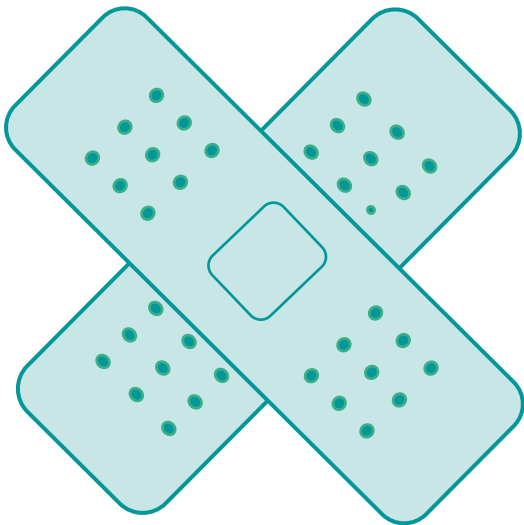


WOUND HEALING DISORDER

FACTS AND FIGURES

SIGNS AND SYMPTOMS INCLUDE¹
REDNESS OR WARMTH AROUND THE WOUND
PUS DRAINAGE FROM THE WOUND
BAD ODOUR
INCREASING PAIN
DARKENING SKIN AT THE EDGES
FEVER



Normal wound healing process comprises of 4 phases²

- 1 Hemostasis
- 2 Inflammation
- 3 Proliferation
- 4 Remodeling

Factors affecting wound healing²

- ✓ Age
- ✓ Diabetes
- ✓ Smoking
- ✓ Alcohol
- ✓ Nutrition
- ✓ Obesity
- ✓ Stress
- ✓ Infection
- ✓ Ischemia
- ✓ Medications: glucocorticoids, NSAIDs, chemotherapy
- ✓ Immunocompromised conditions: cancer, AIDS, radiation therapy

1-2% of the population in developed countries is estimated to experience a chronic wound during their lifetime³

Types of non-healing wounds^{4,5}

- ✓ Pressure ulcers
- ✓ Diabetic ulcers
- ✓ Venous ulcers
- ✓ Arterial ulcers

COVID - 19

Many patients with chronic wounds have delayed preventative and emergent wound care⁸

The elderly are more susceptible to wound healing disorders as compared to other age groups⁴



>3 million new cases of decubitus ulcers

diagnosed worldwide in 2019⁶



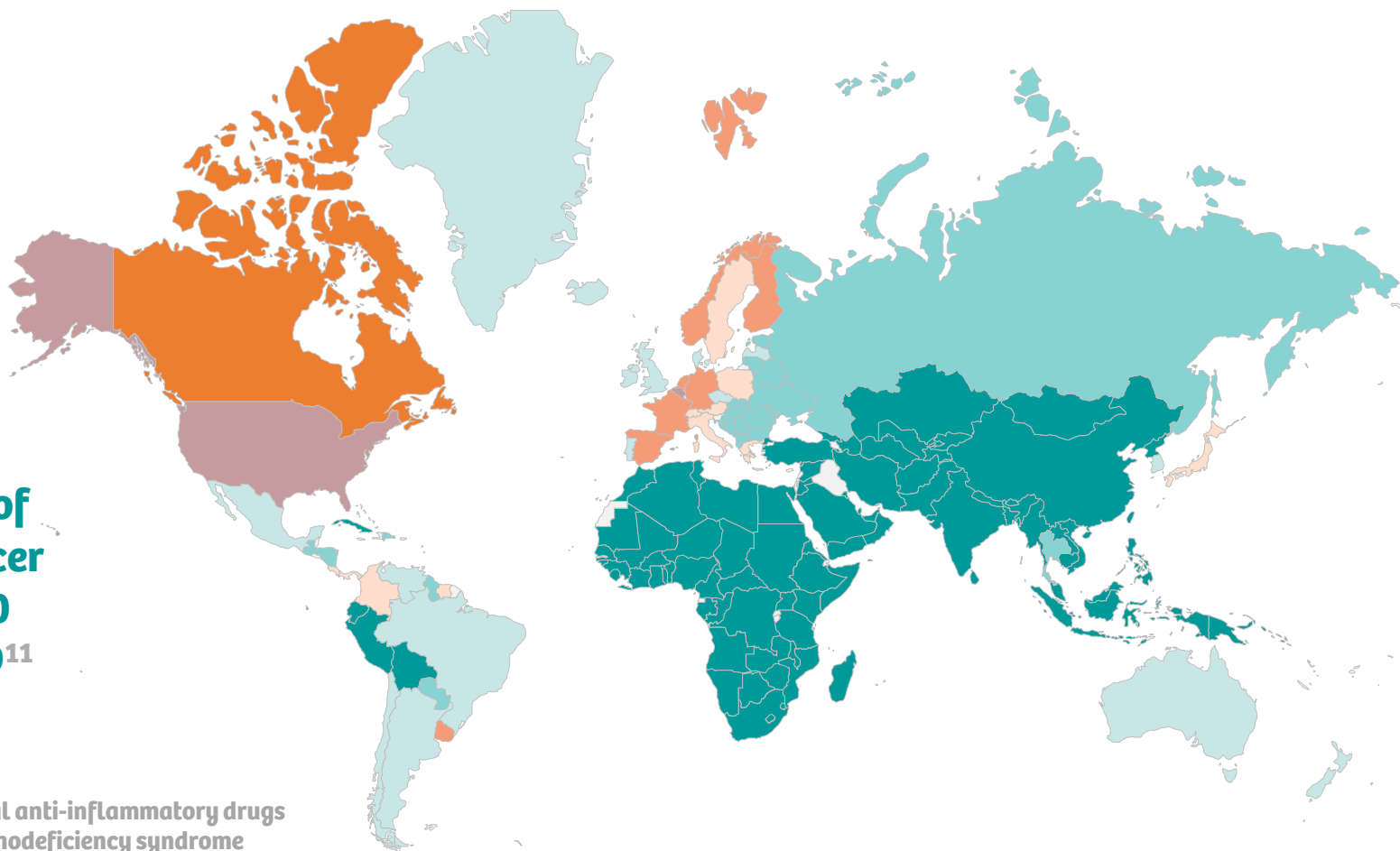
Global annual incidence of diabetic foot ulcer is estimated to be 9.1-26.1 million⁷

60-90% prevalence of biofilms in chronic non-healing wounds^{4,9}

The global chronic wound care market was valued at USD 12.8 billion in 2022

It is anticipated to expand at a CAGR of 4.07% from 2023 to 2030¹⁰

Prevalence of decubitus ulcer per 100,000 people, 2019¹¹



0 - 10

20 - 30

40 - 50

60+

10 - 20

30 - 40

50 - 60

No data

* NSAIDs – Non-steroidal anti-inflammatory drugs
AIDS – Acquired immunodeficiency syndrome
CAGR – Compound annual growth rate

Disclaimer:
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The products and features mentioned may not be available in all countries and their future availability cannot be guaranteed. Some products mentioned are planned and under development.

1. The Ohio State University. (2017, September 19). Six signs your wound is not healing right. Ohio State Health and Discovery. Retrieved May 23, 2023, from <https://health.osu.edu/health/skin-and-body/six-signs-your-wound-is-not-healing-right>
2. Guo, S., & Di Pietro, L. A. (2010). Factors affecting wound healing. Journal of dental research, 89(3), 219–229. <https://doi.org/10.1177/0022034509359125>
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6. Zhang, X., Zhu, N., Li, Z., Xie, X., Liu, T., & Ouyang, G. (2021). The global burden of decubitus ulcers from 1990 to 2019. Scientific reports, 11(1), 21750.
7. Armstrong, D. G., Boulton, A. J., & Bus, S. A. (2017). Diabetic foot ulcers and their recurrence. New England Journal of Medicine, 376(24), 2367-2375.
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An extensive research-based analysis from 40+ scientific articles and journals in combination with hospital workflow experience allowed the identification of pain points and solutions.

