NEUROLOGY KEY OPINION LEADERS

BETTER LIFE'S PRODUCT LAUNCH BLUEPRINT

BETTER LIFE

PURDUE UNIVERSITY | Mitchell E. Daniels, Jr. School of Business

AGENDA

To identify and utilize **relevant datasets** to create **metrics** and develop a **methodology** for identifying and profiling **Key Opinion Leaders** in Neurology for Product Launch

EXECUTIVE SUMMARY

OBJECTIVE

Strategically identify US neurology KOLs to champion Better Life's product launch, leveraging critical datasets to pinpoint influencers

METHODOLOGY

A robust analysis integrates clinical, research, leadership, and financial data to profile key neurology KOLs, assessing their impact and network

IMPACT

Engaging KOLs is vital for product adoption and market success, laying the groundwork for Better Life's entry and growth in the neurology sector

KEY OPINION LEADERS

Key Opinion Leaders (KOLs) are esteemed experts in their medical fields whose **knowledge**, **research**, and **opinions** significantly **influence** peers and industry trends

They are often sought after for their **expertise** in guiding treatment practices and product endorsements

THEIR IMPACT

Clinical Trial Advocacy
KOLs ensure clinical trials are scientifically sound and **relevant** which boosts trial **credibility** and encourages wider **participation**

Product Launch and Adoption
KOLs endorse new products, **speeding** up market **acceptance** and their **educational** efforts help healthcare providers **embrace** innovations

Influence on Guidelines and Policies
KOLs **shape** treatment guidelines and healthcare policies and their recommendations **impact** therapeutic approaches and **improve** patient care

THEIR VALUE

Insights and Expertise
KOL engagement provides access to **valuable knowledge** and **experience** through which companies **gain insights** into patient **needs** and healthcare **gaps**

Strategic Influence
KOL input shapes **development**, **marketing**, and **educational** strategies and their expertise guides **product positioning** and **messaging** effectively

Trust and Guidance
KOL endorsement enhances **credibility** and assists in navigating **complex** healthcare landscapes, aiding **effective** communication of product value

Before we dive deep, let's try to answer this question:

WHO IS OUR CLIENT AND WHAT IS THE TASK AT HAND?

Better Life is poised to disrupt the US neurology pharmaceutical market with an innovative product, amidst a landscape ripe for advanced therapeutic solutions

The **mission** is to harness data-driven insights to identify and engage neurology KOLs, **amplifying** product launch success and market **penetration**

HOW DO WE CHOOSE OUR KOLs ?

IDENTIFICATION OF KEY METRICS

We build advanced metrics from our data through which we select the most impactful KOLs for our current product

WHICH SOURCES?

1'st Priority

SOURCE 1

openpaymentsdata.cms.gov/

SOURCE 2

reporter.nih.gov/

2'nd Priority

SOURCE 3

health.usnews.com/best-hospitals/rankings/neurology-and-neurosurgery

We used the data above this line.

Last Priority

SOURCE 4

health.usnews.com/best-hospitals/rankings/neurology-and-neurosurgery

SOURCE 5

https://clinicaltrials.gov/

WHY THESE SOURCES?

OPENPAYMENTSDATA.CMS.GOV/

The Open Payments database enhances healthcare transparency by showcasing financial relationships between healthcare providers and the industry. We took a subset of the data (2022).

REPORTER.NIH.GOV/

NIH RePORTER consolidates NIH-funded research projects, outcomes, and resulting publications and patents, supporting transparency, informed decision-making, and public accountability in research funding. We took a subset of 2020 - 2024 to consider years around the date 2022.

HEALTH.USNEWS.COM/BEST-HOSPITALS/RANKINGS/NEUROLOGY-AND-NEUROSURGERY

U.S. News offers rankings and insights on top hospitals for neurology and neurosurgery, aiding in informed care choices for complex neurological issues through data and expert opinions. We found out the institutions and its rank, and attached to each profile.

METRICS IDENTIFIED

TOTAL PAYMENTS

CLINICAL TRIALS COUNT

COUNT OF PUBLICATIONS

RELATIVE CITATION RATE

PROJECTS COUNT

RELVANCE SCORE

RANK OF ORGANISATION

DEGREE CENTRALITY

HOW TO UTILIZE THE METRICS ?

