Sustaining Innovative Practice Together:
A Research to Practice (R2P) Approach

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Brought to you by the Research to Practice (R2P) Team

Core R2P Team

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Western PT

Parkwood Institute ABI & SCI In- and Out-patient programs

Keep going.
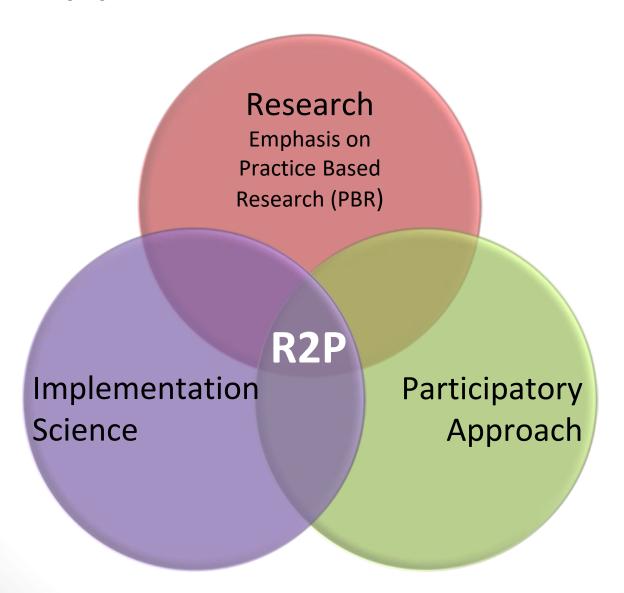You are stronger than you think.

R2P Mission

To **integrate** research and clinical activities through the development of a collaborative, team and practice-based research approach to:

- Enhance clinical practice and improve patient and health system outcomes

- Lead and inform the field in priority areas

R2P Approach

Origin

Spinal Cord Injury Knowledge Mobilization Network:

- National community of practice: 7 rehabilitation centres and two sponsors

- **Mission**: Implement best practices to improve outcomes for persons with spinal cord injury (SCI)

- **Key objective**: Build implementation expertise and capacity across participating centres to facilitate sustainable implementation within and beyond SCI

Spinal Cord Injury Knowledge Mobilization Network

Toronto Rehabilitation Institute — UHN

St Joseph's Health Care London

Centre intégré universitaire de santé et de services sociaux du Centre-Sud-de-l'Île-de-Montréal — Québec
Institut de réadaptation Gingras-Lindsay-de-Montréal

Centre intégré universitaire de santé et de services sociaux de la Capitale-Nationale — Québec
Institut de réadaptation en déficience physique de Québec

Ontario Neurotrauma Foundation
Fondation ontarienne de neurotraumatologie

Rick Hansen Institute
Institut Rick Hansen

Glenrose Rehabilitation Hospital - Edmonton

Alberta Health Services

Foothills Medical Centre - Calgary

Centre de réadaptation STAN CASSIDY Centre for Rehabilitation
Towards Independence / Vers l'autonomie