These solutions were proposed based on AI, IoMT, AR/VR, biosensors, nanorobotics and smart wearable technologies.

THROUGH THIS CAREPLAN WE HIGHLIGHT DATA FROM A COLLECTION OF

56 pain points

78 solutions

14 connected to different stakeholders

Solution categories

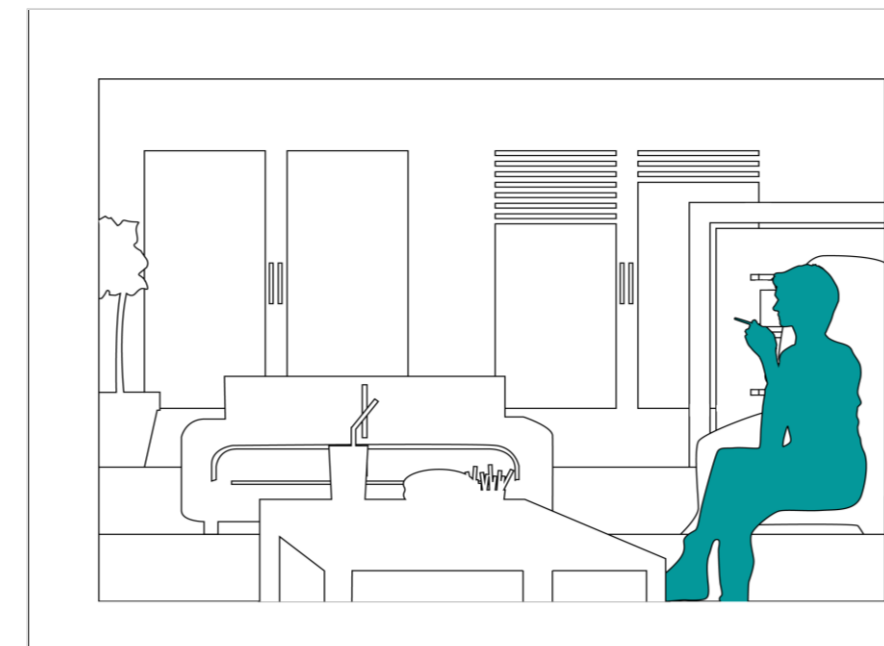
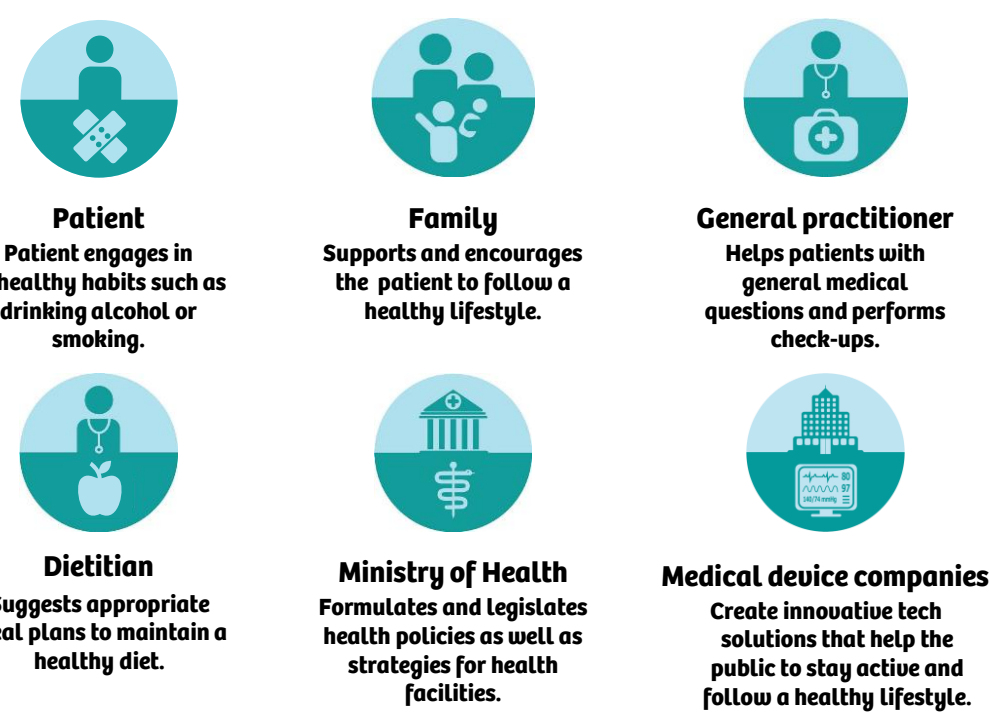
- Existing in healthcare sector
- Ongoing research in healthcare
- Futuristic solution (may or may not be implemented)

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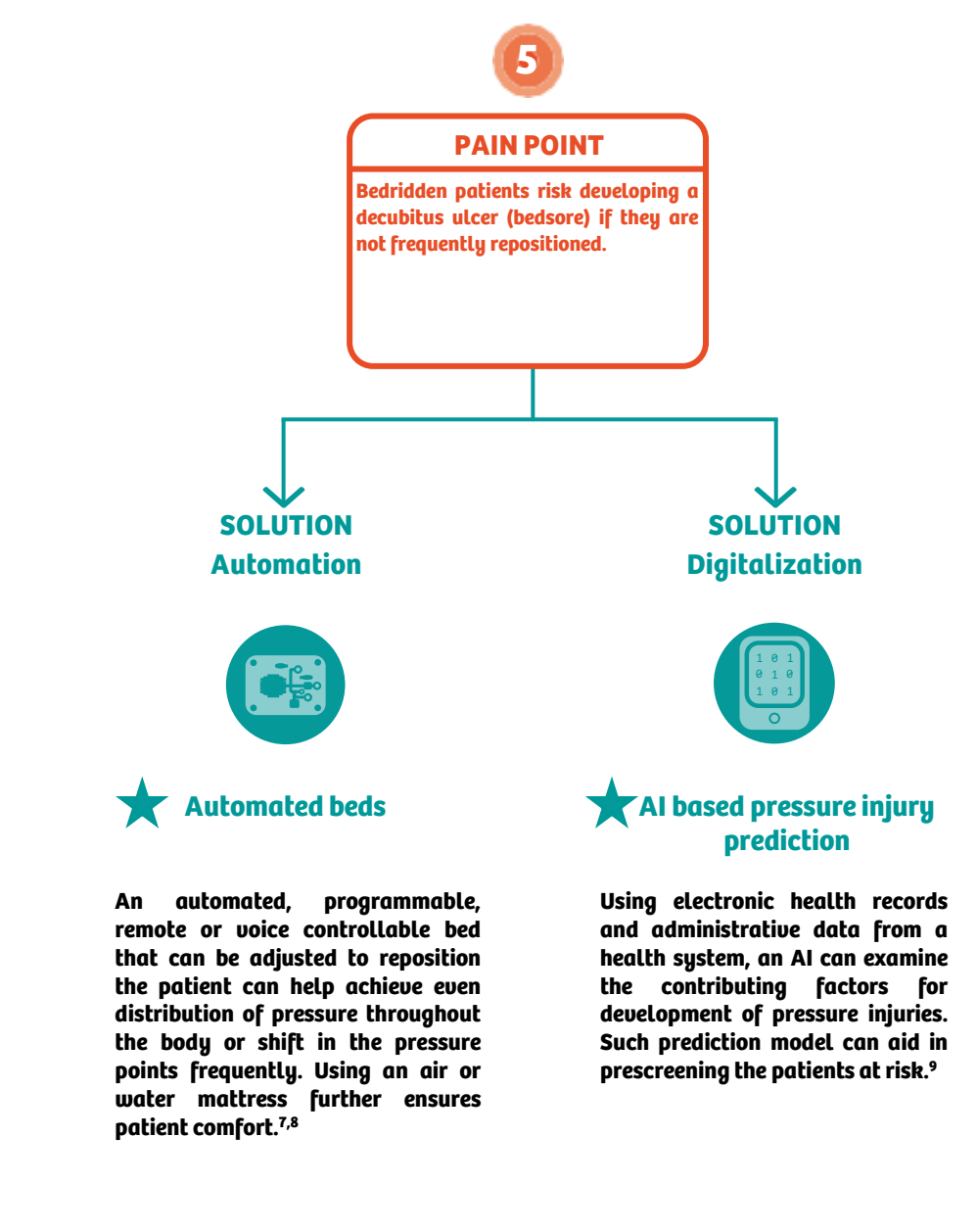
1 PREVENTION