ANALYTIC HIERARCHY PROCESS

This is a decision-making tool that **decomposes** complex problems into a **hierarchy** of **simpler** elements, evaluated through **pairwise comparisons**. It combines **quantitative** metrics and **subjective** judgments to assign weights to each element, enabling informed and consistent decision-making

COMPARISON MATRIX

Parameters	Total Payments	Clinical Trials	Publications	Relative Citation Rate	Organisational Rank	Projects	Relevance Score	Degree Centrality
Total Payments	1	3	2	2	4	3	2	3
Clinical Trials	1/3	1	4	5	2	4	5	4
Publications	1/2	1/4	1	6	1/3	2	6	5
Relative Citation Rate	1/2	1/5	1/6	1	1/4	1/3	1/2	1/3
Organisational Rank	1/4	1/2	3	4	1	1/2	3	2
Projects	1/3	1/4	1/2	3	2	1	4	3
Relevance Score	1/2	1/5	1/6	2	1/3	1/4	1	1/2
Degree Centrality	1/3	1/4	1/5	3	1/2	1/3	2	1

This matrix uses fractional values for the inverse comparisons for simplicity, though typically the exact reciprocal would be used (e.g., if A is 4 times as important as B, then B is 1/4 as important as A).
The diagonal is always 1, as each metric is equally important to itself.

COMPARISON MATRIX

Explanation of Assumptions:

- **Total Payments** may indicate industry engagement but are considered less indicative of academic or research merit compared to Publications or Clinical Trials.
- **Clinical Trials** are highly valued for their direct impact on healthcare and medical practice, often leading to high-impact publications and citations.
- **Publications** are fundamental to academic contributions; however, their value is moderated when considering the Relative Citation Rate, which provides context to the impact of these publications.
- **Relative Citation Rate** is considered extremely important as it reflects the quality and influence of research within the specific context of the field and publication year.
- **Organisational Rank** reflects leadership and administrative influence but is considered less directly indicative of research impact compared to metrics like Publications or Clinical Trials.
- **Projects** indicate practical engagement and collaboration but are weighted less compared to direct research outputs like Clinical Trials and Publications.

This matrix is an illustrative example. In practice, the specific weights and the importance of each parameter should be determined through a collaborative process involving domain experts, using a systematic approach like the Analytic Hierarchy Process (AHP) to reach a consensus.

RELEVANCE SCORE

The **Relevance Score** is a **tailored metric** designed to **personalize researcher recommendations** for our product by evaluating the congruence of their past work with relevant fields

We took the example of a new drug in the market, **Lecanemab** for Alzheimer's treatment to build this

It operates on a 0 to 1 scale, ensuring precise alignment between a researcher's expertise and the specific needs of our project

BENEFIT

This facilitates targeted engagements, enhancing the efficacy and impact of collaborations tailored to our product's development and research objectives

