can generally improve adenoma detection, particularly in identifying difficult lesions.
2. Certain variations exist in the detection performance among different CAde systems.
3. Small sample size studies and the absence of a unified "gold standard" biomarker.

Future prospective:

1. Develop tiered screening strategies based on CAde-assisted endoscopy.
2. Investigate the cost-effectiveness of CAde-assisted endoscopy and its impact on the long-term colorectal cancer incidence and mortality rates.

Figure 1. Novel detection methods for CRC screening.

CAde, computer-aided detection; CIN, chromosomal instability; CRC, colorectal cancer; MMR, mismatch repair; MSI, microsatellite instability.

Review Article: Wearable Digital Health Technologies in Medicine

Key Issues as Wearable Digital Health Technologies Enter Clinical Care

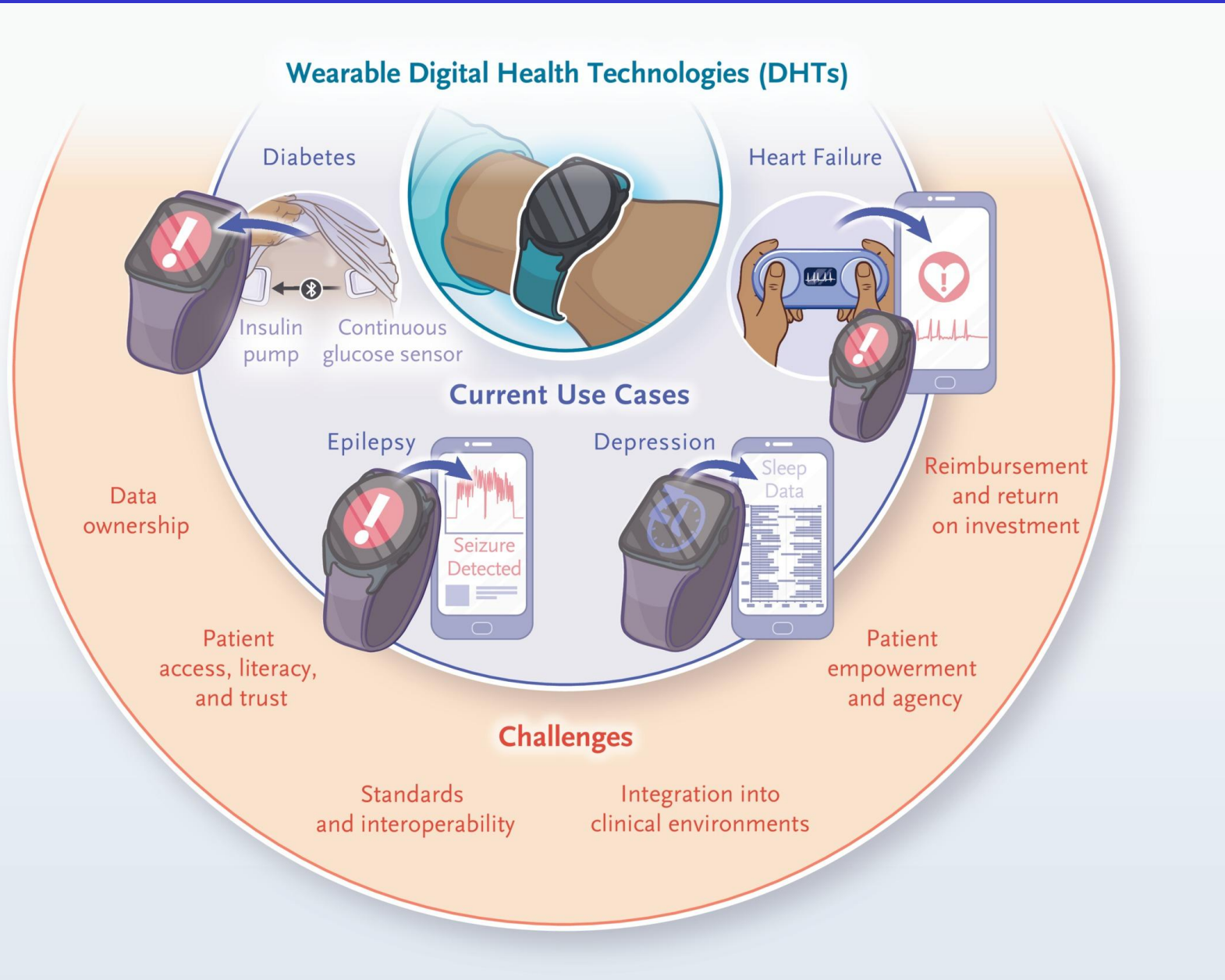
Geoffrey S. Ginsburg, M.D., Ph.D., Rosalind W. Picard, Sc.D., and Stephen H.
Friend, M.D., Ph.D.