Scenario: At home in the living room

STAKEHOLDERS



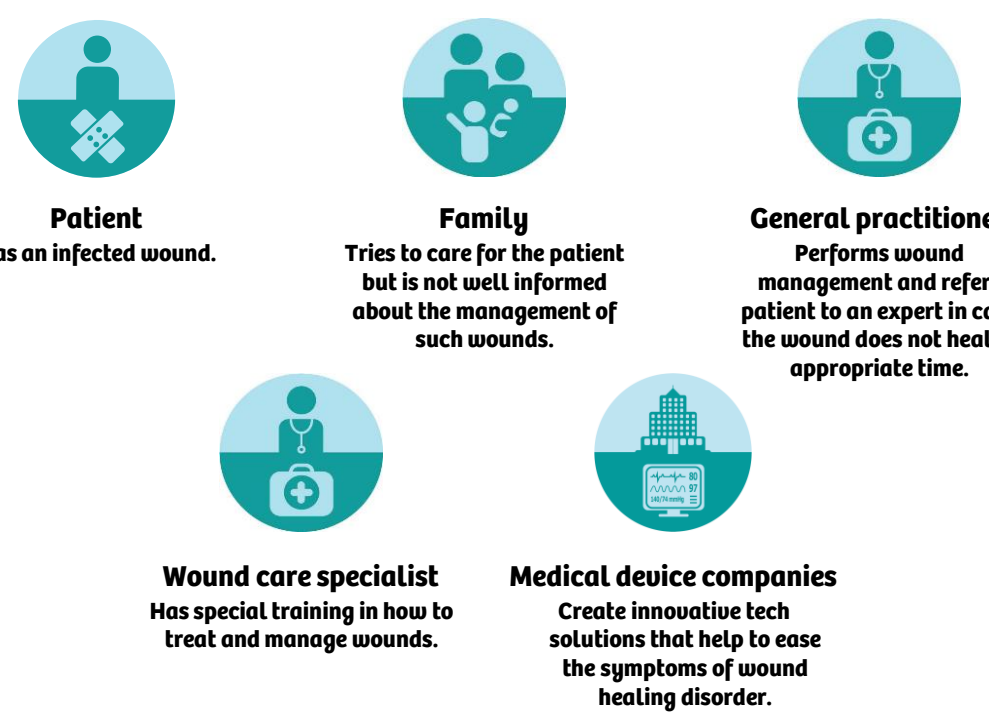
Patient wishes to lead a healthy lifestyle but struggles especially with a nicotine addiction.