SPINAL CORD INJURY Knowledge Mobilization Network

Key Learnings from KMN

A standardized approach to implementation **enables sustainability** (i.e., implementation science)
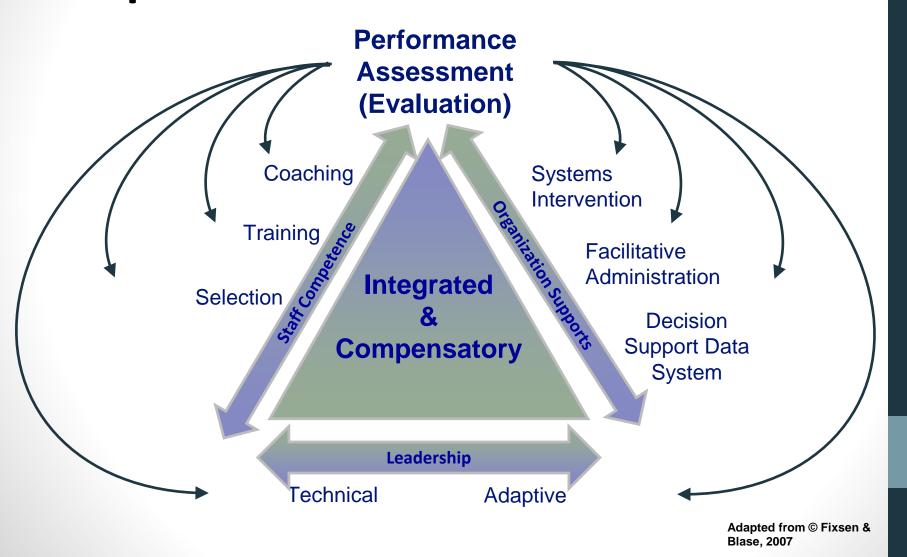
- Active Implementation Frameworks adapted from the National Implementation Research Network
- https://nirn.fpg.unc.edu/
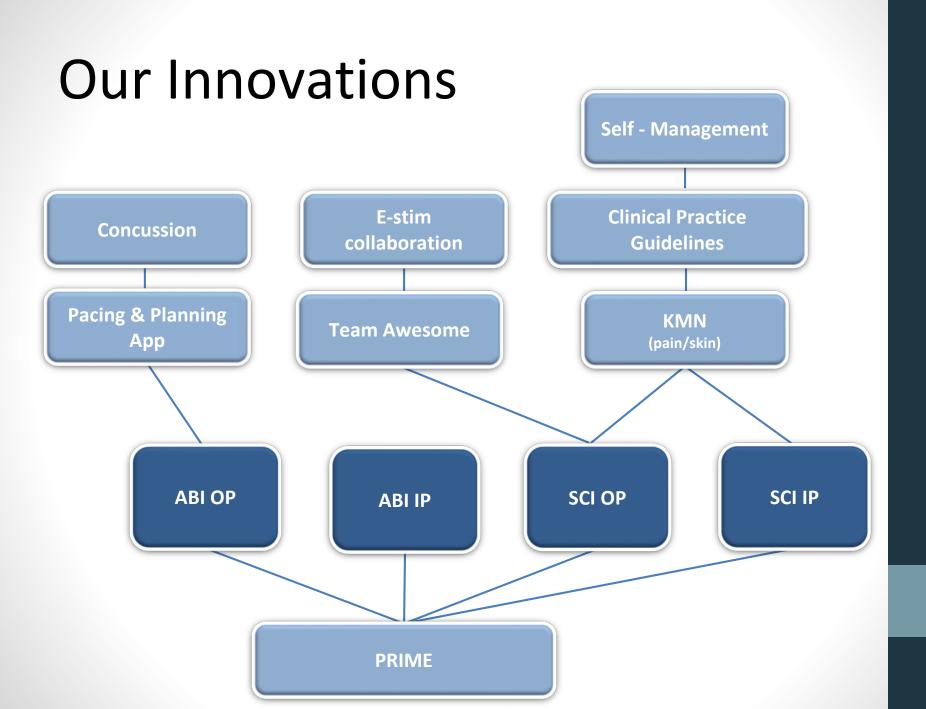
- Our experiences outlined in …

- http://onf.org/documents/other-documents-and-resources/sci-kmn-implementation-guide

Key Implementation Framework = **Implementation Drivers**

Performance Assessment (Evaluation)

Coaching

Systems Intervention

Training

Staff Competence

Organization Supports

Facilitative Administration

Selection

Integrated & Compensatory

Decision Support Data System

Leadership

Technical

Adaptive

Adapted from © Fixsen & Blase, 2007

Our Innovations
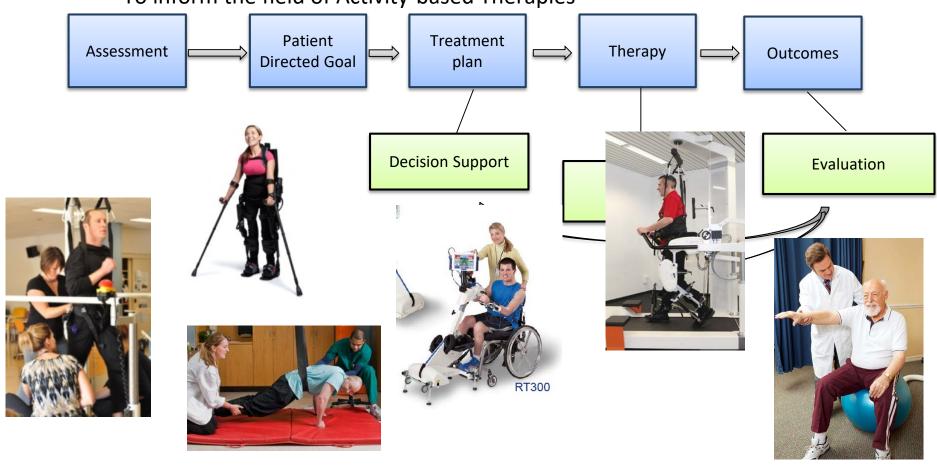
Sustainability: Guiding R2P Principles

