

Revolutionizing Sternotomy: A Precision-Driven Approach to Safer and Faster Recovery

Vani Nair and Sheera Kraitberg, M.S in Digital Marketing and Media

FACULTY MENTOR: Thomas Kennon CORPORATE PARTNER: Healers



Katz
Katz School
of Science and Health



HEALERS

Introduction

- Sternotomy is essential for accessing the heart and lungs, with over 700,000 procedures performed annually in the U.S. (Song et al., 2023).
- Traditional techniques use straight-line cuts and metal wire reattachment to close the sternum.
- These methods often lead to prolonged recovery times, severe postoperative pain, increased risk of infection, poor bone healing, limited movement, and long-term discomfort.
- Minimally invasive advancements have progressed in other areas of surgery, but sternotomy remains largely unchanged.
- Better techniques could: improve surgical precision, accelerate patient recovery, and reduce overall healthcare costs.
- Healers, a start-up subsidiary of a medical device company, is developing an instrument that gives surgeons more control of sternotomy cuts.

The goal of this project is to conduct comprehensive and ethnographic market research and develop a strategic go-to-market (GTM) plan for Healers' proposed groundbreaking surgical device.



Figure 1. Current straight cut method vs. Healers' proposed curved method

Go-To-Market Plan Objectives
<ul style="list-style-type: none">Analyzing the market demand, competitive landscape, and regulatory pathways for adoption.
<ul style="list-style-type: none">Engaging with hospitals, surgeons, and insurers to understand key drivers and barriers.
<ul style="list-style-type: none">Developing a commercialization strategy, including pilot programs, partnerships, and awareness campaigns.

This project aims to establish a clear roadmap for the successful adoption of Healers' technology, ensuring long-term impact in surgical innovation, improved patient care, and sustainable business growth.

Approach

Our approach integrates qualitative and quantitative research methods to develop a strategic GTM plan for Healers' innovative sternotomy device.

Research Methods	
Ethnographic Research	Through interviews and deep listening, we gain strong insights into experiences, needs, and priorities of patients and cardiothoracic surgeons.
Secondary Research	We researched existing sternotomy methods, associated complications, and recovery outcomes. We analyzed competitors, market size, and industry trends to assess Healers' potential positioning and value proposition.

Figure 2. Research Methods

We created audience profilers for our key stakeholders, which ensures our messaging and engagement strategies align with their specific needs and decision-making processes.