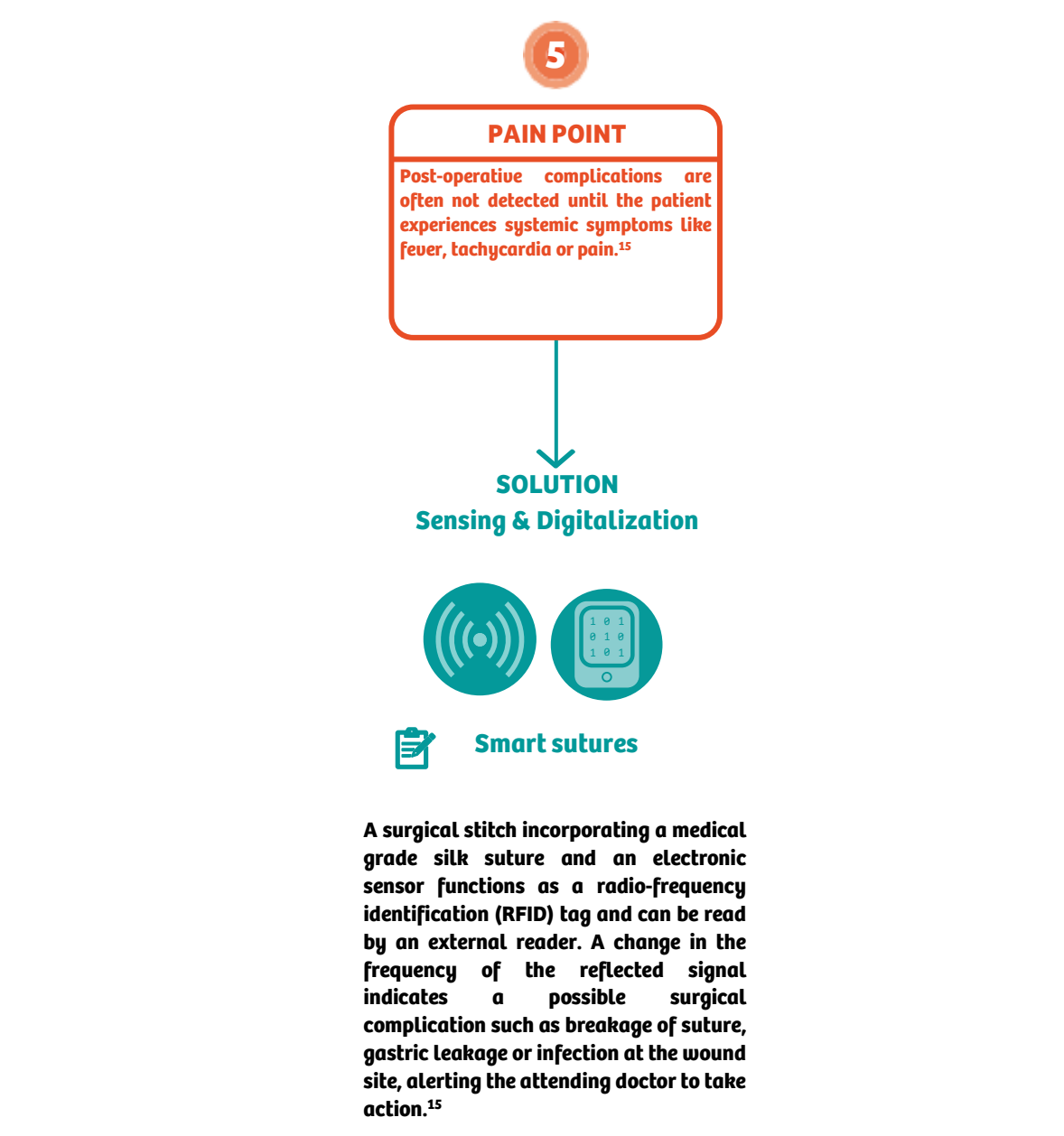
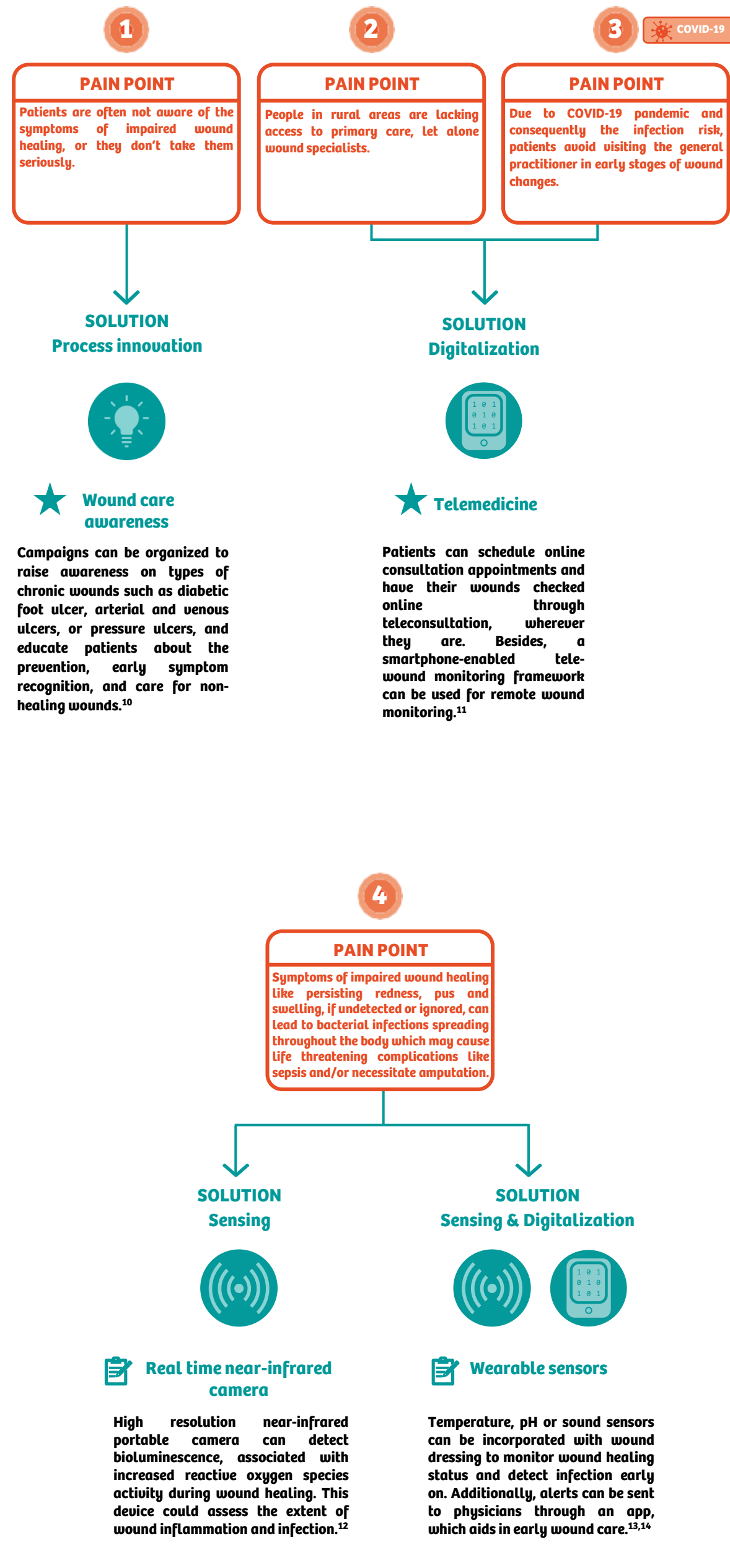
2 SYMPTOMS

Scenario: At home in the living room

STAKEHOLDERS



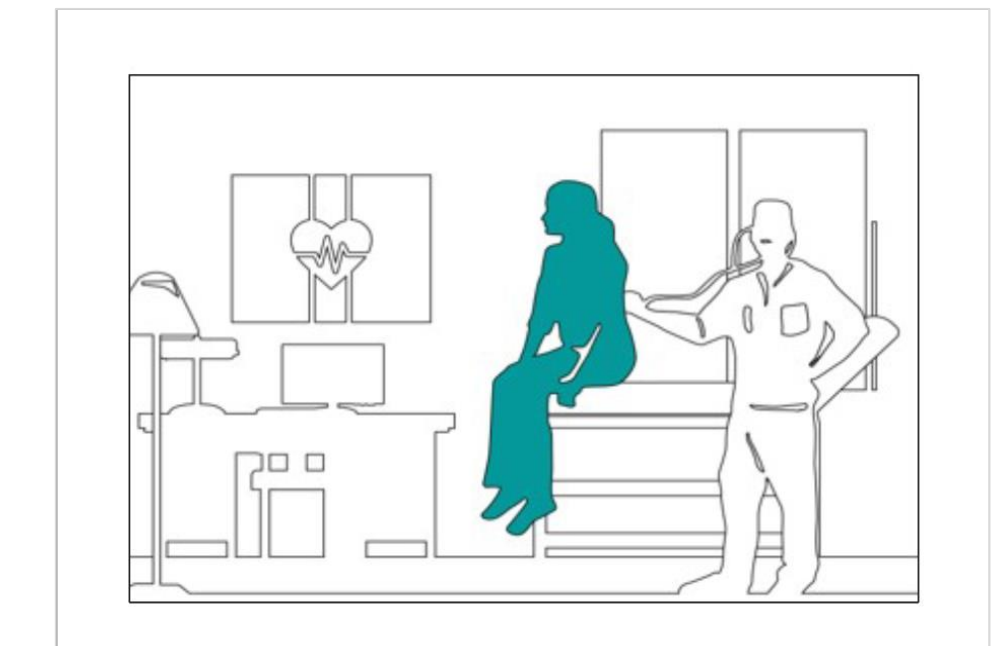
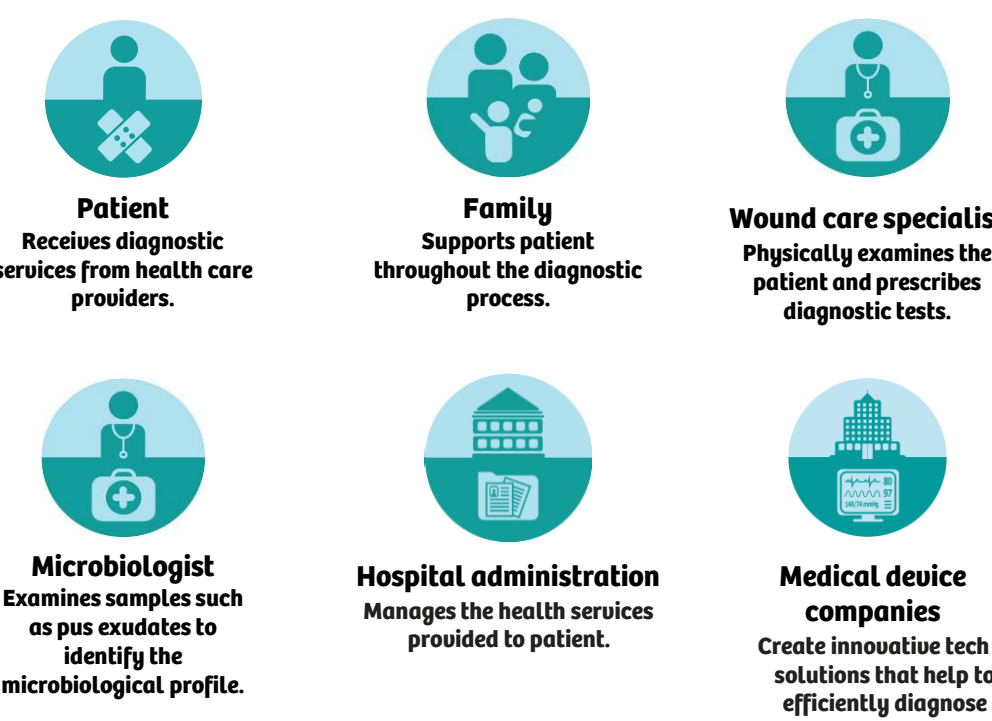
After having a minor accident, the patient suffers from a non-healing wound. She experiences signs of wound infection with reddening, swelling, local temperature rise and exudate.



