

Business Thinking & Organizational Structure

Data Sciences Institute
Topics in Deep Learning

Healthcare Initiatives

Healthcare Initiatives

- When brainstorming healthcare initiatives, it is important to take into account key stakeholders:
 - Patients
 - Clinicians
 - Healthcare providers
- All have pivotal roles in both the industry's overall success and the well-being of patients.

AI Center of Excellence

TODO

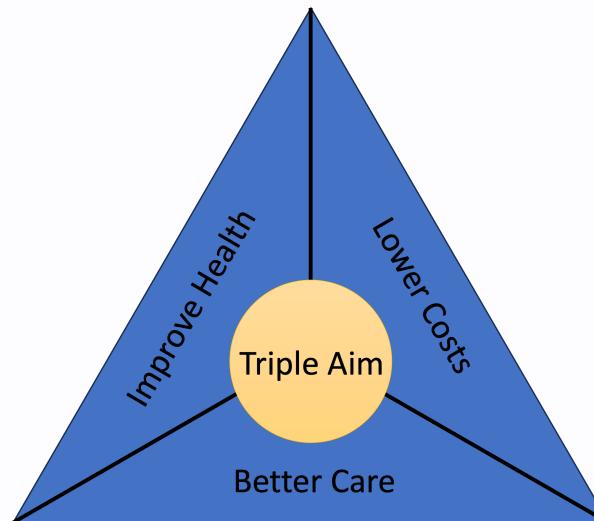
Triple Aim Framework

Triple Aim Framework

- Developed by Dr. Donald Berwick and colleagues at the Institute for Healthcare Improvement (IHI) in 2007.
- Three interconnected goals focus on enhancing healthcare systems and the overall health and well-being of populations.

Triple Aim Framework

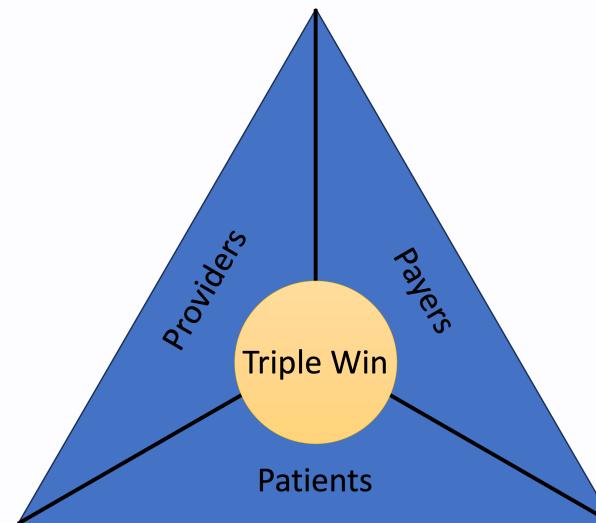
- 1. Improving Population Health:** Enhance the health of a defined population.
- 2. Enhancing Patient Experience of Care:** Improve the experience of care for individual patients.
- 3. Reducing the Per Capita Cost of Healthcare:** Reduce the overall cost of healthcare while maintaining or improving quality.



Triple Win Framework

Triple Win Framework

- When thinking about new ideas, try expanding "Triple Aim" to "Triple Win".
- You need to consider how your idea creates value for all three stakeholders: patients, clinicians, and funders.





Patient

Improve Outcomes, Improve Experience, Increase Access

1. What specific need or problem has not been addressed yet?
2. How many patients can benefit from this idea?
3. Does this idea lead to a change in their lives? Is it large- or small-scale improvements in outcomes or experiences?
4. What are the alternatives that exist now or could exist in the future to address this need or problem?

Clinician

Extend Expertise, Reduce Burnout, Advance Careers

- Which team members will be affected by this idea?
- How will their daily tasks and responsibilities be altered?
- Will the idea contribute to improved efficiency and the overall well-being of team members?
- What potential opportunities does it bring, such as the possibility of publications, educational benefits, or enhanced connections with colleagues?

