

Cost of innovation in healthcare: *What is the Value Proposition*

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Disclosures

- NONE



Innovation and Academic Medical Centers

Innovation is critically important to all components of Academic Medical Centers mission

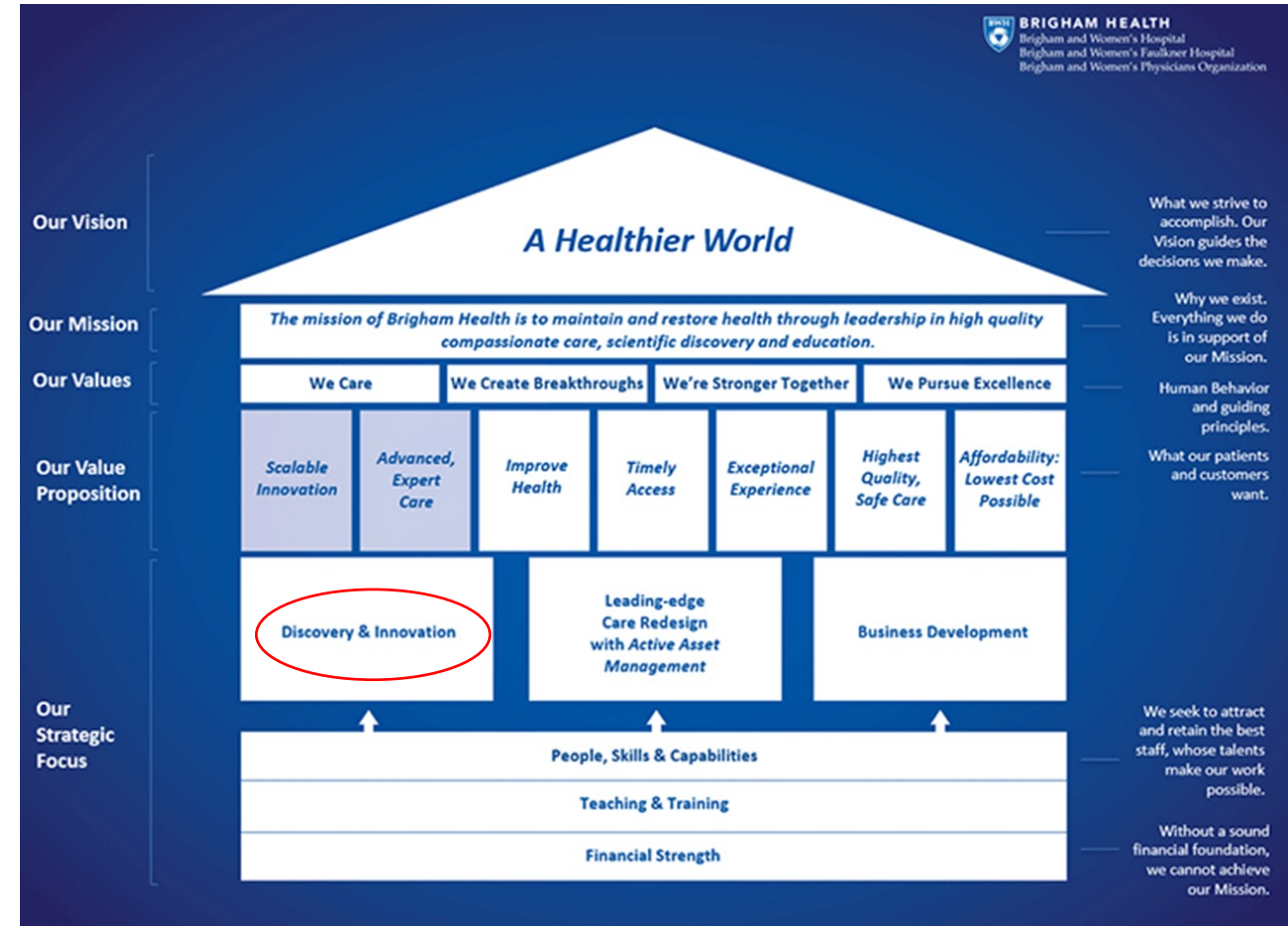
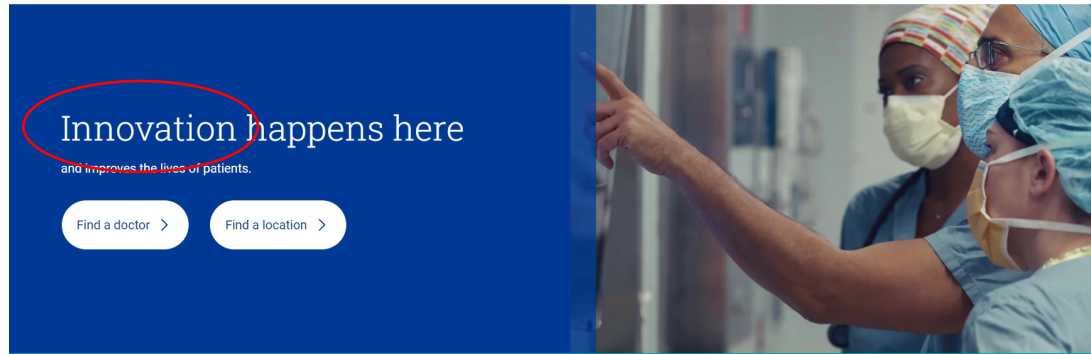
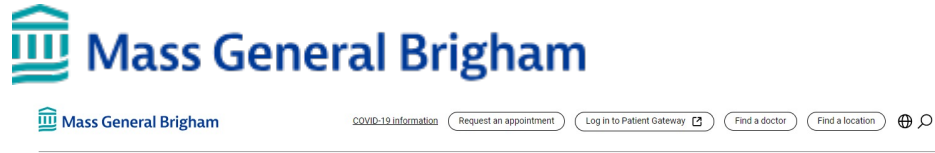
- Patient Care
- Education
- Research