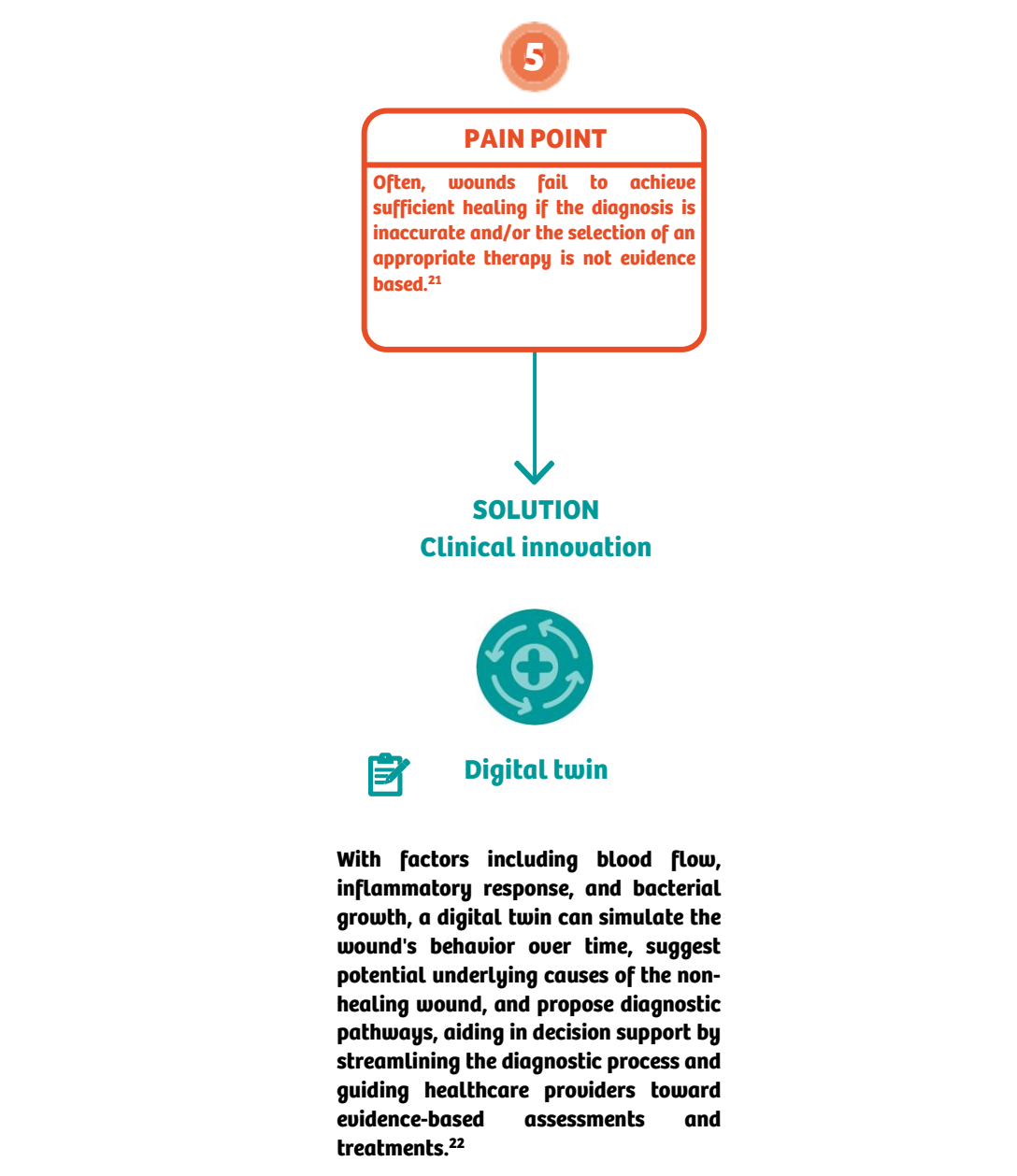
3 DIAGNOSIS

Scenario: At a wound care center

STAKEHOLDERS



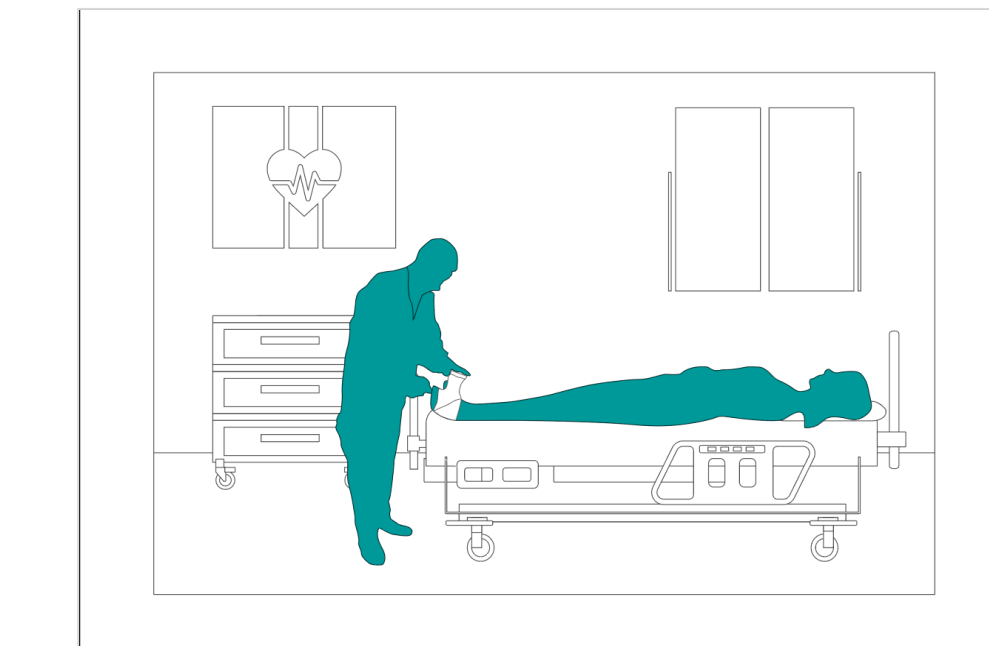
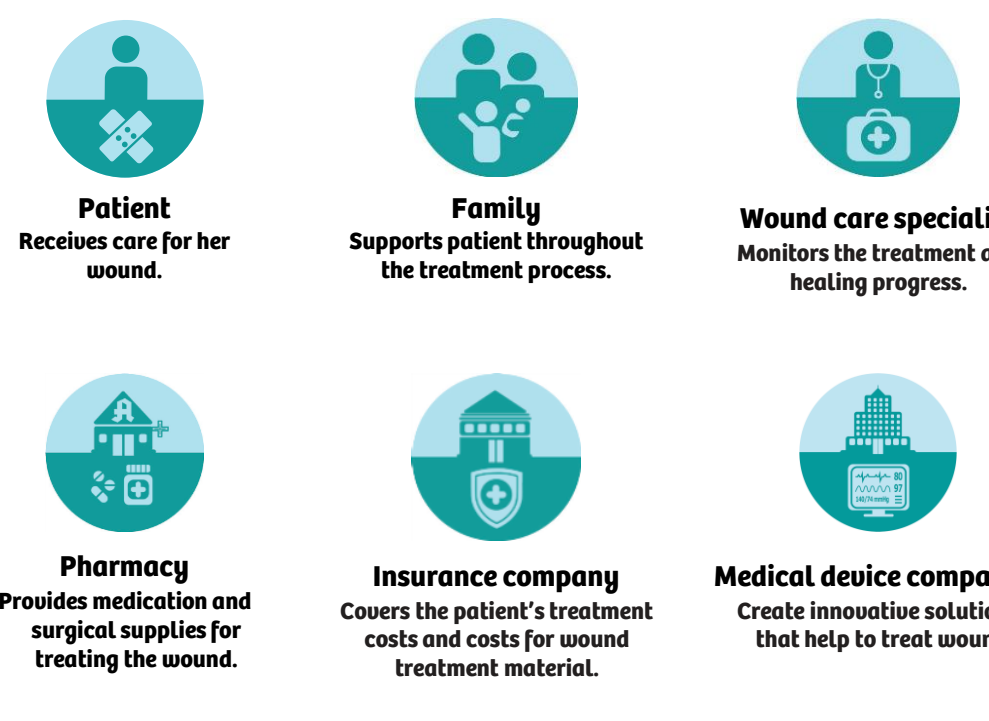
The patient gets physically examined in a wound care center. A swab of the wound's exudate is sent for microbiological examination.



