

SHI Consulting
LIFE-SCIENCE CONSULTING

Northern Health Research Conference
Translational Clinical Research

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President of SHI Consulting
June 2006

Agenda

- Introduction
- Translational research
- Case study of a distributed translational research network
- Highlighting one benefit: commercialization
- Northern Ontario: what does the future hold?

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About SHI

SHI is a globally recognized management strategy consultancy specializing in innovation-driven life sciences.

Highlights of Our Achievements

- ▶ Completion of 300 life science assignments for over 150 clients in North America, Europe and Asia-Pacific over the past 6 years.
- ▶ Development of business cases and implementation plans that have helped raise close to \$300 million in financing from private- and public-sector.
- ▶ Creation and/or facilitation of more than 40 public-private partnerships in biomedical research, infrastructure development and global health.
- ▶ Interaction with global thought leaders and decision-makers across the life sciences space.
- ▶ Creation and interim management of life sciences companies, multi-stakeholder partnerships and international consortia.
- ▶ Increasing presence in big pharma, having worked with 5 of the world's top 10 pharmaceutical companies.
- ▶ Global presence in life sciences economic development/capacity-building, including a successful engagement in Mexico, Brazil & Asia.

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Definitions

Basic Research

Fundamental approaches to understand how systems work using specific models ranging from single cell to animal organisms.

Clinical Research

Research focused on human subjects or materials, specimens, or data derived from human subjects or populations with both clearly defined relevance and outcomes to human populations.

Population Research

Approaches to understand whole community health dynamics and impact of care delivery.

Translational Research

At the interface of basic, clinical and population research. This research enables the *bi-directional* flow of information.

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Research paradigm

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Translational Research

Integrating clinical practice and research

Patient-Centred Translational Research

Long-term Vision
Every patient encounter represents an opportunity to collect data, extract knowledge and apply insight.

Implications
Data-centric
Transformative
Infrastructure-enabled

What are the opportunities?
How to respond?
How will this benefit Northern Ontarians?

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Translational Research

The value proposition for academic centres and research hospitals

1 Excellence in Care
A commitment to translational and clinical research is the foundation of evidence-based medicine and clinical innovation. Hospitals that couple research with clinical delivery establish the standard of patient-centred medicine.

2 Reputation
As healthcare organizations compete for scarcer resources—and as communities demand heightened accountability from the hospitals that serve them—clinical innovation has emerged as a crucial differentiator.

3 People
Quality of care is a reflection of talent, which is becoming increasingly difficult both to recruit and retain. Hospitals that emphasize a research, learning and service mandate establish the culture of excellence that attracts the best and brightest.

4 Sustainability
Capacity to validate knowledge is a key driver of innovative economies, and hospitals therefore play a key role in the innovation agenda. Hospitals' response to this imperative will determine their ability to secure government, industry & community resources.

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Translational Research

Contributing factors to the global demand

- **Basic Science.** Breakthroughs in basic biomedical science over the past few decades have generated huge expanse of basic knowledge without the proportionate advances in human health
- **Rising Costs.** All aspects of healthcare costs are rapidly increasing. This coupled with longer waiting times creates demand for ensuring care is delivered efficiently
- **Care delivery** New focus on delivering care in the community instead of tertiary hospitals which are costly and not present in all markets
- **Over Capacity** Due to huge patient demand and insufficient investigators required for clinical research, groups are looking beyond major centres to fill the gaps

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Translational Research

Examples of Funding Institutions

Federal	
Provincial	
Non-profits	
Industry	

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Translational Research

Funding translational research in Canada has become a priority

CFI, CIHR and the provinces are working together on the largest translational clinical research funding initiative in 30 years.

- **~\$100-million Clinical Research Initiative**
Establishment of networked centres of clinical research excellence uniting all major hospitals in a given region.
- **~\$350-million Large-scale Institutional Endeavour Initiative**
Individual healthcare centres pursuing high-profile initiatives in translational research.