Source: Sg2



Innovation and Academic Medical Centers



Mission Statement: Guided by the needs of our patients and their families, we aim to deliver the very best health care in a safe, compassionate environment; to advance that care through **innovative research** and education; and to improve the health and well-being of the diverse communities we serve.



Innovation and Academic Medical Centers



Mission Statement

As a leading academic healthcare organization, our mission is to elevate the health status of the communities we serve.

- We deliver exceptional healthcare enhanced by research and education
- We prioritize high-quality care for all with equity and compassion
- We transform biomedical discoveries and **innovations** for better health
- We educate tomorrow's physicians, nurses, researchers, and healthcare professionals

Our mission is founded in the Judaic tradition, which inspires our devotion to the art and science of healing.



A unique health system **driven to innovate**

Stanford Health Care is no ordinary health system. As part of Stanford Medicine and the larger Stanford University family, we provide care as an "academic medical center."

Being an academic medical center gives us the unique ability to combine clinical care, research programs, and teaching to advance the understanding and practice of medicine. And this means we can provide you latest innovations in care, proven in both theory and practice.

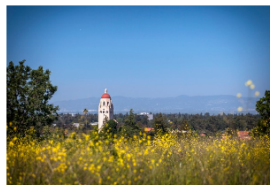
Our teams of doctors and scientists harness the resources of one of the world's leading universities—with groundbreaking programs in **medicine, bioengineering, genetics, computer science**, and other fields—to create breakthroughs in diagnosis and treatment. So no matter the services you need, you will always benefit from the latest medical thinking in **primary care** and **specialty care**, including **cancer, neuroscience, cardiology, and orthopaedics**.

Our Silicon Valley location adds to our innovation

As an academic medical center in the heart of Silicon Valley, we are perfectly positioned to attract leading medical experts, drawn to the vision and energy of the Valley's innovation corridor.

Amplifying this creative atmosphere, we enjoy partnerships with many local leaders in technology. Together, we are working to translate scientific insights into real-world solutions that can help us precisely manage your care.

As an academic medical center, we don't just deliver care, we *develop* it.



Value statements

Respect

Treat everyone in our diverse community, including patients, their families and colleagues, with dignity.

Integrity

Adhere to the highest standards of professionalism, ethics and personal responsibility, worthy of the trust our patients place in us.

Compassion

Provide the best care, treating patients and family members with sensitivity and empathy.

Healing

Inspire hope and nurture the well-being of the whole person, respecting physical, emotional and spiritual needs.

Teamwork

Value the contributions of all, blending the skills of individual staff members in unsurpassed collaboration.

Innovation

Infuse and energize the organization, enhancing the lives of those we serve, through the creative ideas and unique talents of each employee.

Excellence

Deliver the best outcomes and highest quality service through the dedicated effort of every team member.

Stewardship

Sustain and reinvest in our mission and extended communities by wisely managing our human, natural and material resources.



