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LEVERAGING TECHNOLOGY FOR DEMENTIA CARE

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DISCLOSURES

None

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ATTESTATION

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LEARNING OBJECTIVES

1. Identify 2 benefits of technology solutions for people with dementia.

2. Identify 2 risks of technology solutions for people with dementia.

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CLASSIFICATIONS

1. Patient – centric

2. Caregiver – centric

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PATIENT - CENTRIC

1. Patient – centric
   I. Early detection
   II. Lifestyle tracking and management
   III. Individual monitoring and security
   IV. Cognitive stimulation
   V. Psychosocial engagement

(Bhargava & Baths, 2022; Maresova et al., 2018)

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PATIENT - CENTRIC

I. Early detection

a. On line and mobile phone apps for cognitive tests

b. Spatial navigation and gait

c. Speech and language tests

d. Eye tracking

e. Artificial intelligence interpretation of brain scans

(Butler et al., 2024; Cepukaityte, Newton, Chan, 2024; Li et al., 2022; Min et al., 2025; Tokushige et al., 2023)

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PATIENT - CENTRIC

II. Lifestyle Tracking and Management

a. Wearables, smart watches, smart earrings, rings

b. Reminder apps for medications and activities

c. Automatic pill dispensers

(Cepukaityte, Newton, Chan, 2024; Li et al., 2022; Min et al., 2025; Tokushige et al., 2023)

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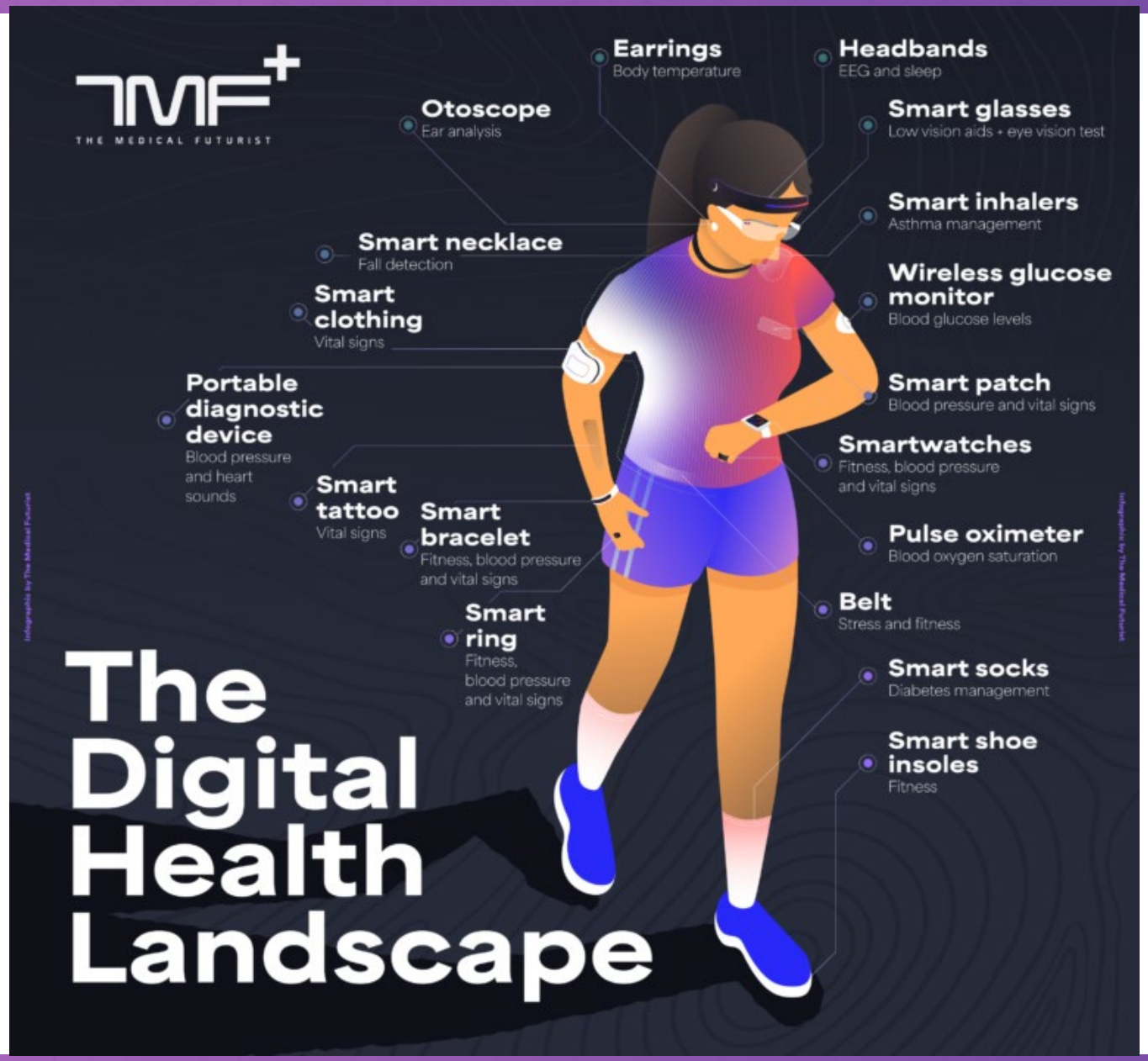