N Engl J Med Volume 390(12):1118-1127 March 21, 2024



The NEW ENGLAND
JOURNAL of MEDICINE

Emerging Uses and Challenges of Wearable DHTs in Clinical Care.



Trust and Security

Societal Issues

“The Digital Divide”

- Unequal access to technology
- Unequal access to the Internet
- Lack of digital literacy
- Lack of support for telehealth visits
- Unequal access to health apps
- Unequal access to technical support



Patients and wearable digital health technology data

Local Health System Strategies

- Health professional–patient engagement
- Patient control over data
- Transparency regarding use of patient data



Standards and Interoperability.

Incentives, Innovation, Partnerships, and Collaborations

- Government incentives
- Innovation
- Strategic partnerships

Wearable DHT data

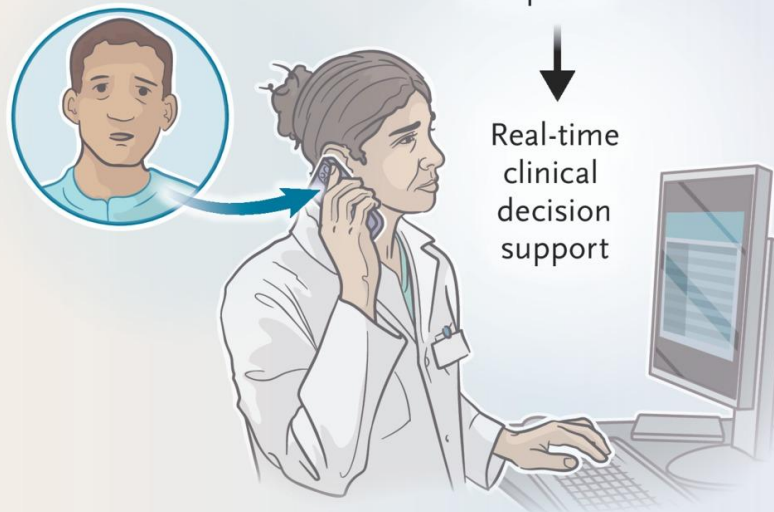


Standards and Interoperability

Integration into Electronic Health Records (EHRs)