Funding Innovation

Typical Funding Sources for Innovation at AMCs:

- Research Grants
- Foundation / Industry partners
- Philanthropy
- Hospital/department support

Roger's Technology Adoption Life-Cycle & Moore's Chasm

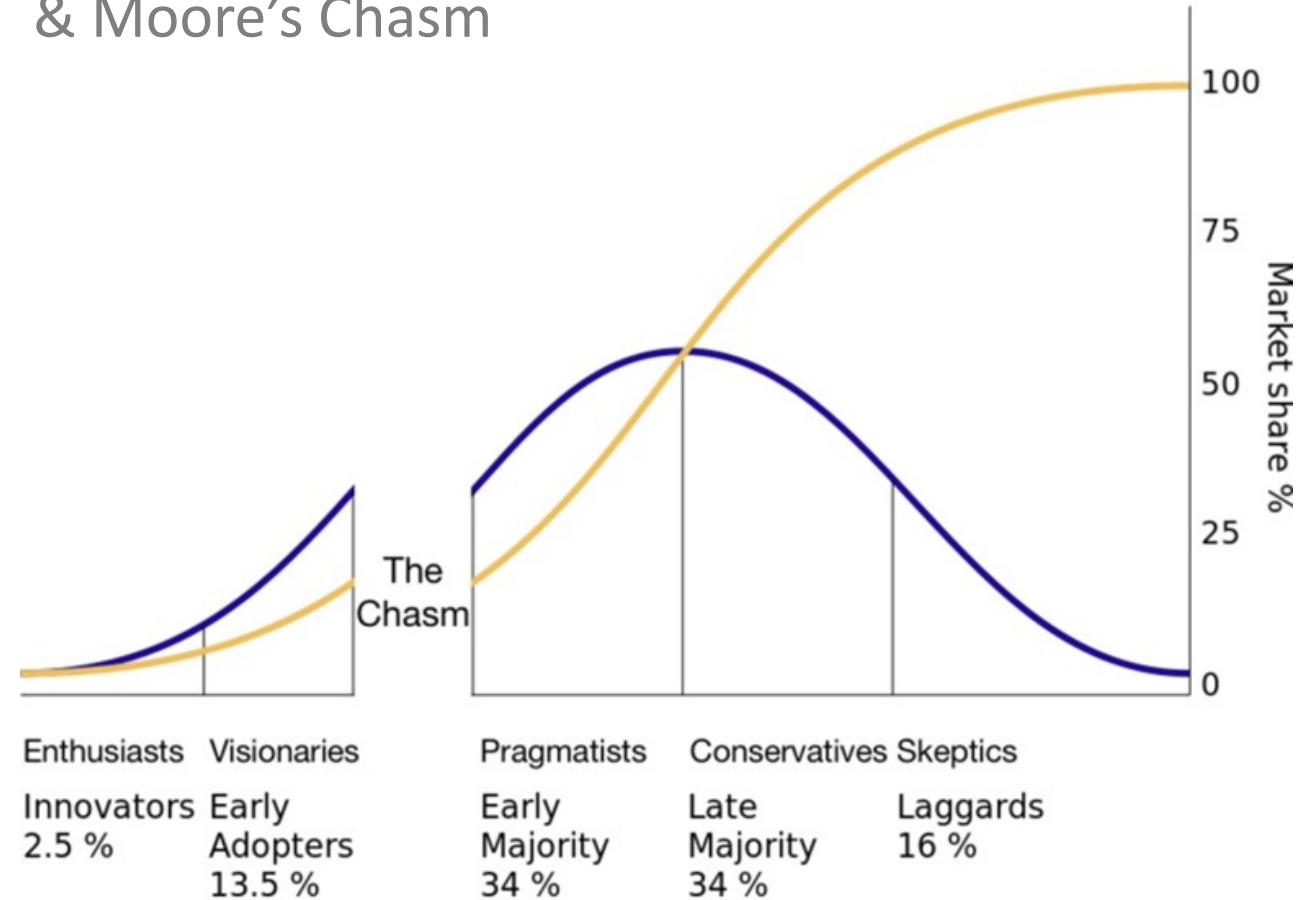


Image source: ResearchGate

Roger's Technology Life Cycle: Everett Rogers, *Diffusion of Innovation* (Rogers, 1962)

Moore's Chasm: Geoffrey Moore, *Crossing the Chasm* (Moore, 1991)



AMC Infrastructure to support Innovation – MGB Approach

Mass General Brigham Innovation

Mass General Brigham Innovation is the 150-person business development unit responsible for the worldwide commercial application of the unique capabilities and discoveries of Mass General Brigham's employees. Innovation helps researchers convert invention to innovation through business development, company creation, industry collaborations, innovation management, licensing, research translations strategy and funding, technology marketing, venture, and workforce capacity building for commercial

Mass General Brigham Ventures

Mass General Brigham Ventures is an early-stage venture capital firm that advances new life science technologies emerging from Mass General Brigham's extensive research network, the largest medical research engine in the United States. When we invest, we support our portfolio companies through their entire financing lifecycles. In addition to providing the necessary venture capital, we leverage our experience in starting and growing companies, our expertise in the medical industry, and our network of scientific and business talent to build great companies.