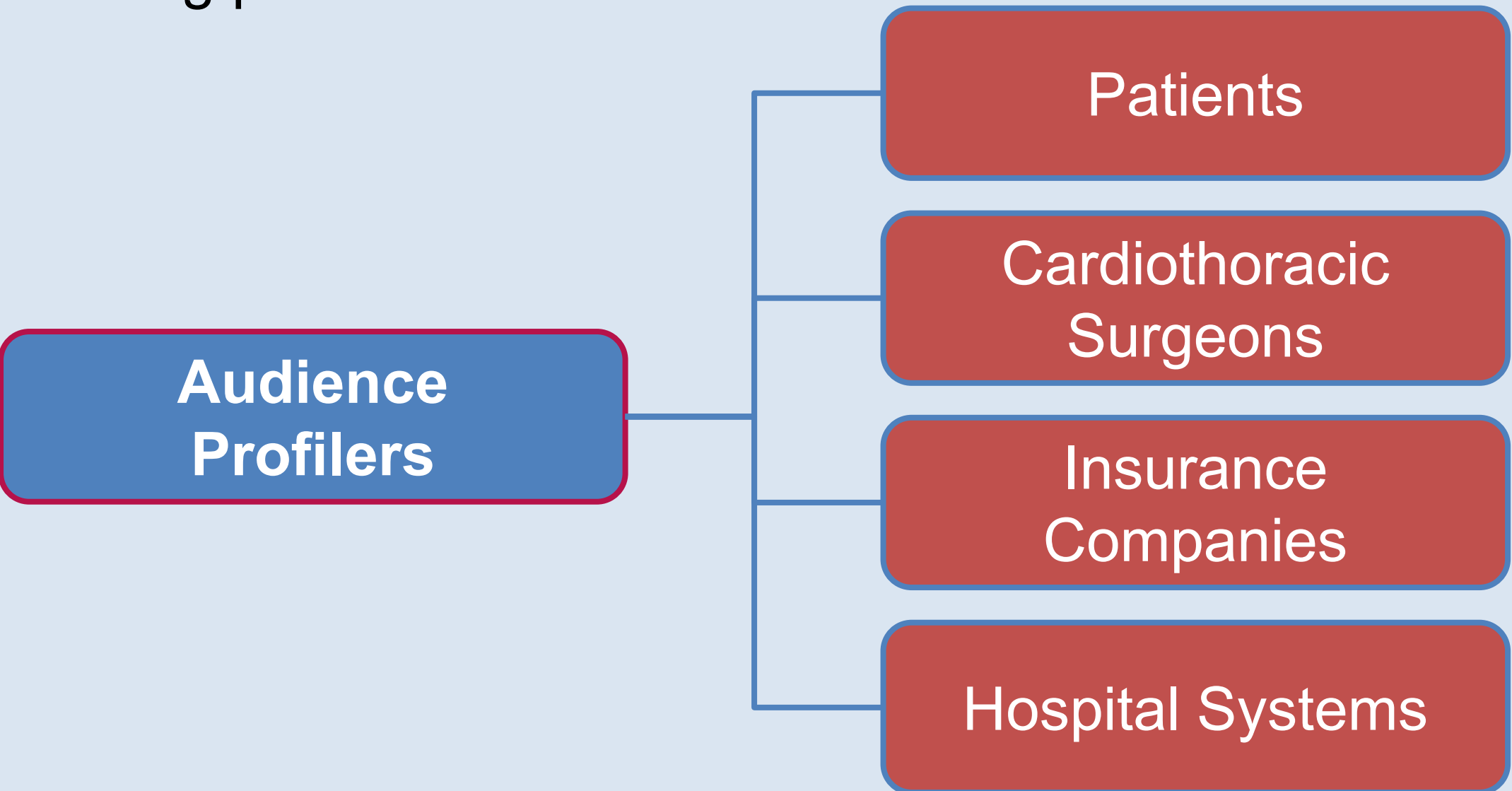


Figure 3. Audience Profilers

The insights gathered from our research directly inform our **marketing strategy**, ensuring it is data-driven and aligned with market demand. By understanding the specific concerns and priorities of each audience, we are crafting targeted messaging, engagement tactics, and outreach strategies that resonate with key stakeholders. This research-driven approach allows us to position Healers as not only an innovative surgical solution but also a practical and necessary advancement in cardiothoracic surgery.

By combining real-world insights with market research, we aim to create a robust roadmap for Healers, positioning the in-development device as a transformative solution in cardiothoracic surgery while addressing critical barriers to adoption.

Findings

Through our research, we found five main insights:

#1	The healing process is uncomfortable.
#2	Recovery can take months or years.
#3	Wires can be dangerous.
#4	Further surgeries may be complicated.
#5	Future CPR can be risky.

(Park et al., 2010), (El-Ansary et al., 2019)
Figure 4. Insights from ethnographic research

These insights reinforced the need for an innovative solution, leading to the development of Healers' brand aligner: the "what", "how," and "why"

What	How	Why
Healers created an innovative medical device to make sternotomy procedures safer, more efficient, and precise.	Healers combined research, technology, and design which allows for a faster and wire-free recovery.	Moving on from outdated surgical practices will improve health and healing.

Figure 5. Healers' Brand Aligner

To bring this product to market, we developed a marketing investment model covering key areas such as awareness and brand building, lead generation, customer engagement, market expansion, and analytics (Medical, 2023). Each category includes Key Performance Indicators (KPIs) and return-on-investment (ROI) projections to ensure measurable impact.

Additionally, we designed a comprehensive digital presence for Healers, including a website, social media posts, and an email newsletter tailored to our target audiences. We also explored cardiothoracic surgeons as potential investors, leveraging their expertise and interest in surgical innovation.

Conclusions

This project developed a (GTM) strategy for Healers' innovative sternotomy device, addressing the need for safer and more efficient surgical solutions. Market research revealed strong demand from surgeons, hospitals, and insurers for technologies that reduce complications, accelerate recovery, and lower healthcare costs. The proposed GTM strategy—including pilot programs, strategic partnerships, and awareness campaigns—positions Healers for successful commercialization.

However, limitations exist, including reliance on secondary data and stakeholder insights, which may not fully capture real-world adoption challenges. Additionally, regulatory approvals and hospital procurement complexities could impact market entry.

For future implementation, key recommendations include:

- Conducting clinical trials to generate outcome data.
- Navigating regulatory approvals efficiently.
- Expanding pilot programs with hospitals.
- Enhancing awareness through digital marketing and industry events.

Acknowledgements

We extend our gratitude to Professor Thomas Kennon for his invaluable guidance and helping us refine our Go-To-Market strategy. Special thanks to the Healers and its JINNOVATE Team for their dedication and hard work.

References

- Song, Y., Chu, W., Sun, J., Liu, X., Zhu, H., Yu, H., & Shen, C. (2023, May 19). *Review on risk factors, classification, and treatment of sternal wound infection - journal of cardiothoracic surgery*. BioMed Central. <https://cardiothoracicsurgery.biomedcentral.com/articles/10.1186/s13019-023-02228-y>
- Park, C. B., Suri, R. M., Burkhart, H. M., Greason, K. L., Dearani, J. A., Schaff, H. V., & Sundt, T. M. (2010, October 14). *Identifying patients at particular risk of injury during repeat sternotomy: Analysis of 2555 cardiac reoperations*. The Journal of Thoracic and Cardiovascular Surgery. <https://www.sciencedirect.com/science/article/pii/S0022522310009001>
- Doa El-Ansary, Tanya Kinney LaPier, Jenny Adams, Richard Gach, Susan Triano, Md Ali Katijjahbe, Andrew D Hirschhorn, Sean F Mungovan, Ana Lotshaw, & Lawrence P Cahalin. (n.d.). *An evidence-based perspective on movement and activity following median sternotomy*. Physical therapy. <https://pubmed.ncbi.nlm.nih.gov/31504913/>
- Medical, K. (n.d.). *How to develop your medical device go-to-market strategy*. Kapstone Medical. <https://www.kapstonemedical.com/resource-center/blog/how-to-develop-your-medical-device-go-to-market-strategy>