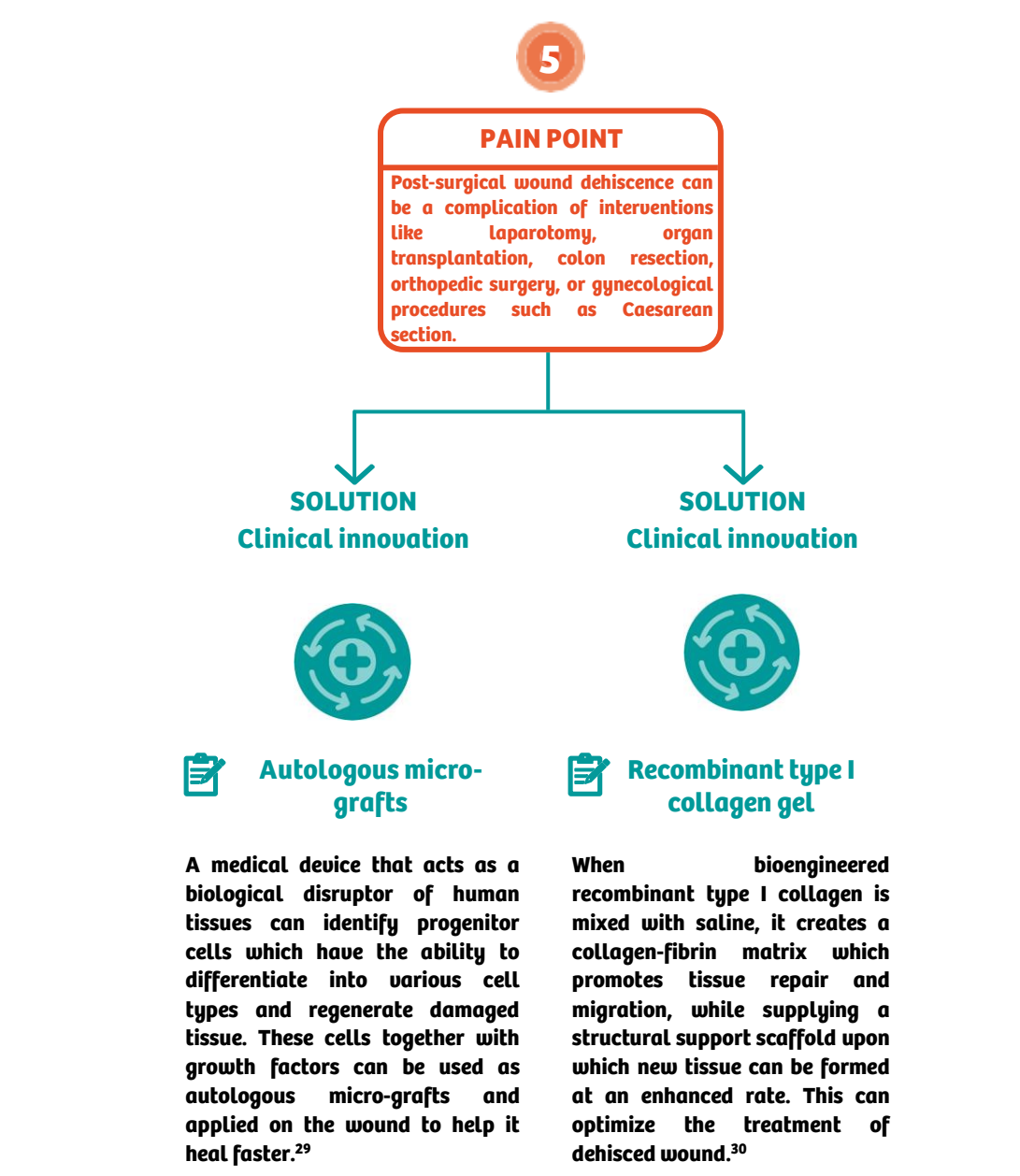
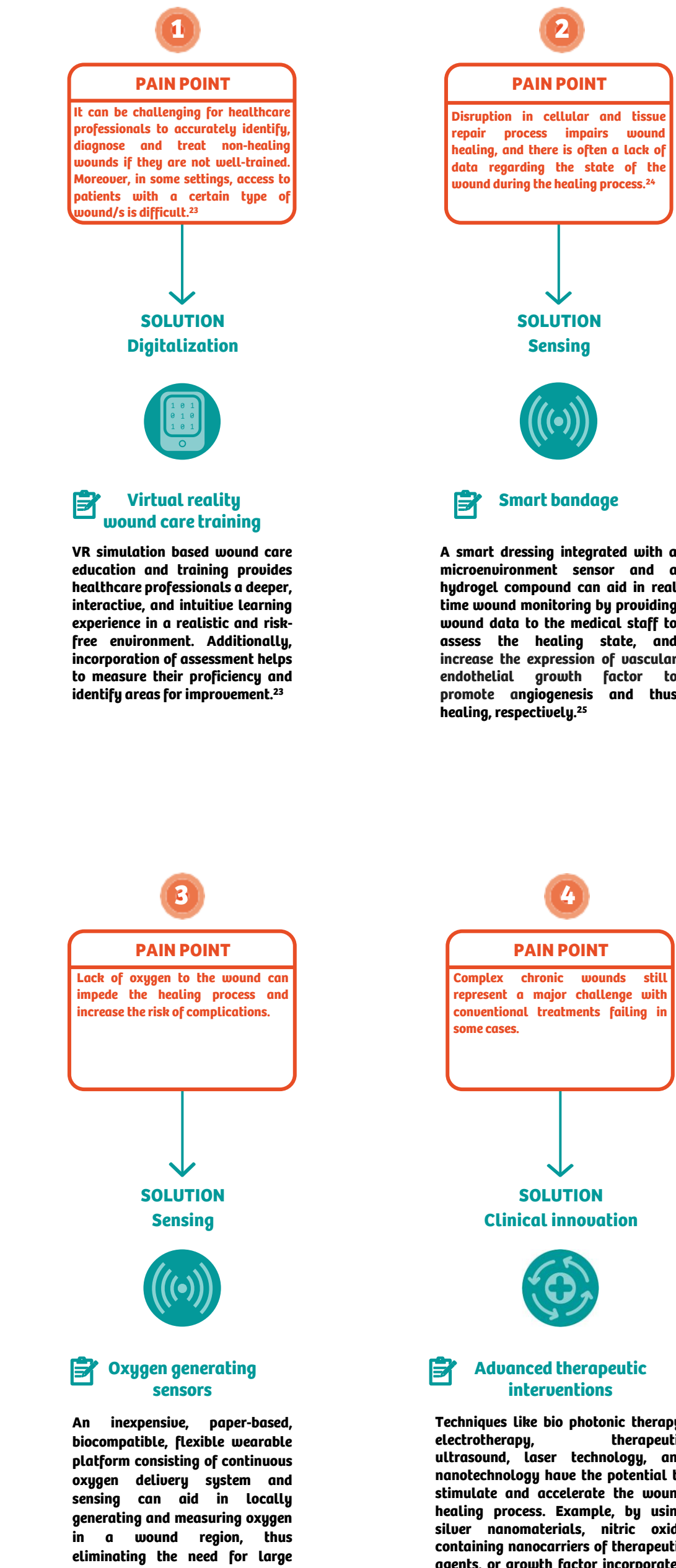
4 TREATMENT