What is the Mass General Brigham Innovation MESH

[Explore Mass General Brigham Ventures >](#)

 Brigham and Women's Hospital
Founding Member, Mass General Brigham

Brigham Ignite

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 Mass General Brigham

Amplify

Early-stage
accelerators

[About](#) [For Innovators](#) [For Industry](#) [Venture Capital & Grants](#) [World Forum](#) [News & Highlights](#)

Amplifying innovation in healthcare

Through investment and project management, we amplify the value of commercial projects with high value potential to a stage where they commercialize.

The project

Our in-house prepared commercial attributes and that a potential

Take the first consultation.

Bridging the translation

Mass General Brigham Innovation Discovery Grants Program

Background and Purpose

The Innovation Discovery Grants (IDG) program aims to enhance the commercial outcomes of the Mass General Brigham community and increase its innovative potential. It is designed to stimulate new inventive concepts, identify areas of commercially significant scientific strength and accelerate commercialization of Mass General Brigham intellectual assets.



Costs & Benefits of Innovation

The cost of investing in innovation is highly variable, especially in the early phases.

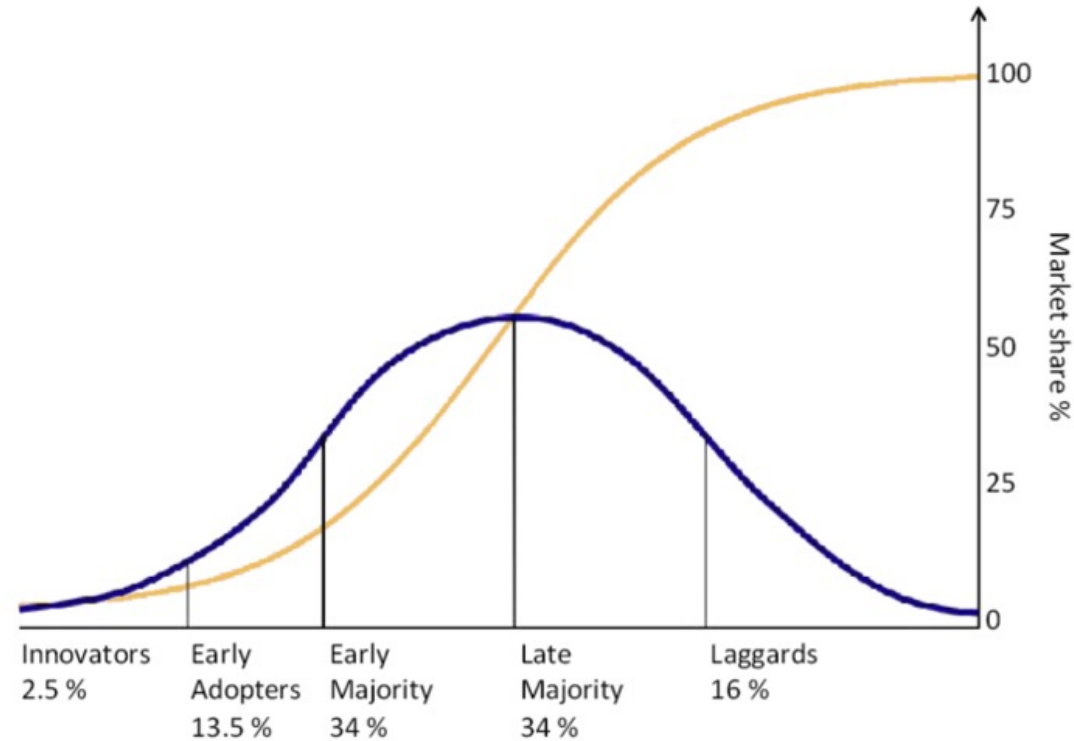


Image Source: Wikipedia
Everett M. Rogers, *Diffusion of Innovations* (Rogers, 1962)

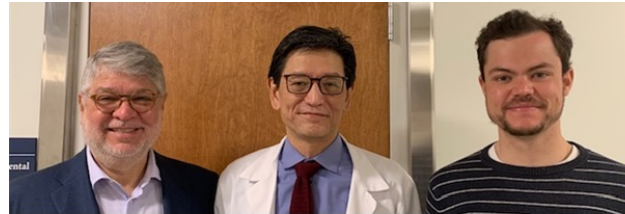


The cost of lagging in innovation adoption is also highly variable, and can impact all aspects of an AMC's mission.