Funder

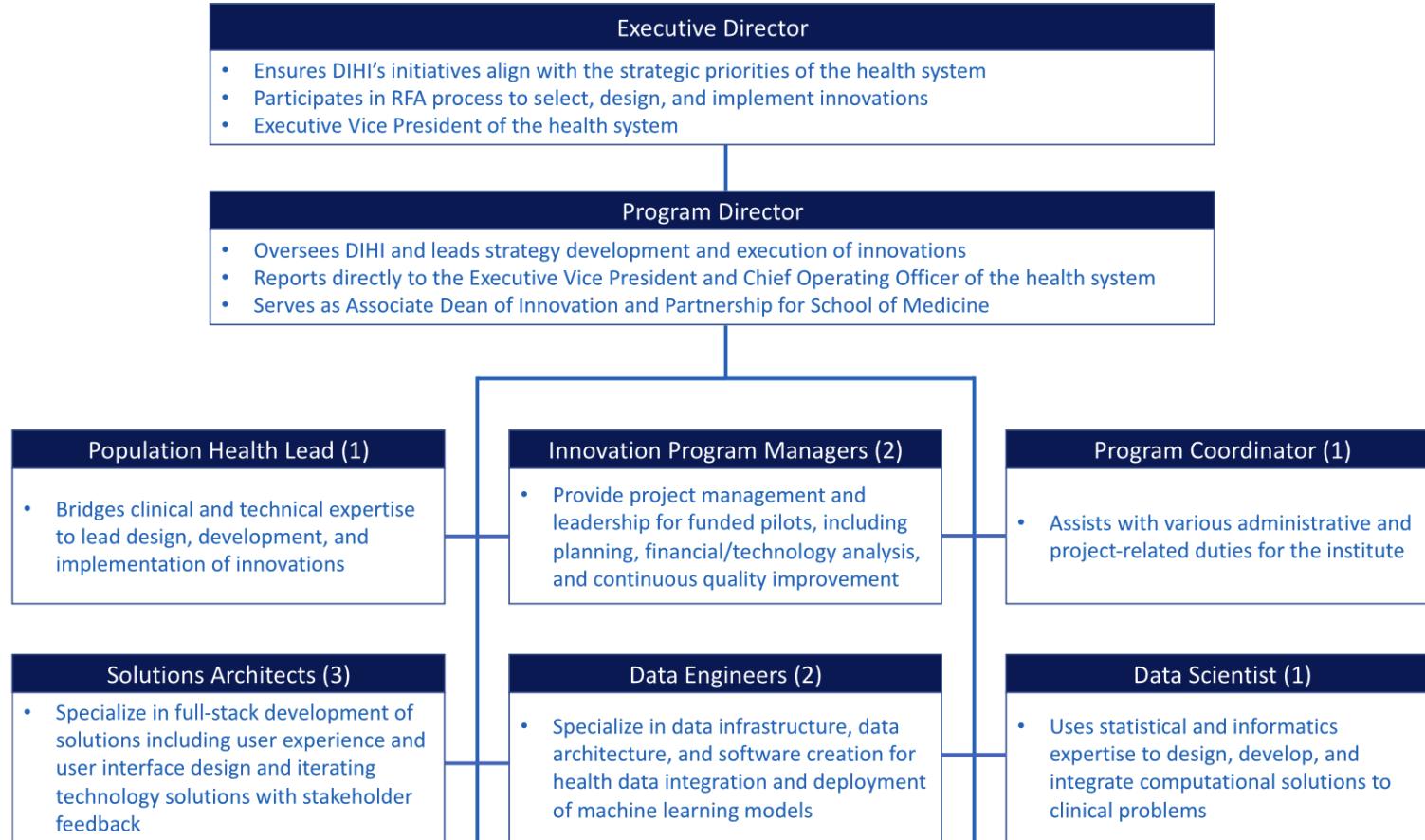
Growth, Financial Stability, Expand Reputation, Talent Retention

- How does this idea generate financial value, such as through direct reimbursement, contractual fees, or licensing revenue?
- Who pays for this, is it the patient, insurance providers, hospitals, pharmaceutical companies, or government entities?
- What is the effect of this idea on the brand or reputation of the entity involved?
- Will this idea lead to the creation of new career opportunities?

