



Michael G. DeGroote
SCHOOL OF MEDICINE

DEFINE DESIGN ACTIVATE

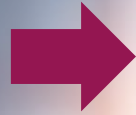
MICHAEL G. DEGROOTE HEALTH INNOVATION,
COMMERCIALIZATION & ENTREPRENEURSHIP PROGRAMMING



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193

Disclosures
2012-17



218

Patent
Applications
2012-17



14

Patents
Issued
2012-17

702

Licenses / Copyright
2012-17

15

Start-ups with FHS
Founders

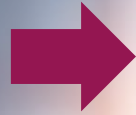
We have many health innovation **success stories**

We have many health innovation success stories



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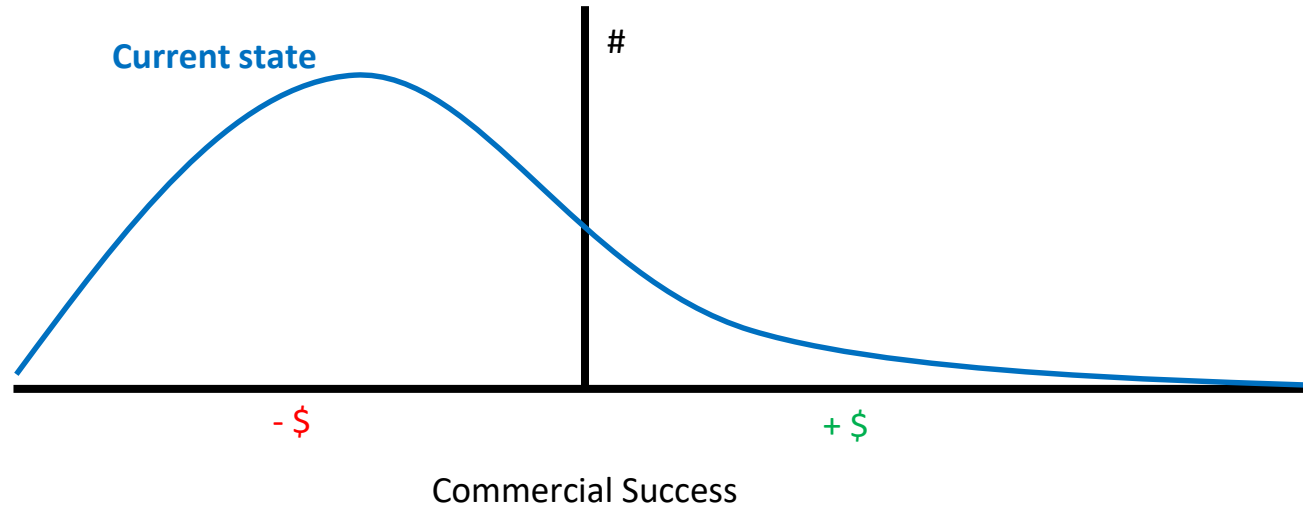
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Licenses / Copyright
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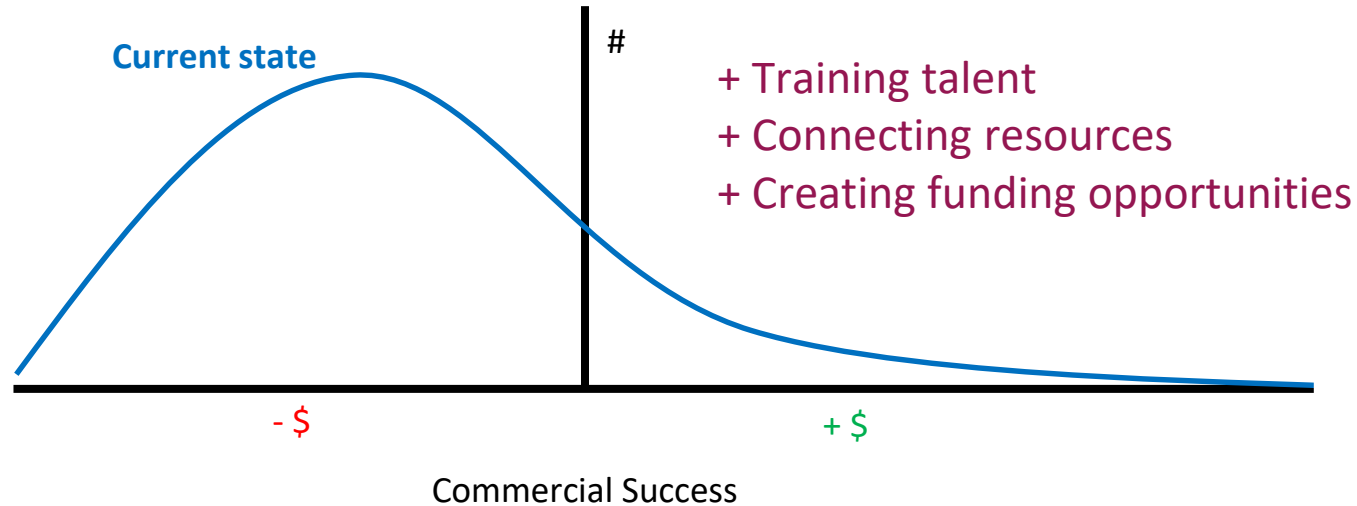
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Start-ups with FHS
Founders