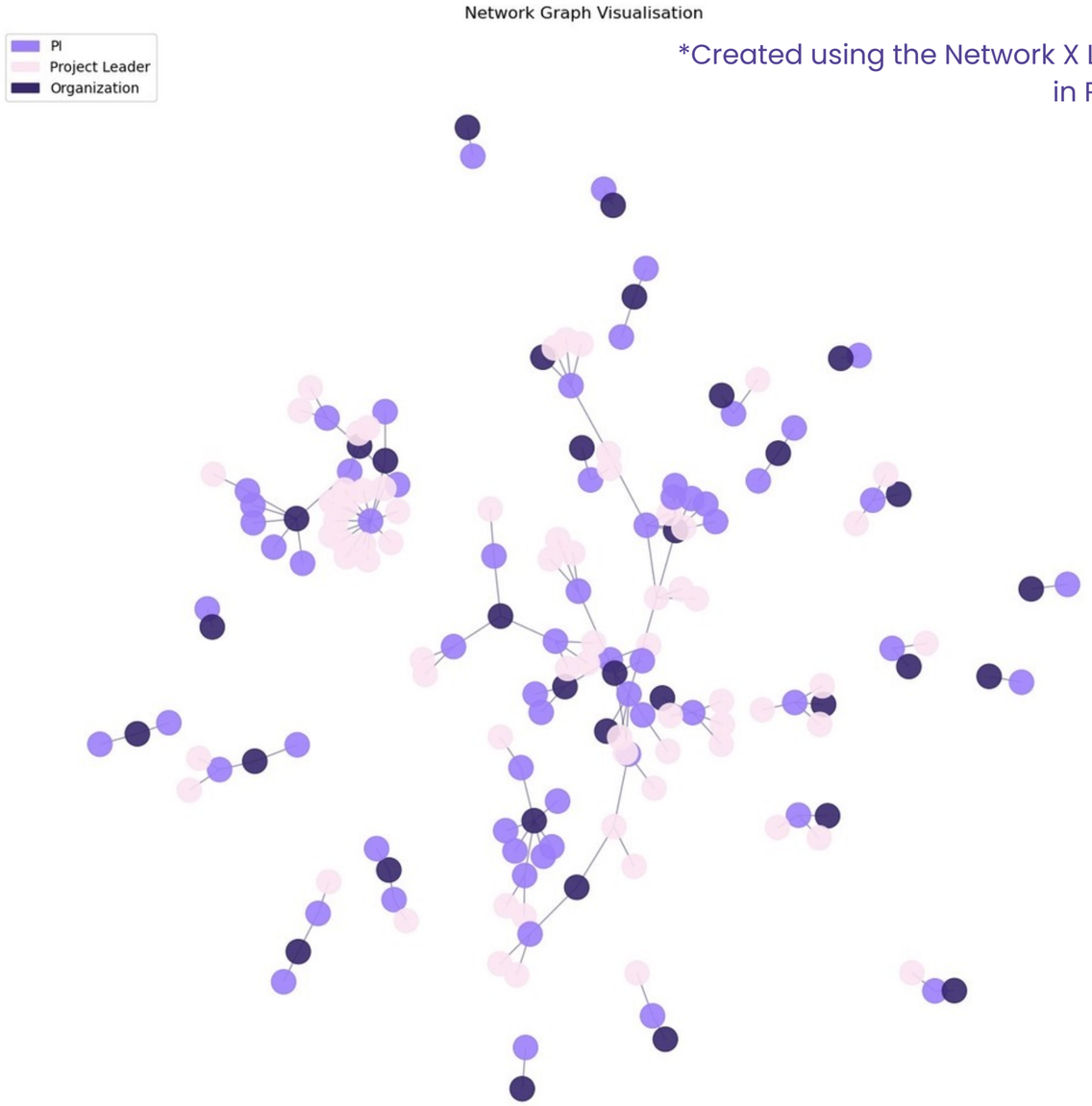
DEGREE CENTRALITY

Degree Centrality quantifies a researcher's direct connections in their professional network, indicating their collaborative reach and centrality in the research community. It highlights:

- **Collaborative Potential:** High centrality suggests strong networks, beneficial for multidisciplinary projects
- **Information Spread:** Central researchers can quickly disseminate new ideas and innovations.
- **Influence:** Reflects a researcher's visibility and engagement, marking their impact within the community

Incorporating Degree Centrality compliments traditional academic metrics and underscores the significance of networking in research advancement

DEGREE CENTRALITY



*Created using the Network X Library in Python

Incorporating Degree Centrality compliments traditional academic metrics and underscores the significance of networking in research advancement

NORMALIZED WEIGHTS

Total Payments	0.172
Clinical Trials Count	0.166
Publications Count	0.110
Relative Citation Rate	0.089
Organisational Rank	0.098
Projects	0.088
Relevance Score	0.046
Degree Centrality	0.232

Summation Across Columns: For each column in the pairwise comparison matrix, we add the values. This reflects the combined influence that each criterion has when compared against all others.

Normalization of Elements: Each element in the matrix is divided by the sum of its respective column. This adjustment ensured that the sum of each column equaled 1, standardizing the scales for comparability.

Weight Calculation: For each row in the normalized matrix, we calculated the average of its values. These averages represented the relative weights or priorities of the criteria, indicating their importance in the decision-making context.

ANALYTICAL METHODOLOGY

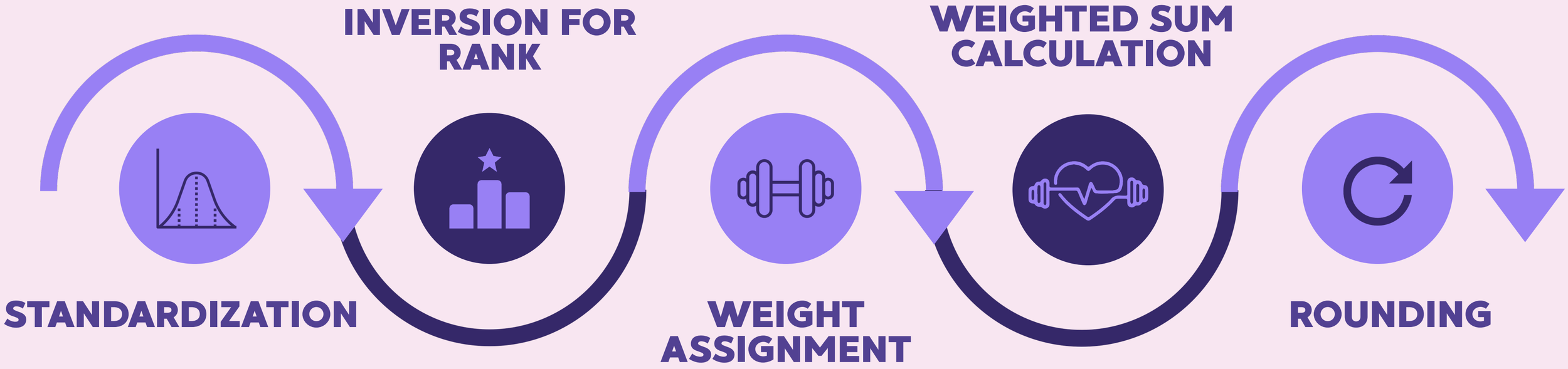
Comprehensive approach and Business Rules to identify KOLs