Medicine happens in buildings (usually)

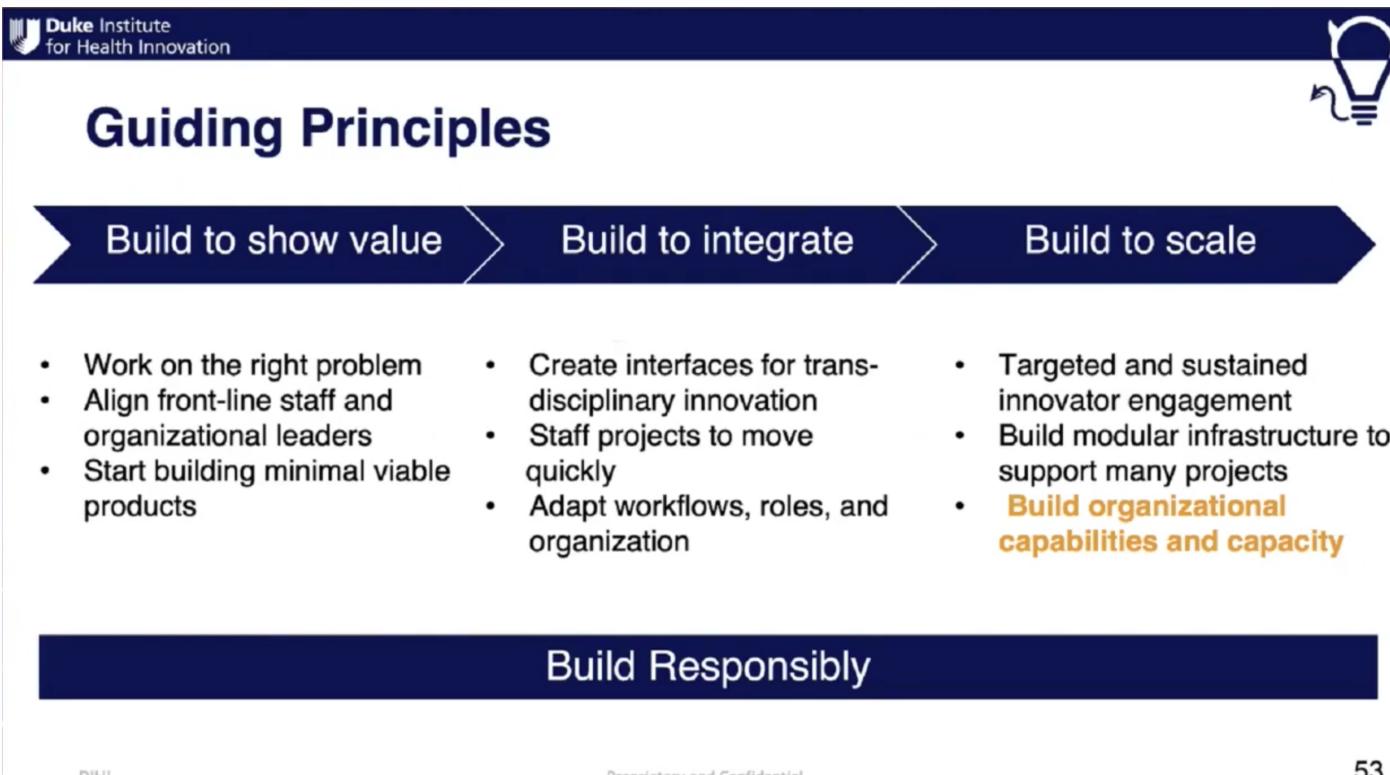


Example Org Chart



Source: Sandhu et. al (2023)

Create a sense of urgency



Source: AI in biomedical data analytics and population health

Top to bottom



Source: AI in biomedical data analytics and population health

At the top



Duke Institute
for Health Innovation

Align Front-Line Staff and Organizational Leaders *Create Synergies Between Leaders and Managers*



Management

- *Planning and Budgeting*: establishing detailed steps and timetables for achieving needed results, then allocating the resources necessary to make it happen
- *Organizing and staffing*: establishing structure for accomplishing plan requirements, staffing structure with individuals, delegating responsibility and authority for carrying out the plan
- *Controlling and problem solving*: monitor results, identify deviations from plan, solving problems