MGH Transplant Tolerance

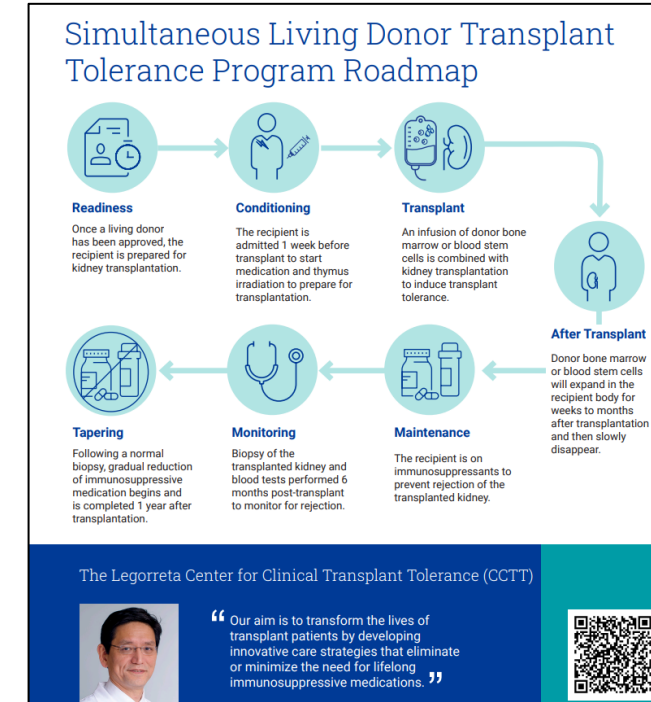
- ✓ Decades of extramural grant funding unlocking scientific discovery.
- ✓ Expansive collaborations across multiple AMCs.
- ✓ Strong partnerships with foundations and industry.
- ✓ Deep Hospital and department support.
- ✓ Transformational philanthropic gift.



Pablo Legorreta **Tatsuo Kawai** **Pablo Legorreta, Jr.**

The ***Legorreta Center for Clinical Transplant Tolerance*** at Massachusetts General Hospital is the first center in the world dedicated to establishing clinical transplant tolerance as the standard of care in transplant surgery.

Mission: To establish the science of transplant tolerance as standard of care in transplant surgery.



MGH opens first-of-its-kind center to eliminate lifelong immunosuppression after organ transplant

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[Reviewers' Notes](#)

Reviewed by [Lily Ramsey, LLM](#)

Aug 1 2023

Massachusetts General Hospital (MGH), a founding member of the Mass General Brigham health system, officially opened the Legorreta Center for Clinical Transplant Tolerance, the first-of-its-kind center in the world dedicated to preventing organ rejection after transplant surgery without the use of lifelong immunosuppressive medications. Immunosuppressive medications prevent the immune system from rejecting a transplanted organ, but come with serious side effects, increasing the chance of infections and other illnesses like cancer, diabetes, and heart disease. The mission of the Legorreta Center is to eliminate these risks by eliminating the need for lifelong immunosuppression, improving both the quality-of-life following organ transplantation while extending patient survival.



Developing a Business Plan



Building a business plan for your innovative idea

Getting Started

- Articulate your vision
- Thought Partners
 - Establish collaborations within and outside of your organization
- Political Support
 - Gain support from key stakeholders
- Funding considerations
 - Research Grants
 - Foundation / Industry partners*
 - Philanthropy*
 - Hospital/department support*

** Seek funding opportunities for your idea that have strong alignment with institution/organization/investor mission and priorities*

Developing a Business Plan

- Overview of Idea
- Market Analysis
- Competitive Analysis
- Operational / Implementation Plan
- Management and Oversight
- Financial Plan
- “The Ask”



Developing a Business Plan

1. Overview of Idea

2. Market Analysis
3. Competitive Analysis
4. Operational / Implementation Plan
5. Management and Oversight
6. Financial Plan
7. “The Ask”

- Describe the product / service
- What is the problem you are aiming to solve?
- Outline your vision and how it fits with the organization mission/vision/goals
- Value proposition



Legorreta Center for
Clinical Transplant Tolerance

Problem statement (T. Kawai, MD): “Over the last almost four decades a toxic triad of immunosuppressive medicines has remained essentially the same...causing secondary diseases and dangerous conditions, including serious infections and cancers.”