IMPACT SCORE

We wil be using the Impact Score to find the KOL with the highest Impact

The "**Impact Score**" distills a researcher's professional achievements into a **single**, **comprehensive** metric, reflecting their influence across academia and industry. By blending contributions in publications, clinical trials, and leadership with their role in collaborative projects and the relevance of their work, this score offers a nuanced view of a researcher's standing and potential in their field

IMPACT SCORE CALCULATION



IMPACT SCORE CALCULATION

STANDARDIZATION	Use a MinMaxScaler to scale the values of each metric to a 0 to 1 range, ensuring comparability across different scales
INVERSION FOR RANK	Invert rank values where necessary, so that a lower rank translates to a higher value after scaling
WEIGHT ASSIGNMENT	Assign weights to each metric based on their relative importance in determining a researcher's impact, as established through methods like the Analytic Hierarchy Process (AHP)
WEIGHTED SUM CALCULATION	Multiply the normalized values by their corresponding weights and sum these products for each researcher to calculate their overall "Impact Score"
ROUNDING	Round the final "Impact Score" to a suitable number of decimal places, maintaining precision and readability.

RELEVANCE SCORE BINNING

The "Relevance Score Classification" categorizes the alignment of a researcher's previous work with specific projects or areas of interest into three distinct tiers:

- **High:** Shows strong alignment, indicating significant direct applicability.
- **Medium:** Reflects moderate alignment, suggesting some relevance.
- **Low:** Indicates minimal alignment, with potential tangential relevance only.

BENEFIT

This classification provides a quick, intuitive understanding of how closely a researcher's background matches the specific needs or goals of a project, aiding in more informed decision-making.

OUR PROCESS FLOW

STEP 1
DATA COLLECTION AND METRIC CALCULATION

Academic Data Collection: Gather detailed academic data for each candidate, including publications, citations, and affiliations

Calculation of Relevance Score: Assess the alignment of candidates' previous work with the current project

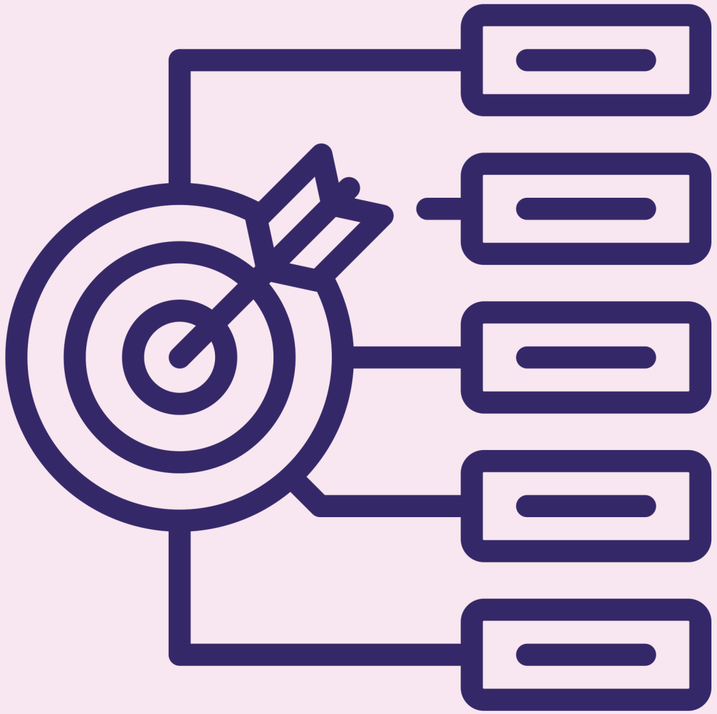
Degree Centrality Analysis: Evaluate candidates' networks to determine their Degree Centrality, reflecting their collaborative reach and influence within professional circles

Relevance of Non-Academic Indicators: Acknowledge the significance of Relevance Score and Degree Centrality as indicators that extend beyond traditional academic metrics