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Translational Research

Summary

- Critical evolution of the research to clinic paradigm
- Excellence in translational research, clinical care, population health are mutually dependant
- Strong global demand
- Future funding for infrastructure and personnel looks very strong

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Translational Research

Who can participate

- Strong global demand
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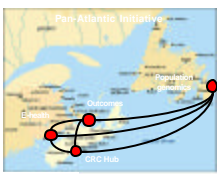
Can rural communities compete in this new translational research world?

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Case study of a distributed translational research network

Regional Profile

- Low population density
- Rural and remote communities
- Stable populations with limited migration
- High chronic and occupational disease burden
- Resource-intensive industry
- Constrained health resources
- Polarized research needs and experience between communities




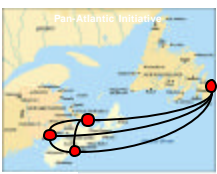
Regional Clinical Research Network



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Case study of a distributed translational research network





Recognizing need and unique opportunity for inter-provincial health research collaboration that leverages the region's living laboratory.

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Case study of a distributed translational research network

AC4R

The principles of AC4R's vision for its research programme are:

Health System Focus

Regional Relevance

Patient Centricity

- Understanding the Biological Determinants and Mechanisms of Disease
- Optimizing Hospital Intervention and the Continuum of Care for Chronic and Occupational Diseases
- Improving Health Services for Specific Populations
- Advancing Best Practices

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Case study of a distributed translational research network

AC4R

How will this be accomplished?

Processes

- Standardization across region
 - Ethics review
 - SOPs
- Data management

Infrastructure

- Build common resources such as:
 - Communications
 - Clinical trials
 - Pathology

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Case study of a distributed translational research network

ACR Provides benefit to many pillars within the community

Translational Research	Excellence in patient centered population research Knowledge translation to other remote areas Foster interdisciplinary research
Clinical Practice	Improves evidence based clinical medicine Enhancement of best practices Improve chronic disease management
Education and Training	Further research skills training Create an interdisciplinary training environment Opportunities for continuous professional development
Economic and Social Development	Attract and retain health professionals Communicate and create an industry-accessible environment Increase quality of life

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Case study of a distributed translational research network

Summary

- Communities outside of major centres recognize the opportunities translational research offer
- Institutions are removing provincial and geographic barriers through new infrastructure and targeted programs
- Translational research provides research, training, health delivery, social and economic benefits