- Raw data
- Metadata
- Reports

Real-time clinical decision support



Emerging Standards Organizations

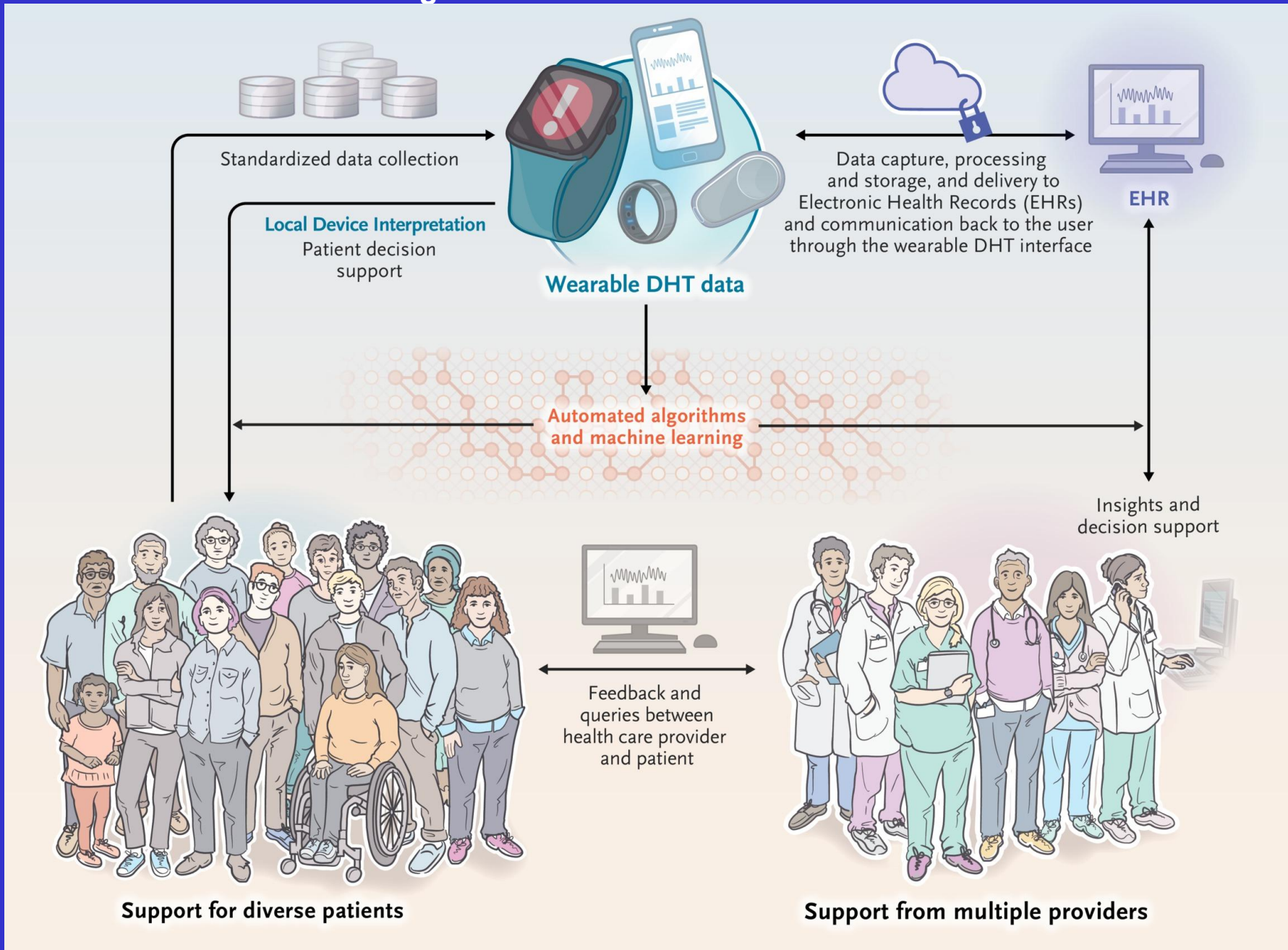
Deliver the standards to the wearable DHT developer community

Fast Healthcare Interoperability Resources (FHIR)

Institute of Electrical and Electronics Engineers (IEEE)

Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT)

Integration into Clinical Environments.



Effect of a Digital Health Intervention on Receipt of Colorectal Cancer Screening in Vulnerable Patients

A Randomized Controlled Trial

David P. Miller Jr., MD, MS; Nancy Denizard-Thompson, MD; Kathryn E. Weaver, PhD, MPH; L. Doug Case, PhD; Jennifer L. Troyer, PhD; John G. Spangler, MD, MPH; Donna Lawler; and Michael P. Pignone, MD, MPH

Table 3. Screening Tests Ordered, by Intervention Group
(*n* = 450)*

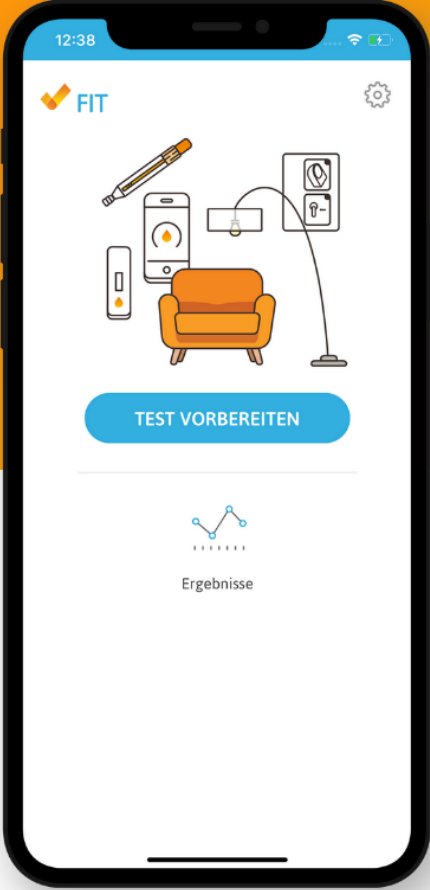
Screening Test Ordered	mPATH-CRC (<i>n</i> = 223)	Control (<i>n</i> = 227)	Difference (95% CI), percentage points
Fecal blood test	81 (36)	25 (11)	25 (18-33)
Colonoscopy	72 (32)	47 (21)	12 (3-20)
Any†	153 (69)	72 (32)	37 (28-45)

mPATH-CRC = Mobile Patient Technology for Health-Colorectal Cancer.