OUR PROCESS FLOW

STEP 2
DEFINE SELECTION OBJECTIVES

Clearly outline the goals and necessary qualifications for the role or project, ensuring the selection criteria align with the desired outcomes



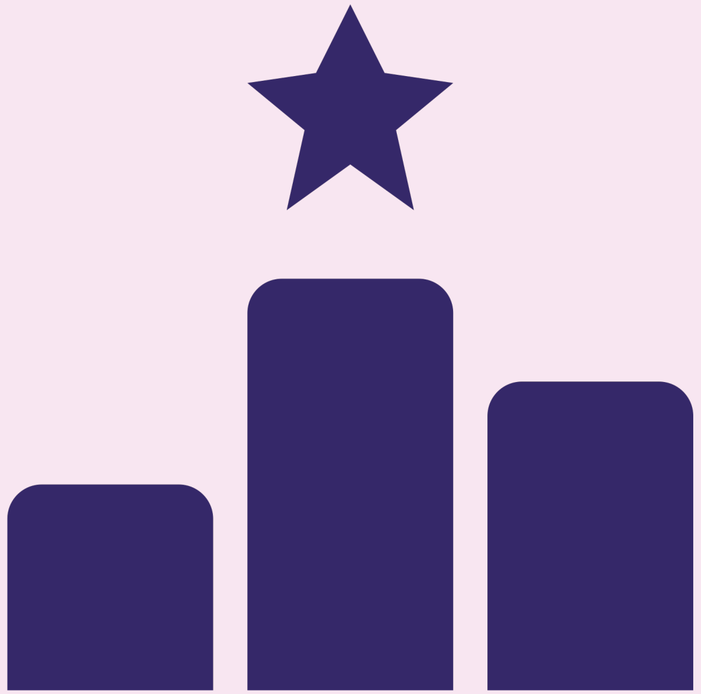
STEP 3
SET IMPACT SCORE THRESHOLD

Establish a minimum Impact Score for candidate consideration, emphasizing its role as a primary indicator of overall contributions and influence

OUR PROCESS FLOW

STEP 4
RANK CANDIDATES BY IMPACT SCORE

Initially rank candidates based on their Impact Scores from highest to lowest, using this as the foundational layer for the selection process



OUR PROCESS FLOW

STEP 5
Incorporate Additional Indicators

Relevance Score Classification: Use the High, Medium, or Low relevance classification to identify candidates with expertise closely aligned with project needs

Degree Centrality: Consider candidates' Degree Centrality to gauge their collaborative potential and network influence

OUR PROCESS FLOW

STEP 6
CONDUCT CANDIDATE EVALUATION

Review top candidates, particularly those with high Impact Scores, focusing on individual score components and the added context from Degree Centrality and Relevance Score Classification

OUR PROCESS FLOW

STEP 7
FINALIZE SELECTION

Make **balanced decisions** by weighing the comprehensive evaluations, where the Impact Score indicates overall merit, supplemented by nuanced insights from additional indicators

Ensure selections are strategically aligned with project goals and organizational objectives

SEGMENTS

High Impact Leaders
Candidates with exceptionally high Impact Scores, indicating significant contributions and influence in their field. They are often thought leaders or pioneers

Emerging Influencers
Those with moderate to high Impact Scores, showing promise and upward trajectory in their contributions and recognition

Specialized Contributors
Individuals with lower overall Impact Scores but high scores in specific components, indicating specialized expertise or contributions.

ARCHETYPES

Central Connectors
High Degree Centrality candidates, pivotal in networks due to their extensive collaborations. They are ideal for roles requiring broad interdisciplinary connections

Niche Experts High Relevance Score in specific areas with moderate Degree Centrality, indicating deep, focused expertise relevant to particular projects or niches

Influential Innovators
High scores in both Impact and Degree Centrality, marking them as influential figures who drive innovation and collaboration

WEBSITE

Leading Change in Pharma Together

Connecting you with the voices that lead healthcare innovation, one KOL at a time.

Discover Better life
Come visit us to understand more about our product offerings.

BETTER LIFE + ProcDNA

Visit: https://betterlifekol.online/

Use our Gen AI chatbot to learn more about how we do it!