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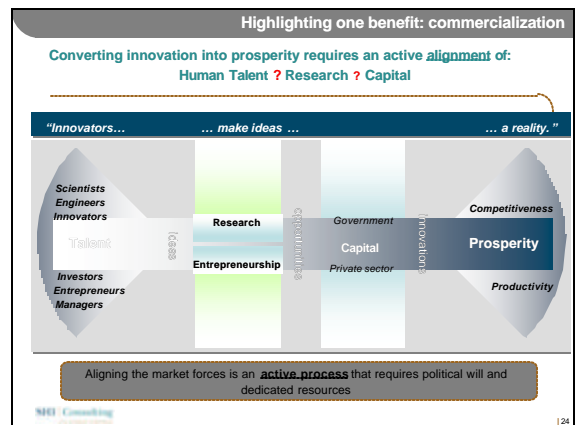
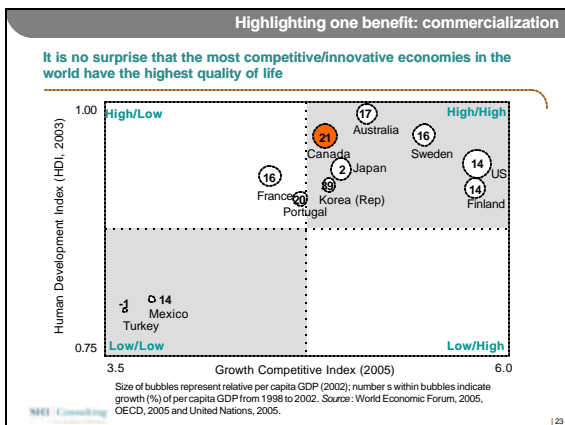
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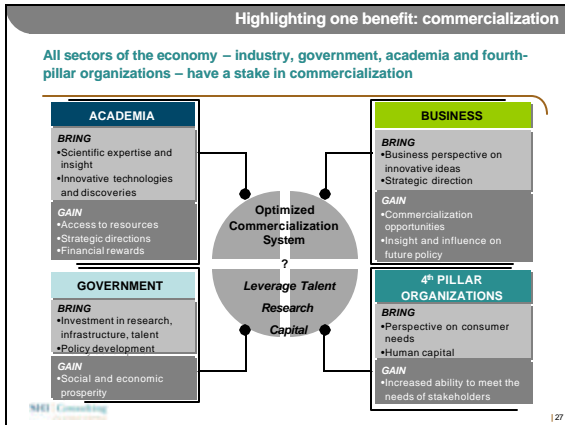
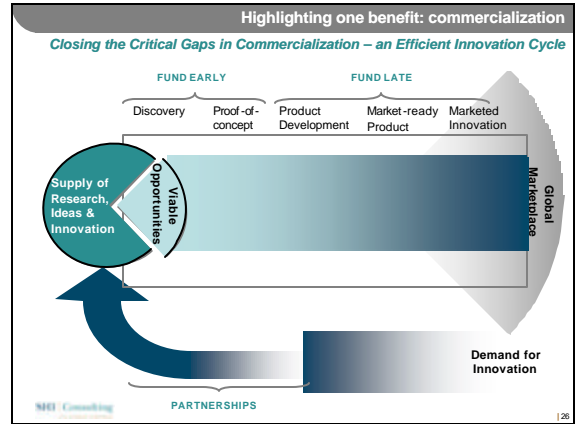
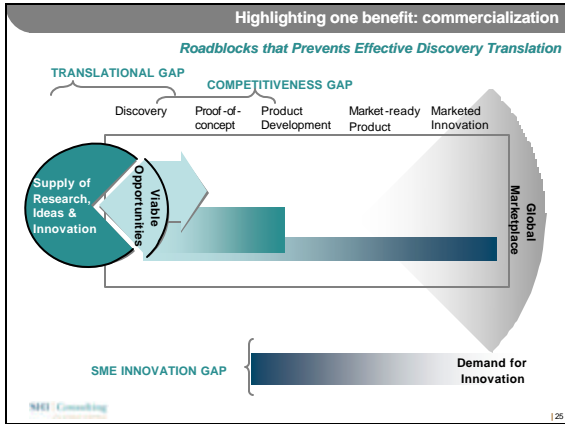
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- Highlighting one benefit: commercialization
- Summary
- Strong correlation between innovation and quality of life
 - Converting innovation into prosperity is an active process
 - All stages require support for realization of success
 - Involvement of all sectors required to drive economic output
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 - Constrained health resources
 - Polarized research needs and experience between communities
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Northern Ontario: what does the future hold?

Demand

- High disease incidence not being treated ie. CVD
- Care delivery for dispersed non urban populations
- Limited tertiary medical centres
- Health issues specific to resource based industries

Can Northern Ontario respond to meet local & national demand for translational research

Advantages

- Dispersed medical school
- Unique patient populations
- Community medicine
- Strong electronic infrastructure
- Healthcare is the second biggest employer

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Northern Ontario: what does the future hold?


What do you want to achieve?

- Translational Research ✓
- Clinical Practice ✓
- Education and Training ✓
- Economic and Social Development ✓

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Northern Ontario: what does the future hold?

Why can't Northern Ontario do the same...




Distinguishing feature
A hospital research platform that spans Northern Ontario

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Northern Ontario: what does the future hold?

....Or link together other remote and non-urban communities.



Distinguishing feature
A hospital research platform that spans more than 90% of Canada's land mass!

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Translational research summary

- Strong global demand for translational research
- Increasing number of funding opportunities
- Significant benefits to the community including health, social and economic
- Dispersed communities are seizing the prospect of significantly participating in translational research
- Great opportunities for Northern Ontario

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