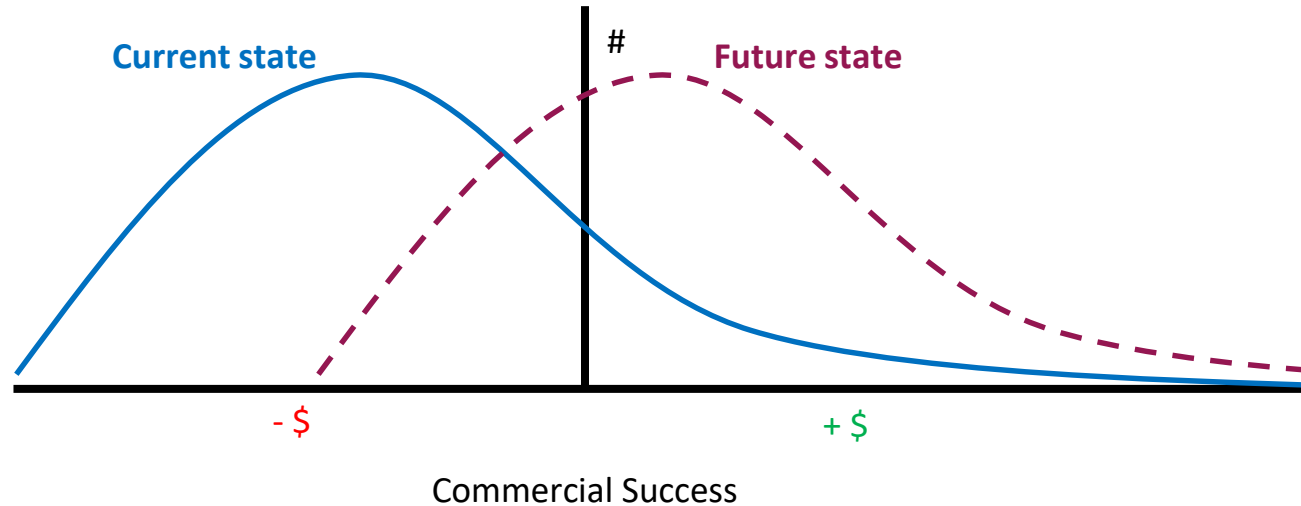
Fortuitous circumstances yield success for some



Can we build capacity - distributed networks...



..to increase $p(\text{commercialization success})$?



A scientist in a white lab coat is shown from the chest up, reaching out with their right hand towards a glowing, complex molecular model. The model consists of various spheres (some metallic, some faceted) connected by thin lines, set against a dark blue background with a bright light source. The word "APPROACH" is overlaid in white capital letters on a semi-transparent dark grey rectangular box in the center of the image.

APPROACH

Health innovation categories (Part 1 of 2)



THERAPEUTICS

Agents used to prevent or alleviate a disease or condition.
e.g. small molecule drug, vaccine, treatment regimen



MEDICAL DEVICES

Instruments used in the treatment, mitigation, diagnosis, or prevention of a disease or condition.
e.g. implants, surgical tools, health monitors



DIAGNOSTICS (includes biosensors)

A device or technique used in medical assessment or diagnosis. Diagnostic devices often include a **biosensor**: A technology capable of detecting or measuring a biological molecule or substance of interest.
e.g. biopsy, home pregnancy test, blood glucose monitor

Health innovation categories (Part 2 of 2)