WEBSITE

WEBSITE

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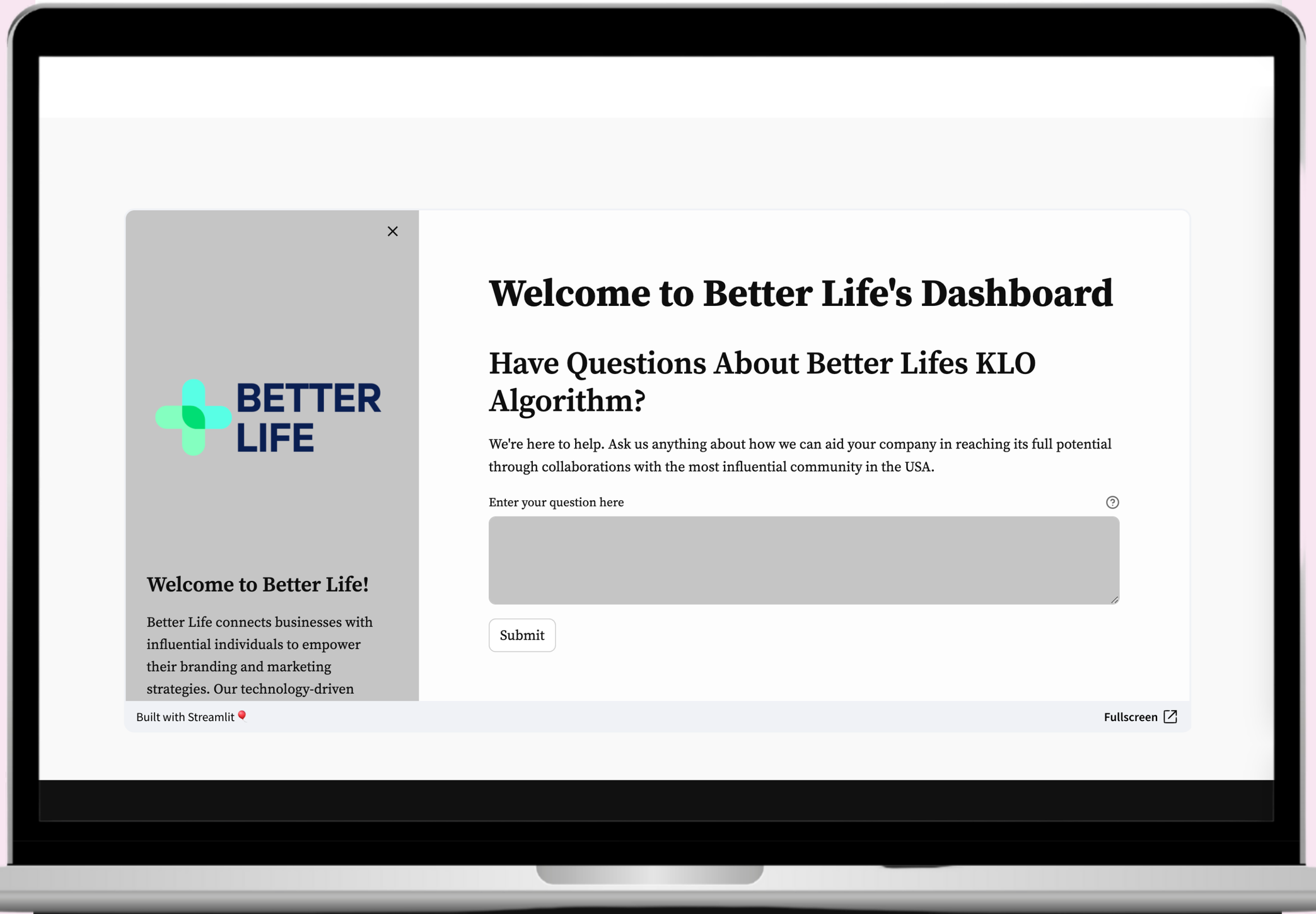
Bringing to life through wireframes