* Values are numbers (percentages) unless otherwise indicated.

† Fecal test or colonoscopy.



Digitaler Immunologischer Stuhl Test (iFOBT) als Heimtest - eine Alternative



Neuer SmarTest für den Heimgebrauch

Zuverlässige und einfache App zur quantitativen Bestimmung des In-vitro-diagnostischen Gebrauchs.

 Preventis SmarTest Series
Preventis GmbH
Gratis
★★★★★

 Download on the App Store  GET IT ON Google Play

Die Mindestanforderungen an ihr Smartphone sind:

- ein Kameralicht (aus diesem Grund unterstützen wir leider keine Tablets)
- eine Mindestauflösung von 1280X720 Pixel, damit die Lesbarkeit gegeben ist. Leider ist diese Auflösung nicht unterstützt, weil die Navigationsleiste Teile des Bildschirms verdeckt
- die Kamera unterstützt 720p Aufnahmen

Falls ihr Smartphone diese Anforderungen erfüllt, überprüfen wir mithilfe der Kameratest-Kamera, für die Auswertung unseres Tests geeignet ist.

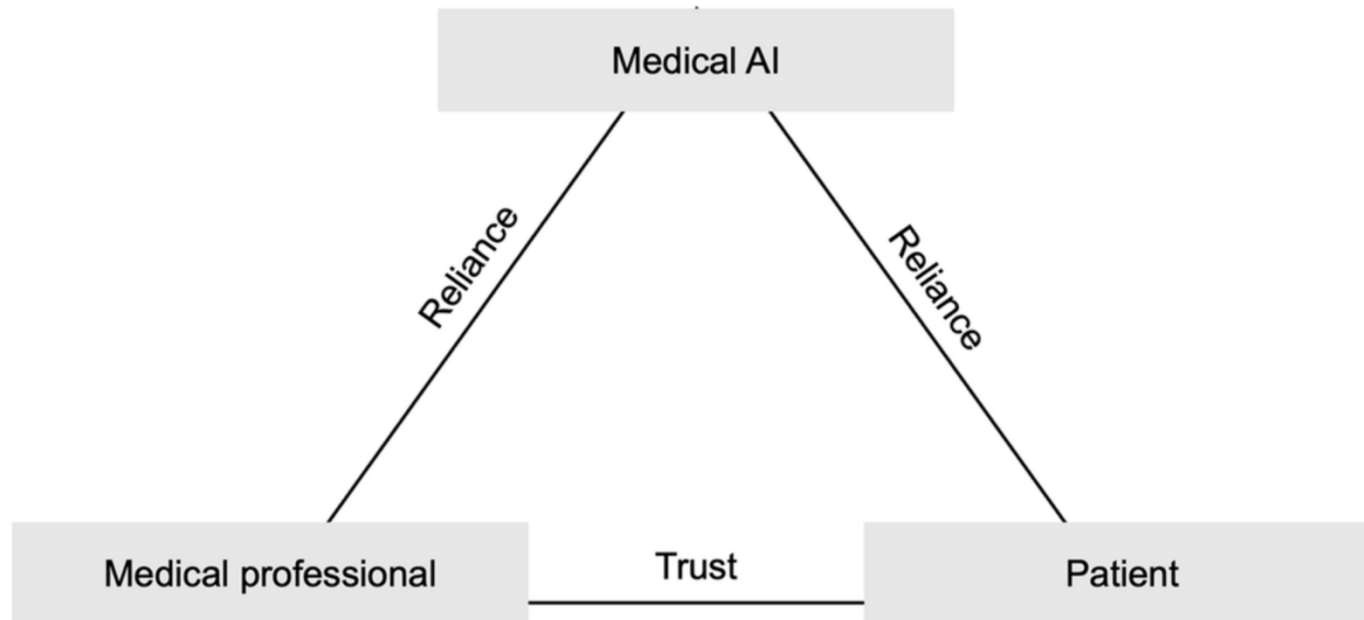
15.04.2025

Autor Dr. B. Birkner AGAF FACP FASGE FEBG

AI Interaktionen

Fig. 1: Triangle of ideal attitudes in medical AI.