Scenario: At a wound care center

STAKEHOLDERS



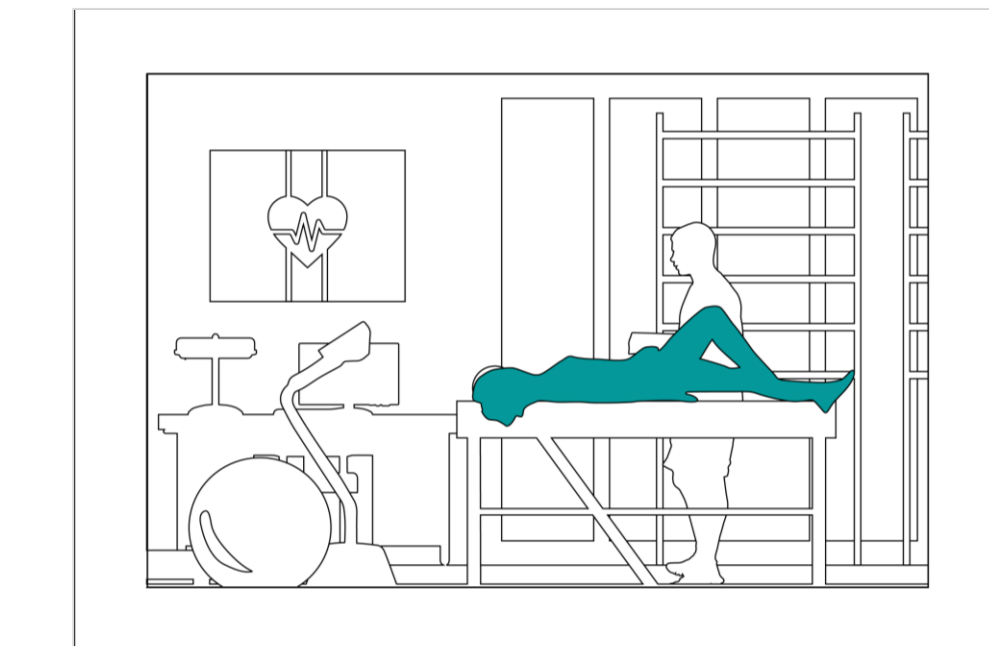
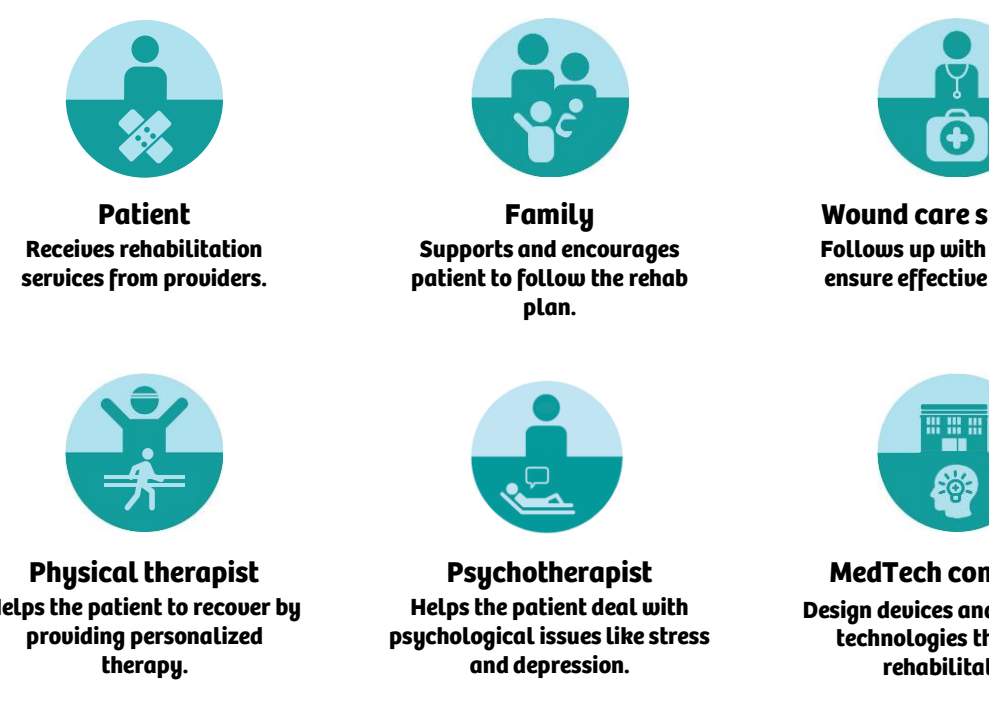
Wound debridement and dressing is done regularly, and progression of the wound healing is closely monitored.



