

# Smart Wound Patch

Alina Nietsche Pereira

# Current Problem

2% = 160 million  
people worldwide

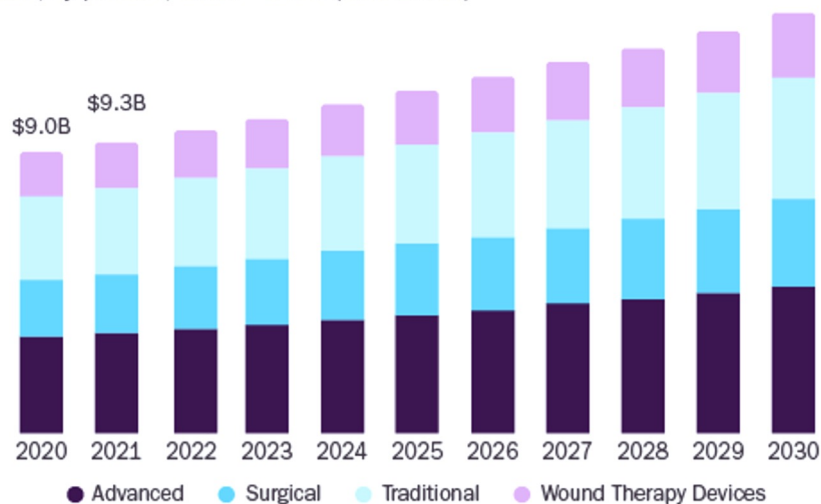
1 in 38 Americans  
affected by  
chronic wounds

Wound care costs  
up to 97 billion in  
the US

# Market Size - USA

## North America Wound Care Market

size, by product, 2020 – 2030 (USD Billion)



GRAND VIEW RESEARCH

**4.2%**

N. America Market CAGR,  
2022 - 2030

Source:  
[www.grandviewresearch.com](http://www.grandviewresearch.com)

<p><b>Key Partners</b></p> <ul style="list-style-type: none"> <li>• <b>University of Texas Health Center-USA</b> (testing and validating sensors and conducting clinical trials)</li> <li>• <b>Johnson Johnson-USA, Medtronic-USA</b>, (sensor integration, packaging, product marketing)</li> </ul>	<p><b>Key Activities</b></p> <ul style="list-style-type: none"> <li>• Sensors design</li> <li>• Integration</li> <li>• Packaging</li> <li>• Data analytics and modeling</li> <li>• Testing</li> <li>• FDA approval</li> <li>• Patents</li> </ul>	<p><b>Value Proposition</b></p> <ul style="list-style-type: none"> <li>• 4-in-1 → pH, IL-6, IL-1<math>\beta</math>, and CRP</li> <li>• Rapid (within 2 min)</li> <li>• Cost less (~\$50) than existing laboratory-based assays</li> <li>• Real-time wound monitoring</li> <li>• On-demand drug delivery</li> <li>• A wearable solution &amp; hence can be used at home</li> </ul>	<p><b>Customer Relationships</b></p> <ul style="list-style-type: none"> <li>• Direct contact/connection with local administration</li> <li>• 24/7 customer support</li> </ul>	<p><b>Customer Segment</b></p> <ul style="list-style-type: none"> <li>• Physicians and medical executives at hospitals/clinics/nursing facilities</li> <li>• Medical device, insurance companies and pharmacies</li> <li>• Individual customers</li> </ul>
	<p><b>Key Resources</b></p> <ul style="list-style-type: none"> <li>• Funds— <b>SBIR, Gates Foundation, Venture capital</b></li> <li>• Instruments</li> <li>• Hardware and Software engineers</li> </ul>		<p><b>Customer Channels</b></p> <ul style="list-style-type: none"> <li>• Medical Distributorship</li> <li>• Direct Sales</li> <li>• Website (product overview and tutorial), Social Media, Mobile Apps</li> </ul>	

<p><b>Cost Structure</b></p> <ul style="list-style-type: none"> <li>• Manufacturing/Product development</li> <li>• Operational Expenses <ul style="list-style-type: none"> <li>➢ Employee Salaries</li> <li>➢ Marketing and Sales</li> <li>➢ Regulatory &amp; Taxes</li> </ul> </li> </ul>
--

<p><b>Revenue Streams</b></p> <ul style="list-style-type: none"> <li>• Product sales – electronic module <ul style="list-style-type: none"> <li>➢ Recertification fees</li> </ul> </li> <li>• Recurring sales – sensor array</li> <li>• Potential Licensing</li> </ul>
--

# Test Assumptions



Detect bacteria

Control over dosage

Apply antibiotics

**PIVOT!**



<p><b>Key Partners</b></p> <ul style="list-style-type: none"> <li>• <b>University of Texas Health Center-USA</b> (testing and validating sensors and conducting clinical trials)</li> <li>• <b>Johnson Johnson-USA, Medtronic-USA</b>, (sensor integration, packaging, product marketing)</li> </ul>	<p><b>Key Activities</b></p> <ul style="list-style-type: none"> <li>• Sensors design</li> <li>• Integration</li> <li>• Packaging</li> <li>• Data analytics and modeling</li> <li>• Testing</li> <li>• FDA approval</li> <li>• Patents</li> </ul>	<p><b>Value Proposition</b></p> <ul style="list-style-type: none"> <li>• 3-in-1 → Staph, MRSA, pseudomonas</li> <li>• Low manufacturing cost (~60)</li> <li>• Real-time wound monitoring</li> <li>• Controlled drug delivery system</li> <li>• A wearable solution</li> <li>• Data visualization in app</li> <li>• 4-in-1 → pH, IL-6, IL-1<math>\beta</math>, and CRP (extra)</li> </ul>	<p><b>Customer Relationships</b></p> <ul style="list-style-type: none"> <li>• Direct contact/connection with local administration</li> <li>• 24/7 customer support</li> </ul>	<p><b>Customer Segment</b></p> <ul style="list-style-type: none"> <li>• Physicians and medical executives at hospitals/clinics/nursing facilities</li> <li>• Medical device and insurance companies</li> </ul>
	<p><b>Key Resources</b></p> <ul style="list-style-type: none"> <li>• Funds— <b>SBIR, Gates Foundation, Venture capital</b></li> <li>• Instruments</li> <li>• Hardware and Software engineers</li> </ul>		<p><b>Customer Channels</b></p> <ul style="list-style-type: none"> <li>• Medical Distributorship</li> <li>• Direct Sales</li> <li>• Website (product overview and tutorial), Social Media, Mobile Apps</li> </ul>	
<p><b>Cost Structure</b></p> <ul style="list-style-type: none"> <li>• Manufacturing/Product development</li> <li>• Operational Expenses <ul style="list-style-type: none"> <li>➢ Employee Salaries</li> <li>➢ Marketing and Sales</li> <li>➢ Regulatory &amp; Taxes</li> </ul> </li> </ul>			<p><b>Revenue Streams</b></p> <ul style="list-style-type: none"> <li>• Product sales – electronic module <ul style="list-style-type: none"> <li>➢ Recertification fees</li> </ul> </li> <li>• Recurring sales – sensor array</li> <li>• Potential Licensing</li> </ul>	

# Conclusion

- ✓ Pain
- ✓ No solution in market
- ✓ Found a solution & made assumptions
- ✓ Lead to PIVOT

## MEETS customers' NEEDS

- ✓ Detects bacteria
- ✓ Delivers CONTROLLED medication
- ✓ Data from app -> doctor

A decorative graphic element consisting of two concentric, curved red lines that sweep from the top-left towards the bottom-left of the slide.

QUESTIONS?

*Thank you!*