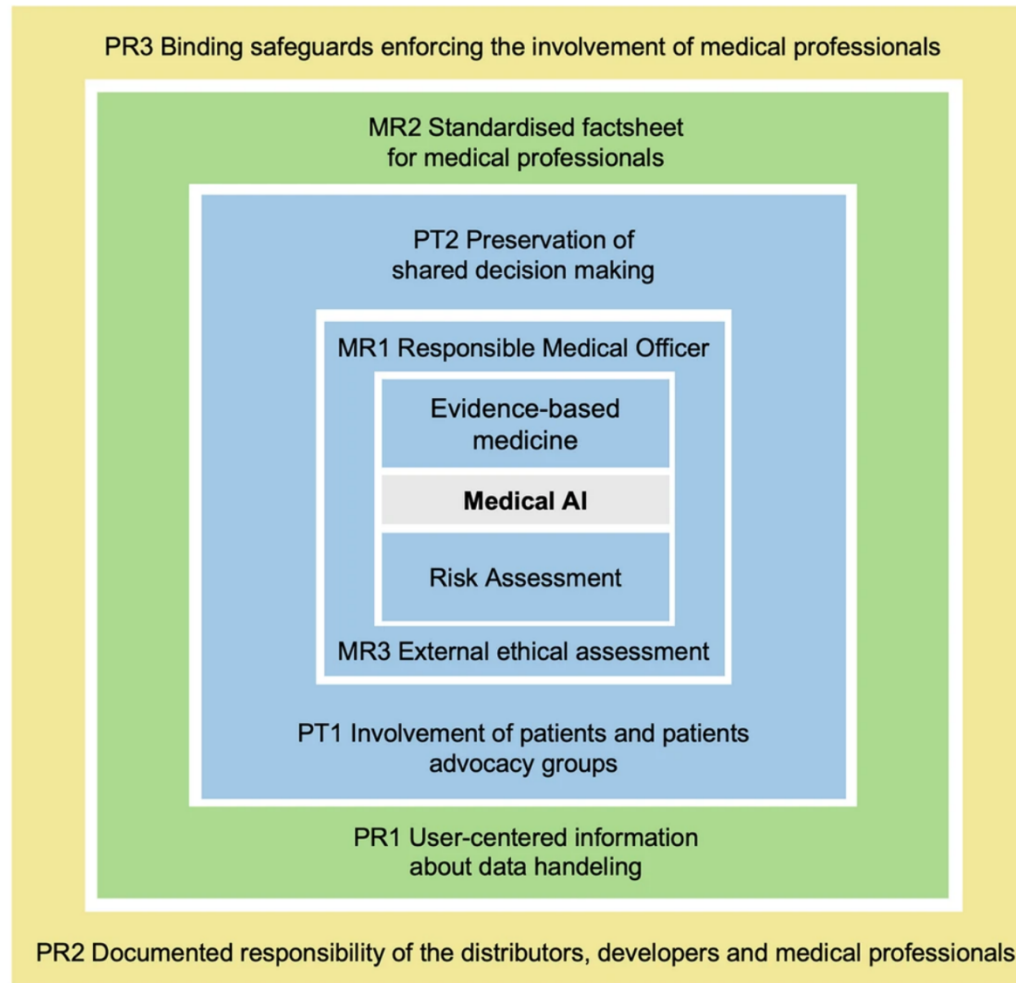
From: [A trust based framework for the envelopment of medical AI](#)



Depiction of the interconnected relationships among medical professional, medical AI, and patient. The nature of attitude is shown above the connecting line.