DATA SCIENCES Solutions for collecting, storing, or interpreting information for a specific purpose.
e.g. genetic information database, clinical data registry, AI/ML applications



RESEARCH TOOLS Encompasses reagents, animal models, methods, or other tools used to conduct research.
e.g. CRISPR, antibodies, PCR, drug screening platform



HEALTH SYSTEM INNOVATIONS A wide range of offerings that augment the delivery of healthcare (e.g. faster, better quality, lower cost, ease of use).
e.g. policies, programs, services, institutional structures, Local Health Integration Network (LHIN) Act, Fast Healthcare Interoperability Resources (FHIR) for electronic medical info

Capture **curiosity**: inspiration by example



PROFILE
INNOVATORS

THERAPEUTICS & DELIVERY SYSTEMS

e.g. John Valliant, Heather Sheardown, Sheila Singh

DATA SCIENCES

e.g. Nathan Magarvey, Andrew McArthur

MEDICAL DEVICES

e.g. Leyla Soleymani, Boyang Zhang

Graduate/Medical Students

Enable **ambition**: building relevant skill sets



PROFILE
INNOVATORS

WORKSHOPS
BOOTCAMPS
ONLINE

LEARN HOW TO

1. Validate a health challenge
2. Understand problem context
3. Build a market research report
4. Build and test a prototype
5. Build an interdisciplinary team
6. Develop an IP and regulatory strategy
7. Create a go-to-market strategy
8. Raise capital and find partners

Identify **opportunity**: skill application



PROFILE
INNOVATORS

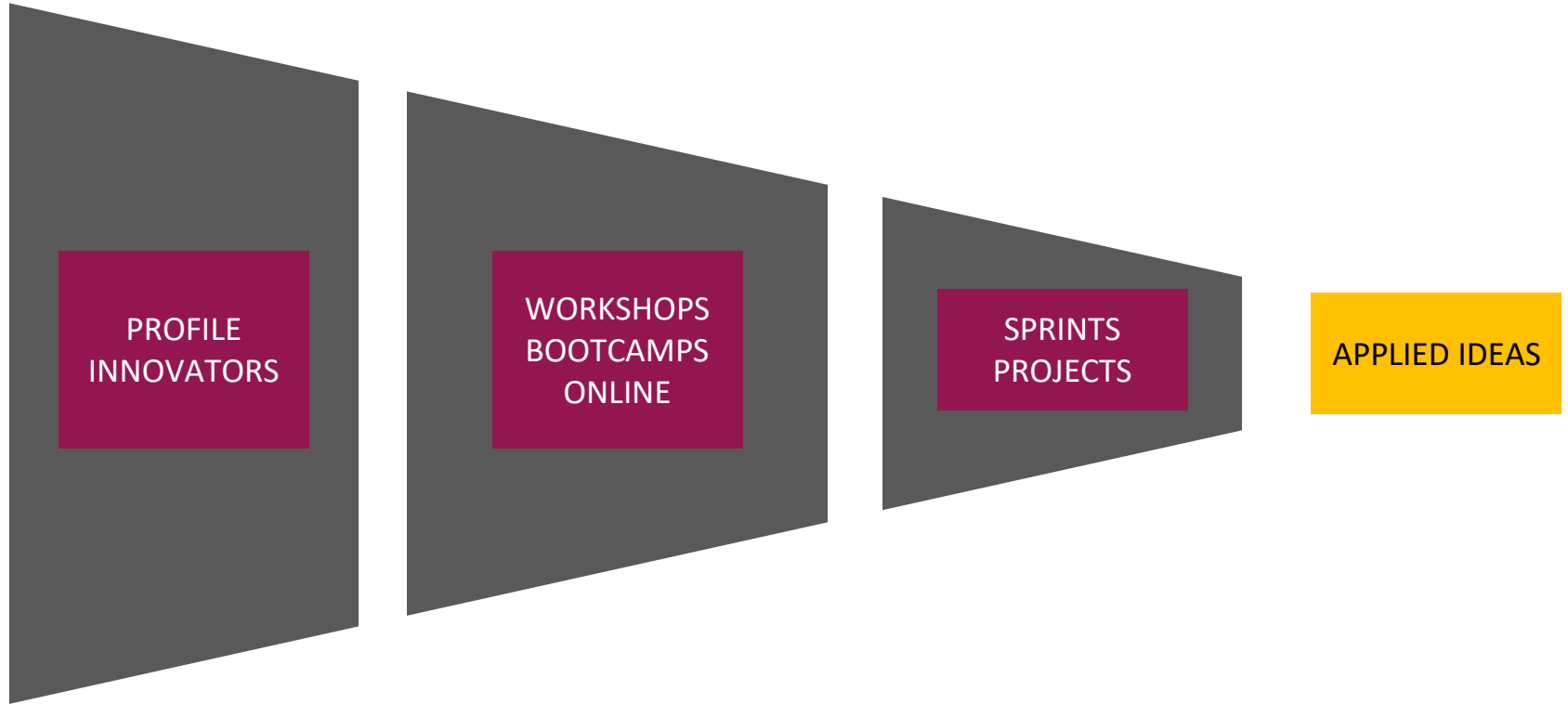
WORKSHOPS
BOOTCAMPS
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COMPETITION
PROJECTS