WEBSITE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Welcome to Better Life!
Better Life connects businesses with influential individuals to empower their branding and marketing strategies. Our technology-driven
Welcome to Better Life's Dashboard
Have Questions About Better Lifes KLO Algorithm?
We're here to help. Ask us anything about how we can aid your company in reaching its full potential through collaborations with the most influential community in the USA.
Enter your question here
Submit
Built with Streamlit
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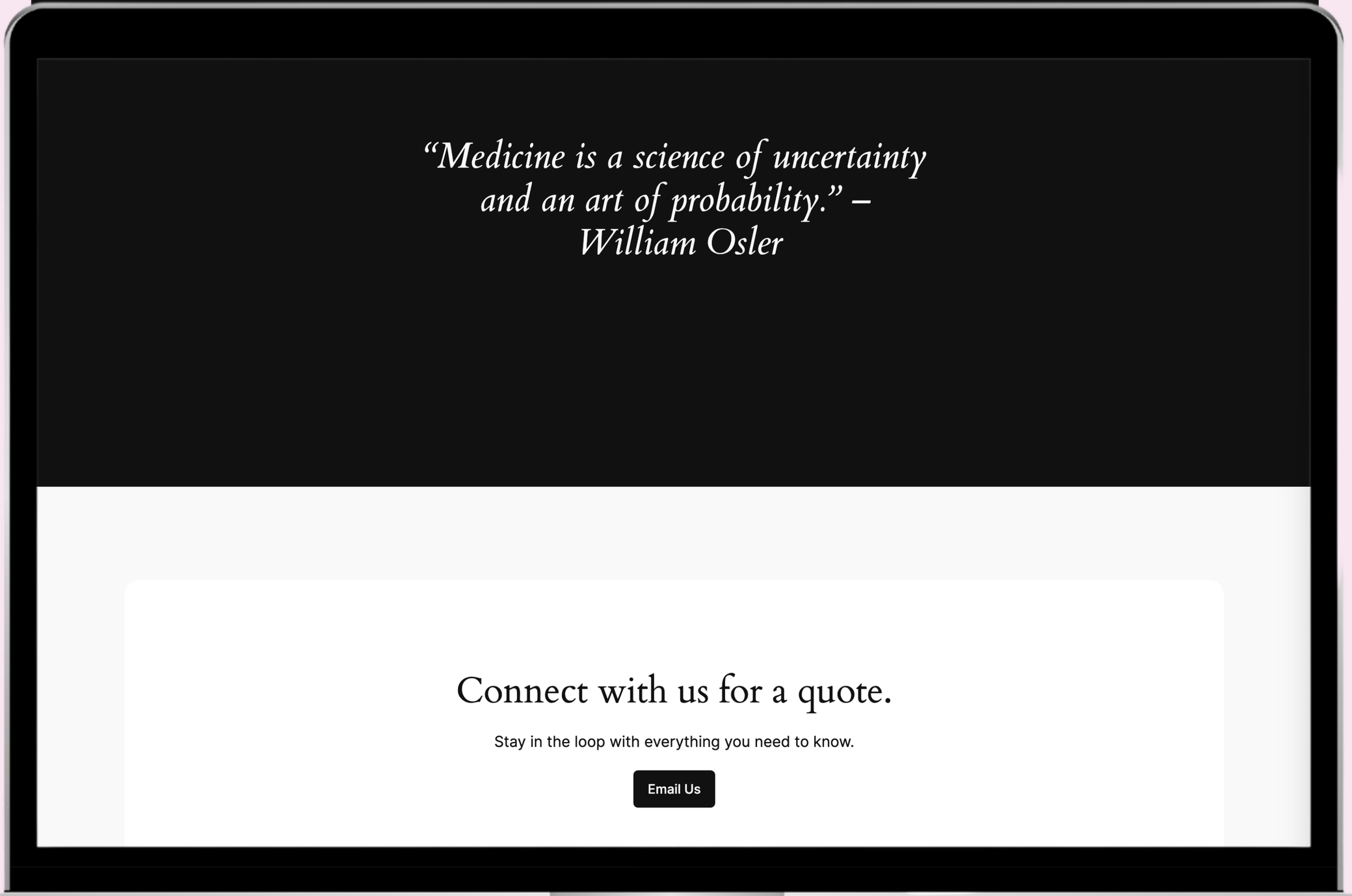
WEBSITE


"Medicine is a science of uncertainty
and an art of probability." –
William Osler
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Stay in the loop with everything you need to know.
Email Us

WIREFRAMING

Give us details about your product

NAME

Jiara Martins

NEW PRODUCT

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Sign up

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Extracts information from trustworthy sources

Builds on qualitative and quantitative metrics

Gives personalized recommendations using AI

State of the Art Models

THE LONG WAIT IS OVER

Recommendations

Get in touch with the KOL providers to promote

Learn More

KOL PROFILING

Who are the best fit ?

LEVEY, ALLAN I

Allan Levey, MD, PhD, is a professor in the Department of Neurology at Emory University's School of Medicine, as well as the director of Emory's Alzheimer's Disease Research Center. He has secondary faculty appointments in the Departments of Pharmacology, Psychiatry and Behavioral Sciences.

BETTER LIFE

NPI: 1740398494

Location: ATLANTA, GA

NET PAYMENTS
$234,047

PROJECTS
15

publications
133

RELATIVE CITATION RATE
5.58

Degree centrality
0.085

Relvance score
0.4

Impact score
0.425

Segment: Emerging Influencers

Archetype: Degree Centrality

BATEMAN, RANDALL J

Randall J. Bateman, MD, is the Charles F. and Joanne Knight Distinguished Professor of Neurology at Washington University School of Medicine, director of the Dominantly Inherited Alzheimer Network (DIAN) and director of the DIAN Trials Unit (DIAN-TU).