AI Entwicklungsprozess in Gesundheitsversorgung

From: [A trust based framework for the envelopment of medical AI](#)

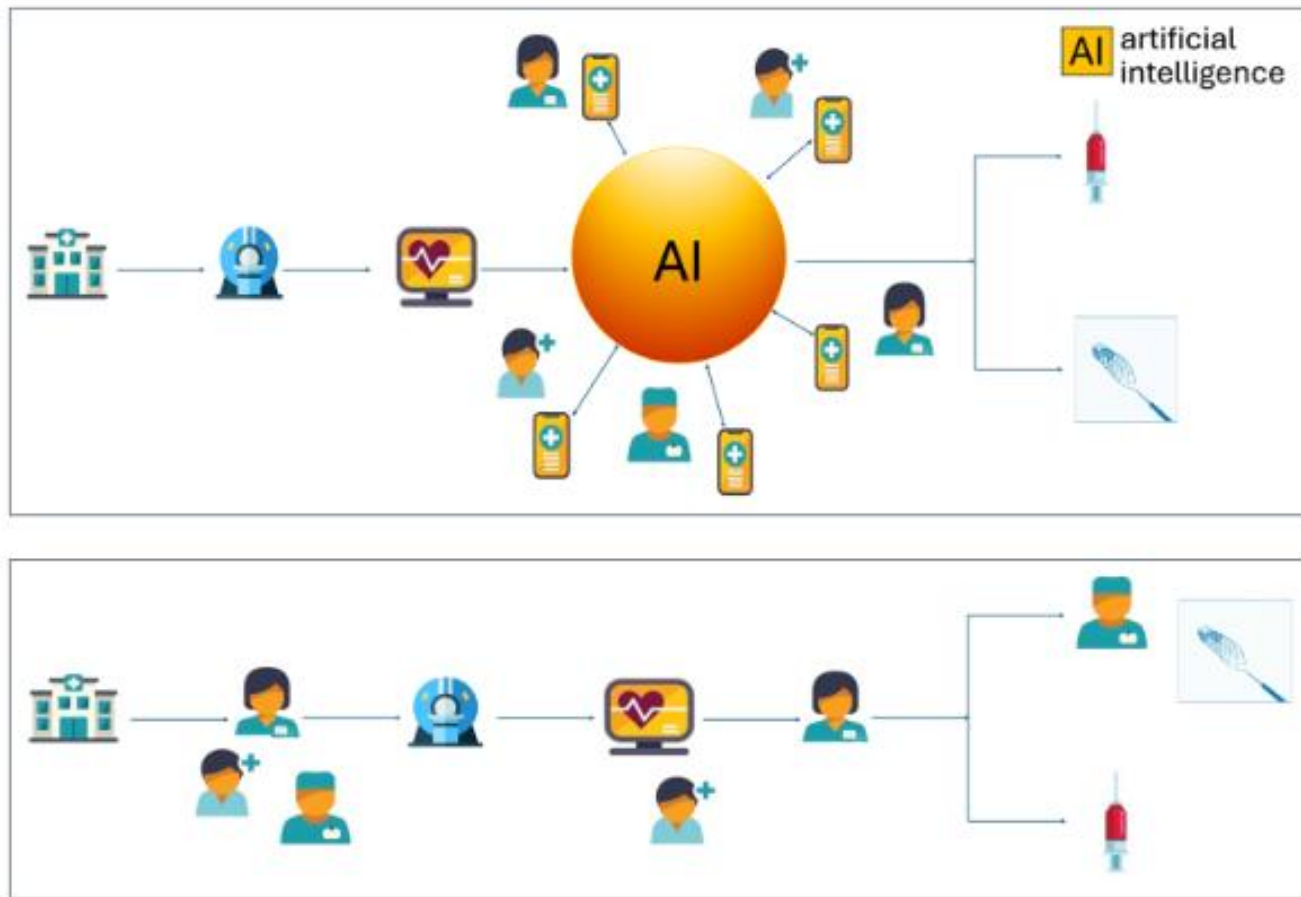


MR: medical professionals' reliance on medical AI
PR: patients' reliance on medical AI
PT: patients' trust in medical professionals

