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Taking action to improve health for all

When Technology Heals but Also Hurts: The Impact of Technostress on General Practitioners' Performance Between Clinical and Administrative Technologies

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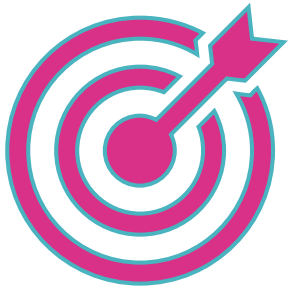
AIM



- Explore the impact of technostress on General Practitioners' performance
- Compare clinical vs. administrative technologies

DIGITAL INNOVATION

«Products, peocesses or business models that are perceived as innovative, enabling significant change through the use of digital technologies»

(Fichman et al., 2014)

INNOVATIVE

E-Prescription as a new prescription model

CHANGE

Shift from paper-based records to EHRs

USE OF DIGITAL TECHNOLOGIES

Use of health information systems, CDS tools

Digitalisation has transformed the healthcare sector through the widespread adoption of digital technologies such as: EHR, e-Prescription systems and Clinical Decision (Amankwah-Amoah et al., 2021)

TECHNOSTRESS

In the relationship between workers and technologies three possible phenomena have been identified: computer anxiety, technophobia and technostress. Among those three, we focused our attention on technostress.

«[…] modern disease of adaptation caused by an inability to cope with the new computer technologies in a healthy manner which can manifest as a struggle to accept information technology or an over-identification with information technology »

C. Bord (1984)

«[…] any negative impact on body attitudes, thoughts, behaviors or physiology caused directly or indirectly by technology »

Rosen and Weil (1997)

ELECTRONIC HEALTH RECORD (FSE)

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Introduced by DL 179/2012, expanded by DL 34/2020 and Decree 7/09/2023

Objectives:

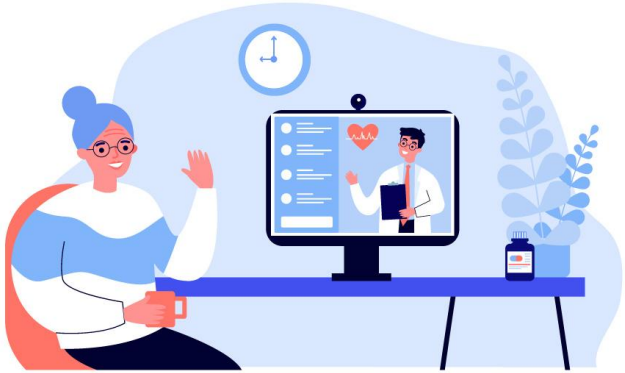
- Continuity of care
- Governance and data-driven decision-making
- Medical research enablement
- Privacy and security compliance

Recent Innovations

- Patient-generated content (annotations, uploads)
- National Consent Registry: centralized consent tracking
- Interoperability: required across regional health systems

CLINICAL TECHNOLOGIES

Innovations utilize digital platforms to enable virtual consultations and continuous health monitoring, revolutionizing the accessibility and convenience of healthcare services.



TELE-VISIT

WEARABLE DEVICES

METHODOLOGY

- Semi-structured interviews with General Practitioners:
  - North/South/Centre of Italy (6 GPs…other interviews planned in the coming months)
  - Snowball technique
- Qualitative analysis using Nvivo
- Focus on emotional experiences and perceived performance impacts

RESPONDENT	AREA	GENDER	AGE
R1	NORTH	F	36-40
R2	NORTH	M	30-35
R3	SOUTH	M	40-45
R4	SOUTH	M	30-35
R5	CENTRE	M	40-45
R6	CENTRE	F	40-45

RESULTS

R1 On a **daily basis**, I use digital tools to send medical reports; to manage bookings…This allows me to **avoid unnecessary** patient meetings, **saving time** for both me and them.

R2 This **lightens** the flow of visits a lot and makes me **focus** on those who **really need it.**

R3 **Younger doctors**, like me, are more used to using certain tools. Unlike doctors of a higher age who have to learn everything from scratch. … It's really a **generational issue.**

R4 It then depends on the **patient's ability** to make use of and access the means provided. There is also this bias…two of my patients have it because they are **particularly smart.**

R5 The electronic health record helps a lot, but when it doesn't work, they **actually slow it down**, i.e. paradoxically they do the opposite and we are now in some ways tied together

R6 depends on the **cultural level** of the patient…

…**support** is almost totally **absent**

RESULTS

- Technostress is more linked to FSE use, less to clinical tools
- FSE is perceived as an external imposition
- Digital experience and organizational support help reduce stress.

- Clinical tools → support effectiveness and job satisfaction
- Administrative tech → increase cognitive load, reduce perceived quality
- Rising risk of technology-induced burnout.

IMPLICATION

Managerial Implications

- **Balance care and administration**
  Design workflows that preserve GPs' clinical focus while minimizing bureaucratic tasks.
- **Recognize and protect GPs' clinical time**
  Allocate time and resources to ensure administrative duties do not erode direct patient care.
- **Support sustainable technology adoption**
  Involve clinicians early in the design and evaluation of digital systems to enhance engagement and usability.

Practical Implications

- **Targeted training and ongoing support**
  Deliver structured training and provide continuous support tailored to varying digital competencies.
- **Promote professional resilience**
  Offer organizational and psychological resources to help GPs cope with technostress and maintain well-being.
- **Technology should serve clinicians, not overwhelm them**
  Prioritize user-centered design to make digital tools seamless, efficient, and clinically meaningful.

LIMITATION AND FUTURE RESEARCH

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LIMITATION

- Small, qualitative sample limits generalizability
- Context focused on Italian GPs and the FSE
- Based on perceived, not measured, performance impacts

FUTURE RESEARCH

- Broaden study with quantitative data
- Compare technostress across different technologies and countries
- Test practical interventions (e.g. training, support tools)

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THANK YOU

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