(Mesko, B. 2024)

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PATIENT - CENTRIC

III. Individual Monitoring and Security

a. Digital assistants

b. Smart watches

c. Trackers

d. Smart smoke and carbon monoxide detectors

(Askari et al., 2024; Butler et al., 2024; Kiselica et al., 2024; Shu & Woo, 2021)

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PATIENT - CENTRIC

III. Individual Monitoring and Security

e. Smart thermostats

f. Cameras

g. Automatic shut off devices for gas and electric stoves

h. Motion detectors

g. Smart diapers

(Askari et al., 2024; Kiselica et al., 2024)

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PATIENT - CENTRIC

IV. Cognitive Stimulation

a. Luminosity, Cognitfit, BrainHQ, Peak, NeuroNation

b. SingFit

c. Flower Garden

d. Memory Lane Games

(Woods et al., 2023)

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PATIENT - CENTRIC

V. Psychosocial Engagement

a. FaceTime, Google Meet, Zoom, Skype

b. Ride share apps

c. AmuseIT

(Barbosa et al., 2024; Berridge et al., 2023; Goda et al., 2023; Shu & Woo, 2021)

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PATIENT - CENTRIC

V. Psychosocial Engagement

d. Robotic pets, robot assistants

https://www.cbsnews.com/video/nursing-home-uses-robot-to-help-patients-with-dementia/

https://www.facebook.com/ilike9news/videos/say-hi-to-ryan-a-robot-developed-at-du-to-help-alzheimers-patients/10156045845921077/

(Barbosa et al., 2024; Berridge et al., 2023; Goda et al., 2023; Shu & Woo, 2021)

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CAREGIVER - CENTRIC

2. Caregiver – centric

   I. Education and training

   II. Stress reduction and counseling

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CAREGIVER - CENTRIC

I. Education and training

a. Dementia Guide Expert

b. Dementia CareAssist

c. Virtual Reality programs – ViveDe, A Walk Through Dementia

(Brookman et al., 2023; Fan et al., 2024, Morganti et al., 2024)

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CAREGIVER - CENTRIC

I. Education and training

d. Various Youtube videos

e. Web based resources - Community Resource Finder

(Brookman et al., 2023; Fan et al., 2024, Morganti et al., 2024)

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CAREGIVER - CENTRIC

II. Stress Reduction, Support, and Counseling

a. ALZConnected

b. Headspace

c. InsightTimer

d. Savello

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Technology for people with dementia

Supportive technologies per dementia stage

Mild Cognitive Impairment	Early Stage Dementia	Middle Stage Dementia	Late Stage Dementia
Videocalling — Videocontact with (in)formal care, family and friends			
Medicine dispenser — Right medicine at correct time			
Accident notification and Lifestyle monitoring — Alarm by falling, fire and monitor daily life pattern with report on deviations			
GPS and personal alarm — Localization with alarm button and speak-listen connection		**GPS** — Localization without alarm button and geofencing	
		Key safe or electronic lock — To enter the home safely	
Day structure support — Daily planning for daily actions and appointments through a screen, virtual avatar or social robot			
Games and leisure — Active use of the technology for playing games (e.g., memory training or exogames) or leisure		**Leisure** — Passive use of the technology for relaxation and activation purposes	
	Robot pets — For therapeutic purposes, activation and relaxation		
	Smartdiapers — Detection of moisture and insight into urination patterns		

Vilans

The grey balk indicates the possibility of longer use or early implementation.

Indication of the user of the technology and who is involved with supporting the use of the technology.

- People with dementia
- Person with dementia and informal caregiver together
- Informal caregivers
- Professional caregivers

- Care technology
- Leisure technology
- Both care and leisure technology

Disclaimer 1

This infographic only provides a guideline for the implementation of care technology for people with dementia. We cannot guarantee that these guidelines are applicable to every individual with dementia and are always effective. It is important to note that the effectiveness of the implementation of care technology is depended on various contextual factors, such as personal characteristics, background and technical experience. Moreover, care technology can vary a lot in terms of the form factor and interaction styles which can also influence acceptatibility.

Disclaimer 2

The suggestion provided in this guideline are not set in stone. Technologies could possibly be implemented in other stages as well depending on the person with dementia and their own personal preferences and characteristics. It is important to also go into conversation with the person with dementia about the implementation of care technology and to create a pleasant atmosphere in such conversations to see which technology fits best depending on their needs and to try out technology.

(Askari et al., 2024)

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BENEFITS

I. Self-Efficacy

II. Quality of Life

(Kiselica et al., 2024; Kokorelias et al, 2024; Sorrentino et al., 2024;Shu & Woo, 2021)

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RISKS

I. Privacy

II. Personal Safety

III. Financial Security

IV. Ethical concerns

(Deusdad, 2024; Liao et al., 2023; Ye et al., 2023)

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THANK YOU

QUESTIONS

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