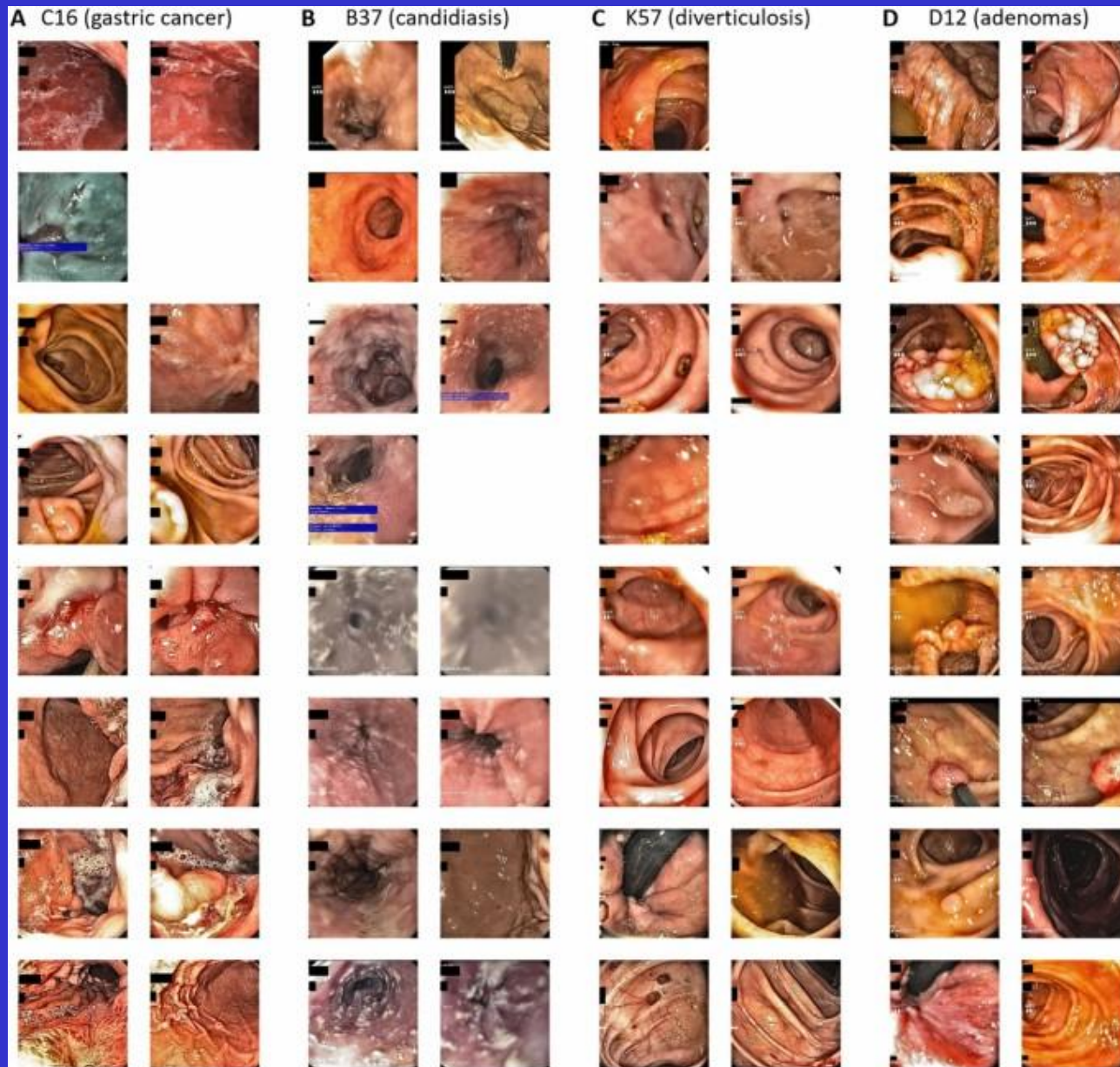
Development
Implementation
Application

AI und die Diagnosestellung

Fig. 2 | Changes to clinical workflow. a Simplified clinical workflow (stroke hub) with AI. **b** Simplified clinical workflow (stroke hub) without AI.



AI Diagnose in GI Endoskopie



Zusammenfassung

- ✓ Digitalisierung in der Früherkennung ist möglich, wenn:
 - ✓ Interoperabilität gesichert ist
 - ✓ Nutzerorientierung Vorrang hat
 - ✓ Ärztebeteiligung als ein Muss anerkannt wird
 - ✓ Technologieentwicklung mit Datensicherheit
 - ✓ Bürokratische und regulatorische Hindernisse abgebaut werden
 - ✓ Vorhandene Entwicklungen gefördert werden

„Über Brücken gehen“



Herzlichen Dank für Ihre Aufmerksamkeit