Leadership

- *Establishing direction*: developing a vision of the future – often the distant future – and strategies for producing the changes needed to achieve that vision
- *Aligning people*: communicating direction to all those whose cooperation is needed to influence the creation of teams and coalitions that understand and embrace the vision
- *Motivating and inspiring*: energizing people to overcome major political, bureaucratic, and resource barriers to change by satisfying basic, unmet needs



**“Successful transformation is 70 to 90 percent leadership
and only 10 to 30 percent management.”**

DIHI

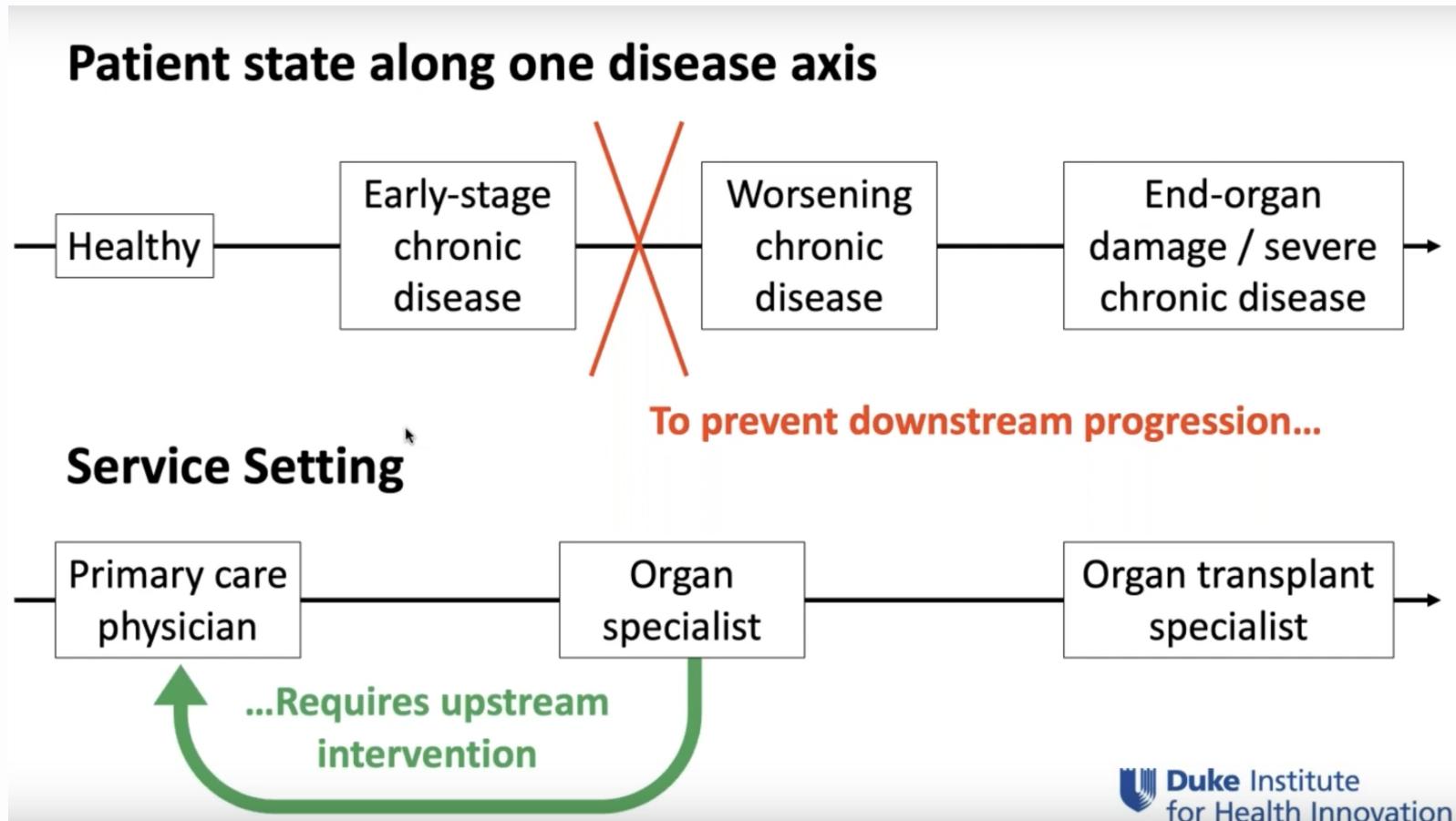
Proprietary and Confidential

John Kotter, Leading Change, 2012, pg. 27 - 28

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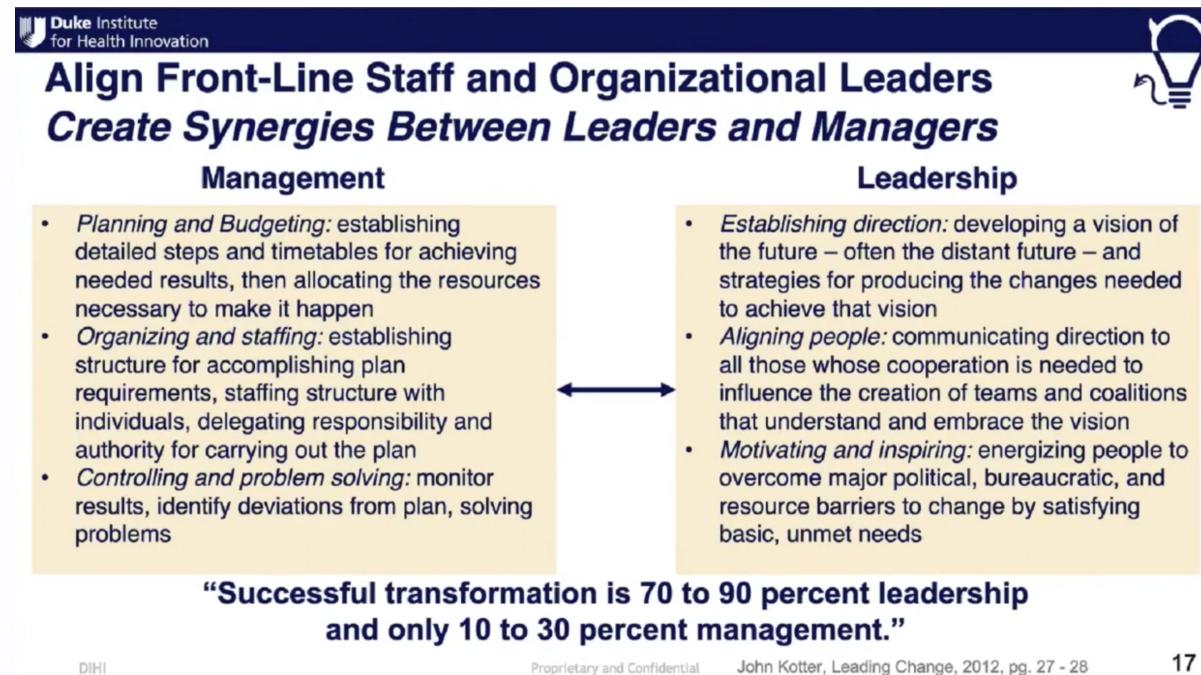
Source: AI in biomedical data analytics and population health