NET PAYMENTS
$7,527,875

BETTER LIFE

NPI: 1649296872
Location: SAINT LOUIS, MO

PROJECTS
9

publications
227

RELATIVE CITATION RATE
4.9

Relvance score
0.2

Impact score
0.362

Segment: Specialized Contributor Archetype: Niche Expert

VALIDATION AND ACCURACY ASSESSMENTS

Quality Checks to ensure legitimacy

WHAT QC CHECKS DO WE RECOMMEND?

Verify the presence of all required fields: researcher names, affiliations, publication details, and project information done via merging datasets.

Ensure comprehensive coverage of publications and projects across relevant research domains and timeframes. (We took years around 2022).

Cross-reference researcher profiles and publications across multiple databases to identify discrepancies.

Plan for periodic updates to the dataset to capture dynamic changes in research networks.

Secure necessary permissions for using proprietary or sensitive data. (We scraped only public data).

Verifying the KOL's selected via platforms like Linkedin and Google scholar.

Compare the identified KOLs with authoritative rankings and databases in the field to check for alignment.

Examine the citation impact of KOLs' publications to assess their influence in the research community. We have done this manually by extensively going through the work of the KOL's online.

Looking at the results and the model we created from a business perspective to bring value to companies/clients looking for KOL's.

WHAT ABOUT THE ACCURACY? VERITY?

REMEMBER

The details mentioned here may have errors and need slight improvements

For any changes kindly email

agarw402@purdue.edu
kurada@purdue.edu
streasu@purdue.edu

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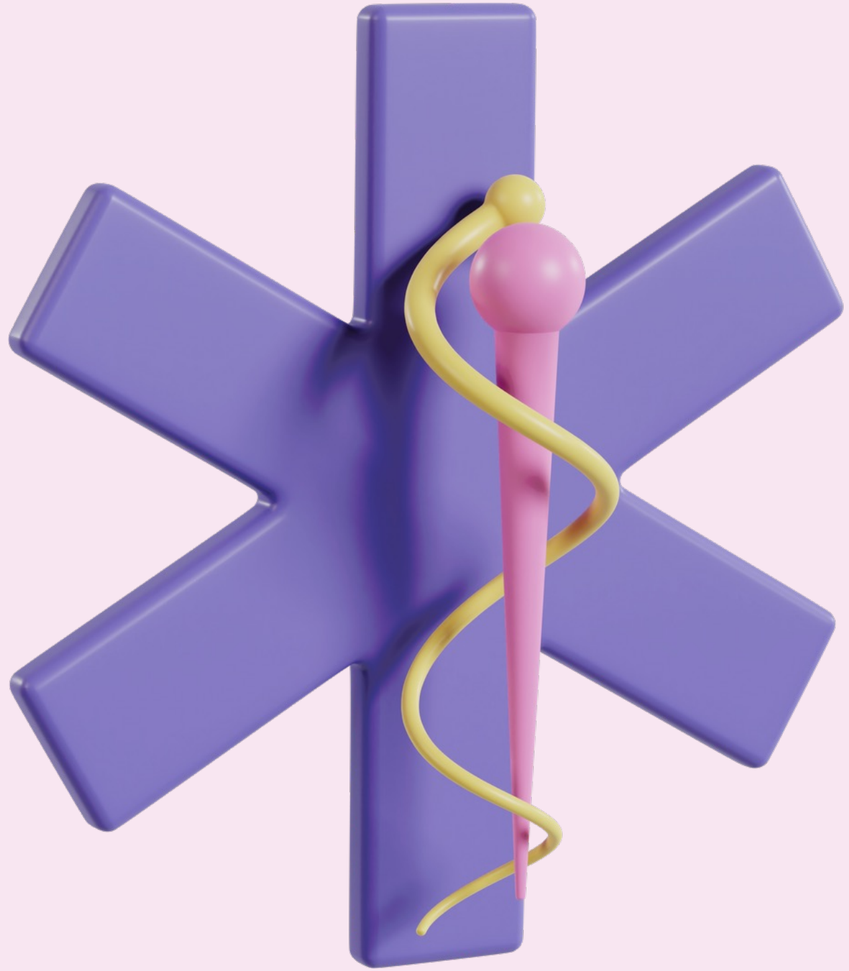
THANK YOU!

Use the QR code to explore our website and chatbot!



SOHAM

PAWAN

SIDDHANT