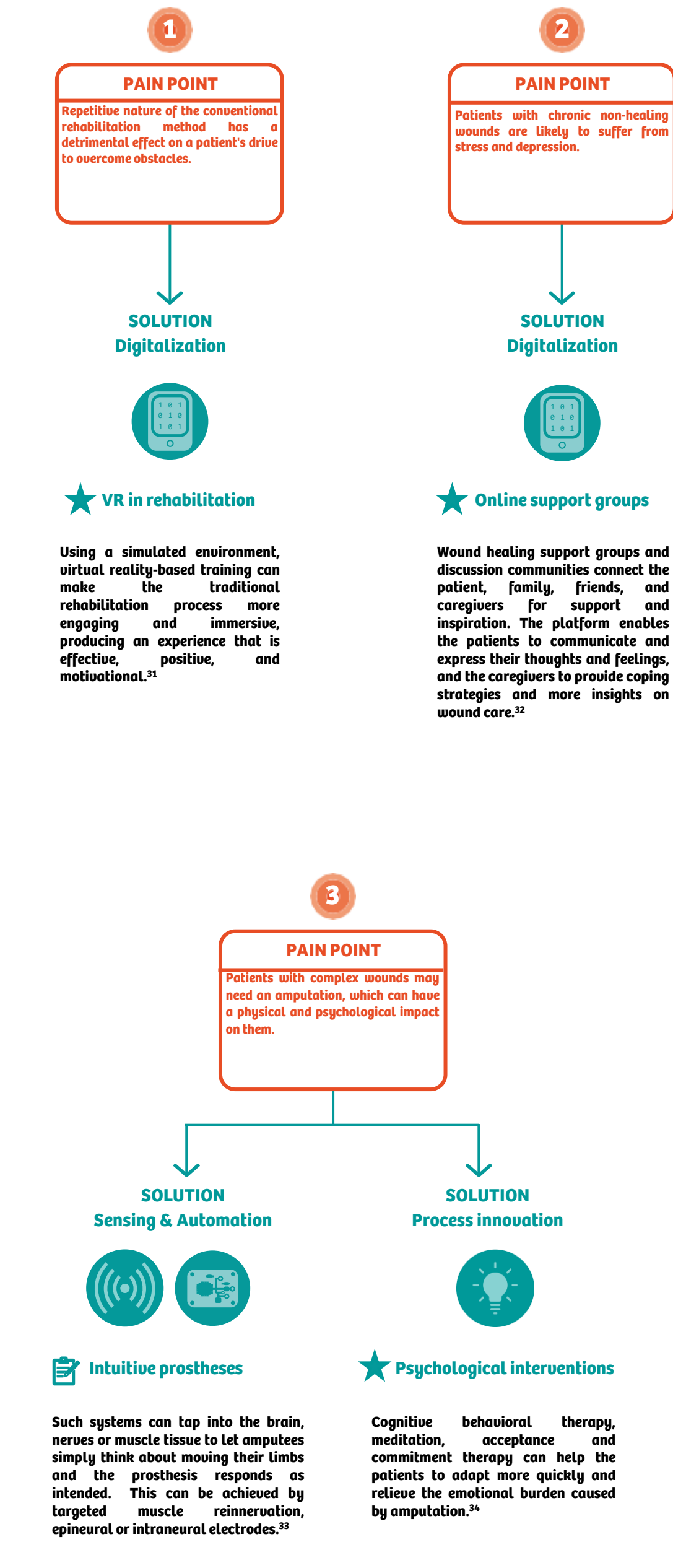
5 REHABILITATION

Scenario: At the rehabilitation center

STAKEHOLDERS



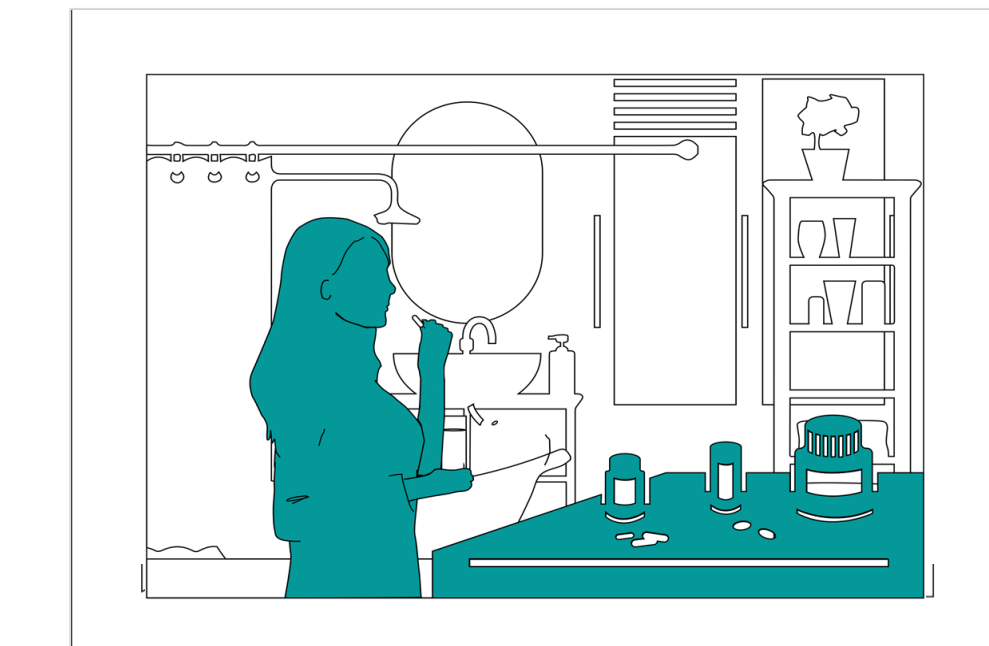
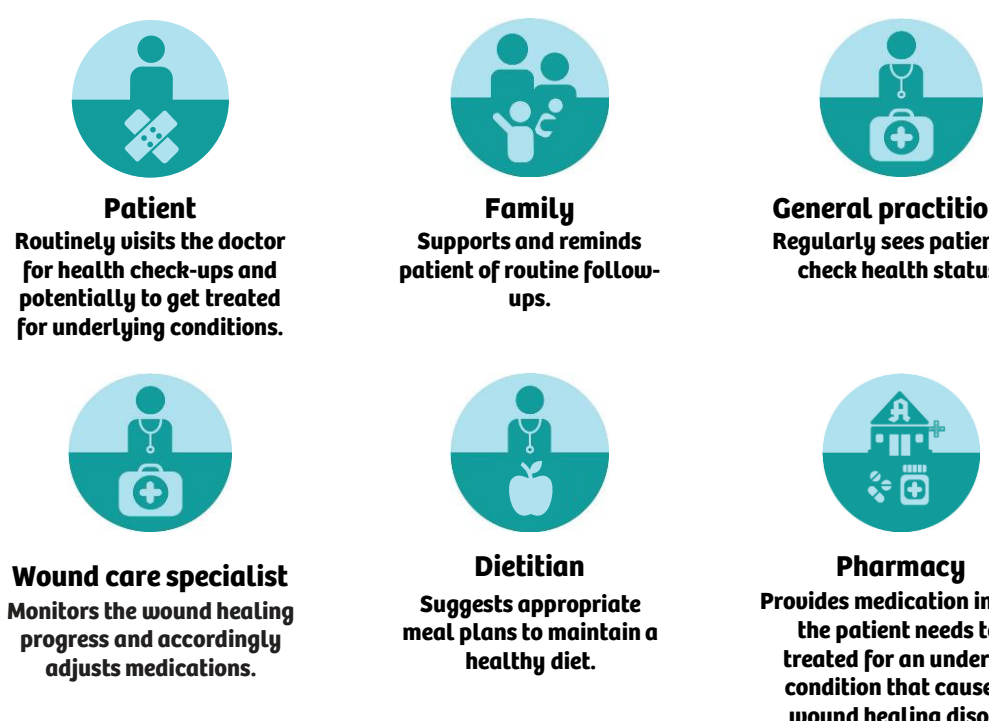
The physical therapist is guiding the patient through the rehabilitation exercises.



6 FOLLOW-UP

Scenario: At home

STAKEHOLDERS



The patient tries to take care in order to reduce further risk of wound healing disorder. In case of an underlying medical condition, medications might need to be taken.