Value Proposition: To establish the science of transplant tolerance as standard of care in transplant surgery.

Donor Mission: to support continued translational research in transplant tolerance, as well as ongoing clinical trials and better treatment of transplant patients. 12



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- Team / Key Stakeholders
- Milestones & Timeline
- Specific Operational Considerations (*training, education, protocol development, etc*)
- Internal review processes (*i.e. new products in the OR*)

GB Liver Transplant Program - Project Gantt Chart

Topic Area / Task	Point Person(s)	When	Status	Completion	Comments
Management & Leadership					
Regular updates to Oversight Committee	Konique / Paul	Ongoing	On Track	Ongoing	Will moved to quarterly updates Will wait until go-live of MGB clinic at BWH (Jan) and initial issues are resolved before sending out internal and external communications. Will follow up on a phased approach: Wave 1) an internal socialization with leaders, 2) internal MGB mass communication, 3) external marketing push
Implementation of new MGB LTP Program?	Paul	2/1/2020	Completed	100%	
Scheduling bi-weekly Zoom meetings	Paul	7/3/2020	Completed	100%	
Draft Project Charter	Paul	7/7/2020	Completed	100%	
Organizational Integration					
Mission/Vision Statement Collaboration Exercise	Jim/Dan/Anna/ Leigh Anne	5/31/2021	On Track	50%	Once the entire team is hired at BWH, it would be great to have cross-institution meetings by roll group to work on building the collegial relationship for those who are new to each other.
Integrating into general meetings (DFCI Liver Tumor Board meetings)	Jim/Dan/Leigh Anne	11/30/2020	Completed	100%	BWH attending Liver Selection Committee (now via Zoom); MGH surgeon(s) attending DFCI Liver Tumor Board. Will include others as participants/meetings are brought up

Legend:
■ On Track
■ Minor Issues
■ Significant Issue
■ In Progress
■ Completed
■ Goal

Timeline: July, Aug, Sept, Oct, Nov, Dec, Jan, Feb, March, April, May



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- Organizational structure / governance
- External considerations
 - *Regulatory requirements*
- Key performance indicators and measurement plan
 - *KPIs/outcomes*
 - *Financial*
 - *Milestones/timelines*



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	One-Time	YR0	Annual	YR 1	YR 2	YR 3	YR 4	YR 5	TOTAL
REVENUE									
XXXX									
XXXX									
TOTAL REVENUE									
EXPENSES									
STAFF (SALARY + BENEFITS)									
XXXX									
XXXX									
XXXX									
XXXX									
SUBTOTAL STAFF EXPENSES									
NON-STAFF EXPENSES									
XXXX									
XXXX									
XXXX									
SUBTOTAL NON-STAFF EXPENSES									
PERCENTAGE-BASED EXPENSES									
XXXX									
XXXX									
XXXX									
XXXX									
SUBTOTAL PERCENTAGE-BASED EXPENSES									
TOTAL EXPENSE									
NET MARGIN (LOSS)									
OTHER INCOME SOURCES									
XXXX									
XXXX									
XXXX									
XXXX									
XXXX									
TOTAL OTHER INCOME									
ADJUSTED MARGIN (LOSS)									
NOTES/ASSUMPTIONS:									



Developing a Business Plan

1. Overview of Idea
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Implementation Plan
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6. Financial Plan

7. “The Ask”

- Summarize the needs
 - *Financial support*
 - *Political support*
- Reinforce the value proposition and how it will advance the organization/institution’s mission/goals/priorities.



What is the Value Proposition of Innovation at AMCs?

Innovation is part of the fabric of AMCs – it is invaluable and positively impacts:

- *Patient Care*
- *Research*
- *Education*
- *Financial Performance*
- *Market Share*
- *Reputation*
- *Recruitment*
- *Retention*



The Michael Porter Value Equation

$$\text{Value} = \frac{\text{Health outcomes that matter to patients}}{\text{Costs of delivering these outcomes}}$$

Porter ME, Teisberg EO. Redefining health care: creating value-based competition on results. Boston: Harvard Business School Press, 2006.



Questions / Comments





Mass General Brigham