ACTIVATE IDEAS

1. Innovation Sprint
2. Venture Sprint

Generate **value**: economic and social impact



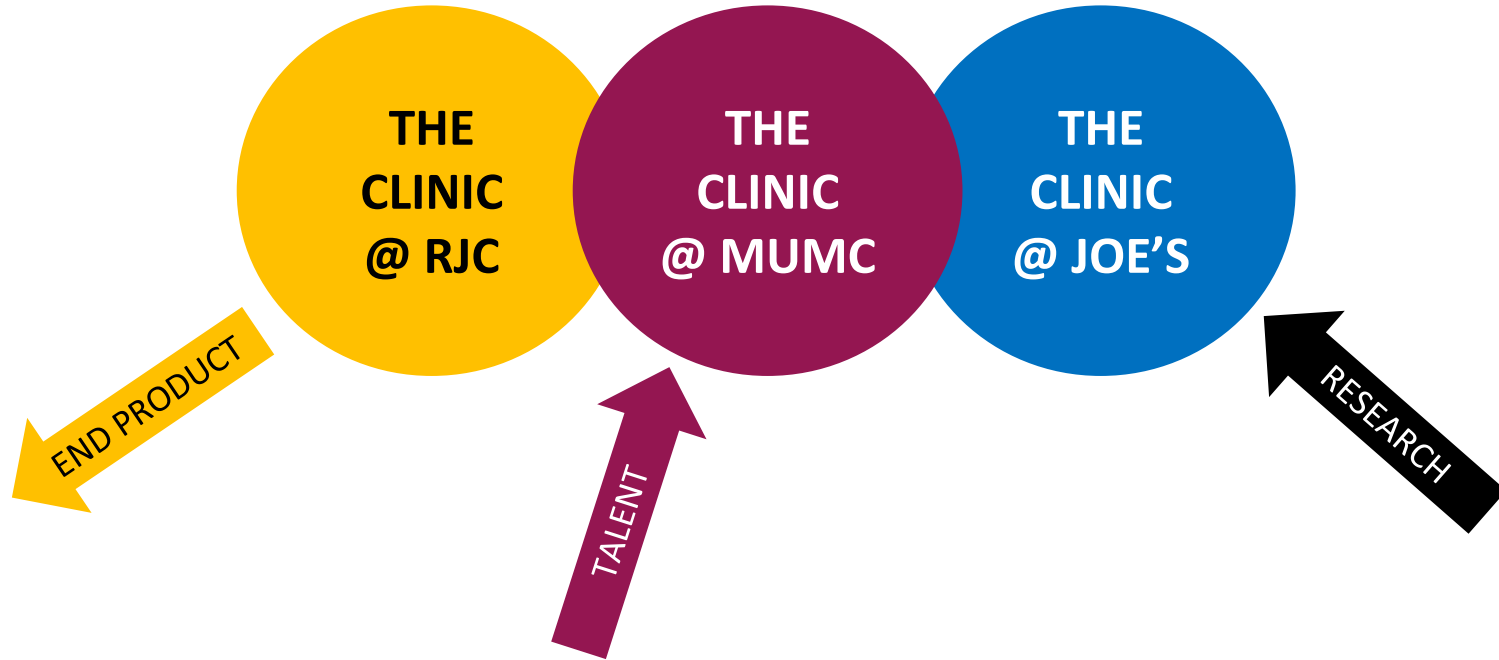


THE CLINIC

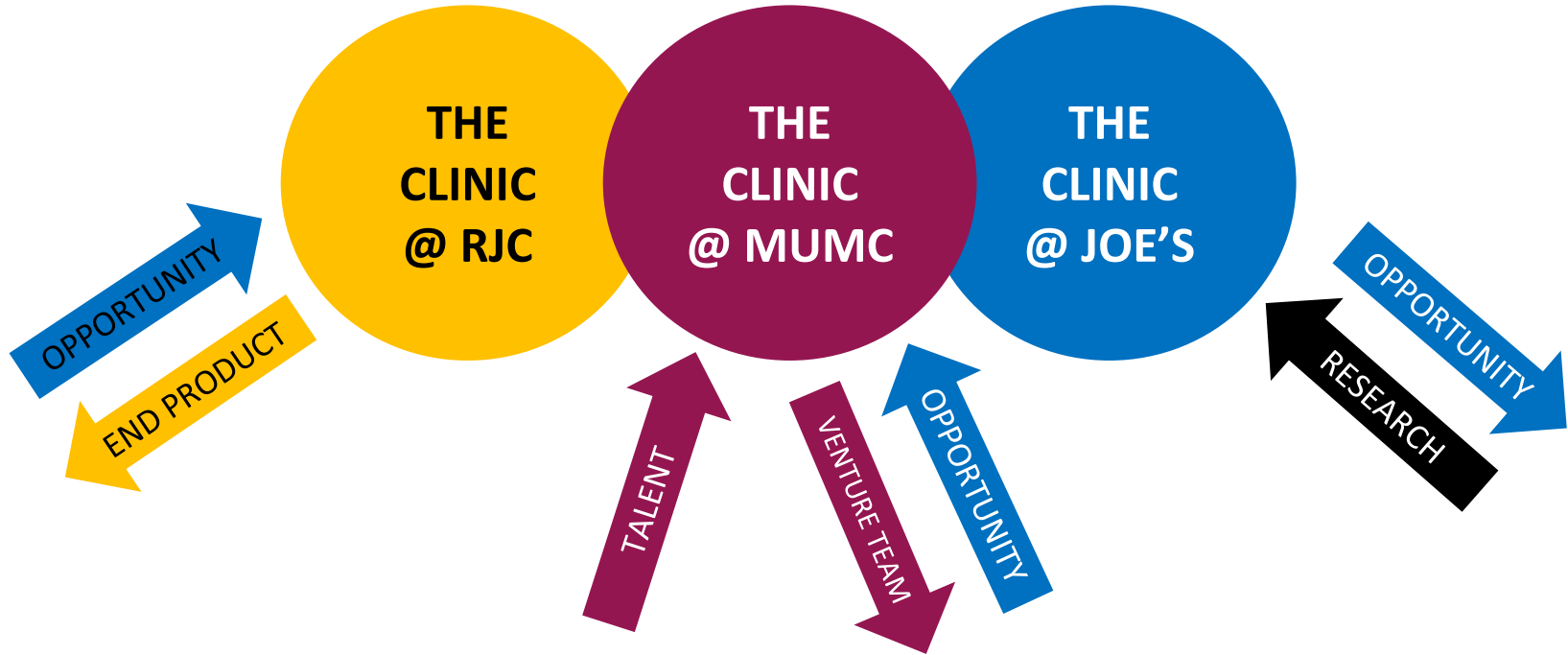
Physical locations for interdisciplinary work



Leverage natural assets



Leverage natural assets and link them



Assessing projects for opportunity

INPUT	OUTPUT
New proof-of-concept technology (e.g. device) <ul style="list-style-type: none">• Functional parameters, constraints	<ul style="list-style-type: none">• Identify potential clinical applications• Validate utility of technology for intended purpose• Market research and patent search report
Technology with intended use (e.g. therapeutic) <ul style="list-style-type: none">• Functional parameters, constraints	<ul style="list-style-type: none">• Validate utility of technology for intended purpose• Market research and patent search report• Industry and university collaborators• Go-to-market strategy• Team creation
Clinical challenge <ul style="list-style-type: none">• Pain point identification	<ul style="list-style-type: none">• Environmental scan of solution landscape• Optimized solution and implementation plan development (go-to-market strategy, as applicable)• Team creation
Patent(s) with novel inventions <ul style="list-style-type: none">• With or without a clinical application	<ul style="list-style-type: none">• Varies on stage; elements of the above

To have even more innovation **success stories**





MGDI

Health Innovation, Commercialization & Entrepreneurship Programming

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