Example of making the alignment



Source: Increasing AI Tool Adoption by Front-Line Workers

At the top



DIHI

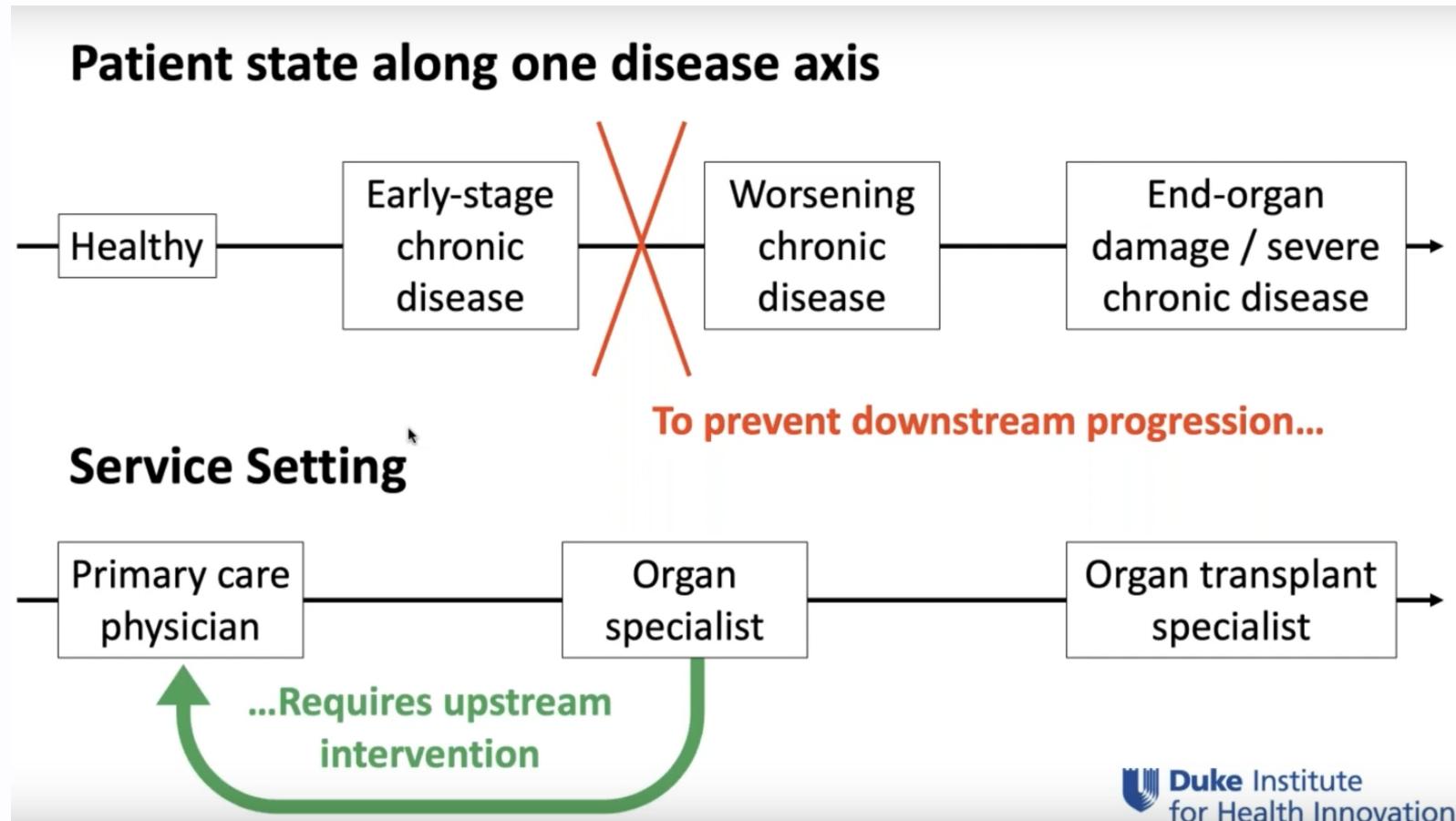
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Business Pitch

Introduction to Business Pitches

- **Definition:** A business pitch is a brief presentation by an entrepreneur to potential investors, partners, or customers, showcasing their business idea and strategy.
- **Purpose:** Designed to secure funding, partnerships, or sales.
- **Importance:** A compelling pitch can make the difference between securing support or missing out on valuable opportunities.

**Create an Outline of Your
Pitch Deck**

Why do you need an outline?

- **Clarity & Narrative:** An outline helps you create a clear and compelling narrative about:
 - The market
 - Unmet needs
 - Your strategy to meet them
- **Anticipate Questions:** Planning ahead allows you to foresee and address potential queries from investors and stakeholders.

What do you include in your outline?

1. Problem/Opportunity Identification
2. Solution & Technology
3. Market Opportunity & Size
4. Business Model & Go-to-Market Strategy
5. Competitive Landscape Analysis
6. Intellectual Property (IP) Strategy
7. The Team & Management
8. Funding Requirements & Use of Proceeds ("The Ask")

Create Your Pitch Deck

Executive Summary & Company Overview

- Provide a succinct overview that encapsulates the mission, technology origin, development stage, and funding objectives.
- Hook investors with the company's purpose, trajectory, and the unique problem it solves.
- Highlight the current development phase (e.g., preclinical, Phase 1 trials) and the investment ask.

The Team & Management

- Showcase the team's expertise, previous successes, and the strategic formation of advisory boards.
- Discuss the completeness of the team, recruitment plans for missing expertise, and key partnerships.
- Position the team's capability as a cornerstone for the project's success.

Problem/Opportunity Identification

- Clearly articulate the problem being addressed, emphasizing the pain points and the stakeholders affected.
- Detail the problem's scale, current solutions' limitations, and the opportunity for improvement.

Solution & Technology

- Describe the product's value proposition and its significance in addressing the identified need.
- Present data or evidence supporting the technology's efficacy, mechanism of action, without disclosing proprietary information.
- Ensure the explanation is investor-friendly, focusing on crucial details rather than overwhelming with technical data.

Market Opportunity & Size

- Illustrate the commercial potential, focusing on a well-defined market segment.
- Provide market size estimates, target and secondary market descriptions, and the rationale behind market choice.
- Emphasize why the timing is right for the product and how the company plans to capture market share.

Business Model & Go-to-Market Strategy

- Outline the income strategy and how the startup intends to deliver returns to investors.
- Discuss the development plan, regulatory milestones, and necessary partnerships for market entry.
- Utilize frameworks like the business model canvas to articulate a coherent strategy.

Competitive Landscape Analysis

- Identify competitors and substitutes, highlighting your product's differentiators and advantages.
- Discuss market readiness for a new solution and why current gaps have not been addressed effectively.

Intellectual Property (IP) Strategy

- Share details on patent filings, trade secrets, and the company's overall IP strategy.
- Include patentability and freedom to operate analyses, ensuring enough detail for evaluation without revealing confidential information.

Funding Requirements & Use of Proceeds ("The Ask")

- Clearly state the funding needed, outlining past funding usage and future financial planning to achieve milestones.
- Discuss potential exit strategies, giving investors a clear understanding of the return on investment.

Tips For Your Pitch Deck

Understanding Your Audience

- **Research:** Know your audience's background, interests, and investment focus.
- **Tailoring Your Message:** Customize your pitch to resonate with your audience's specific interests and concerns.

Crafting Your Message

- **Clarity and Conciseness:** Be clear and direct.
- **Storytelling:** Incorporate storytelling to connect emotionally and make your pitch memorable.
- **Visuals:** Use visuals (graphs, images, and infographics) to support your message .
- **Tips:** Keep slides clean and focused, and use bullet points.

Delivering Your Pitch

- **Confidence:** Practice your pitch to deliver it confidently.
- **Preparation:** Anticipate questions and rehearse answers.
- **Handling Questions:** Listen carefully, and answer questions directly and positively.

Common Pitfalls to Avoid

- **Overcomplication:** Keep it simple.
- **Lack of Focus:** Stay on topic and ensure each slide contributes to your overall message.
- **Ignoring Feedback:** Be open to feedback and use it to refine and improve your pitch.

Successful AI-based HC companies



flatiron

<https://flatiron.com>

Flatiron health

- Healthcare technology company specializing in cancer research and patient care.
- **Data Curation and Analysis:** Analyzes data, including EHRs, for real-world cancer care insights.
- **Software Solutions for Clinics:** Offers cloud-based oncology software to improve clinic operations and patient care.
- **Research Collaboration:** Collaborate with the life sciences sector for cancer research to accelerate therapy development.
- **Insights for Oncology Care:** Provides healthcare insights to enhance care quality, inform policy, and guide strategic planning.

"TEMPUS

<https://www.tempus.com>

Tempus Labs

- Tech company focused on precision medicine, using artificial intelligence to analyze clinical and molecular data.
- **Genomic Sequencing:** Perform genomic sequencing for targeted disease treatments.
- **Data Analytics:** Analyze clinical and molecular data for treatment insights.
- **Clinical Data Structuring:** Structure unstructured medical data.
- **Collaboration with Healthcare Research:** Collaborate with healthcare and research entities to advance personalized medicine



RECURSION
pharmaceuticals

<https://www.recursion.com>

Recursion Pharmaceuticals

- Biotech company using AI and automation for drug discovery.
- **Drug Discovery:** Use AI to rapidly identify potential drugs for a wide range of diseases.
- **High-throughput Screening:** Employ automation and robotics to perform experiments at a large scale.
- **Data-driven Insights:** Data-driven insights from biological data and machine learning to speed up pharmaceutical research.