- Innovating Together
  - Co-design with relevant expertise

- Systematic Approach
  - Five R2P steps based on PBR/Implementation Science

- Building Capacity
  - Educating and training; developing knowledge and skills

- Hard-Wiring Infrastructure
  - Within structures, processes, and people

Parkwood Rehabilitation Innovations in Mobility Enhancement (PRIME)

Acquired Brain Injury, Spinal Cord Injury, Inpatient and Outpatient Programs

Goals:

- Providing the best therapies at the right time for better outcomes
- To inform the field of Activity-based Therapies

Assessment → Patient Directed Goal → Treatment plan → Therapy → Outcomes

Decision Support

Evaluation
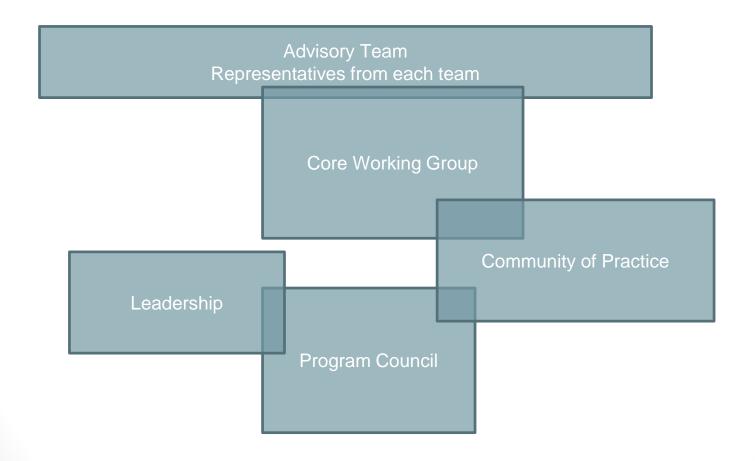
Innovating Together

- Form team(s) with relevant expertise
  - Persons with lived experience
  - Implementation Science
  - Content expertise
  - Project management
  - Evaluation/data
  - IT, etc.
- Participatory research paradigm
  - Co-creation
  - Early engagement
  - Stakeholders identify priorities

Research

ClinicalPractice

Clinical expertise
Prioritization
Problem ID
Relevance

Evaluation
Processes
Project management
Implementation science

Innovating Together: PRIME

Advisory Team
Representatives from each team

Core Working Group

Community of Practice

Leadership

Program Council

Systematic Approach
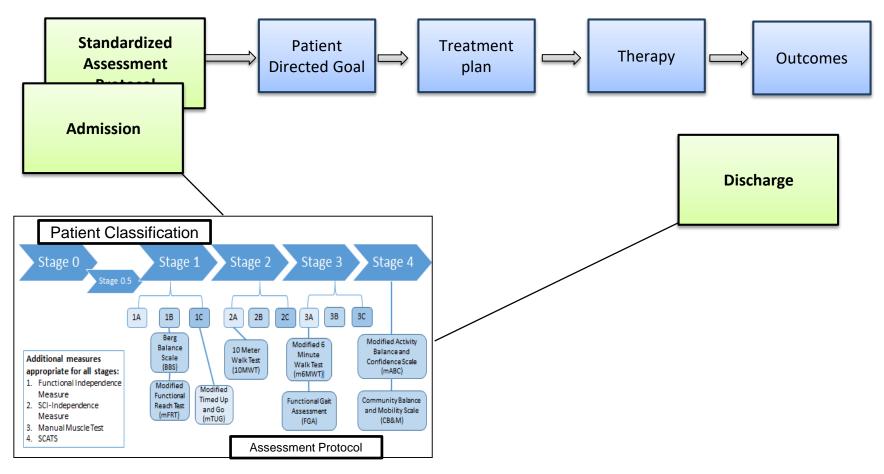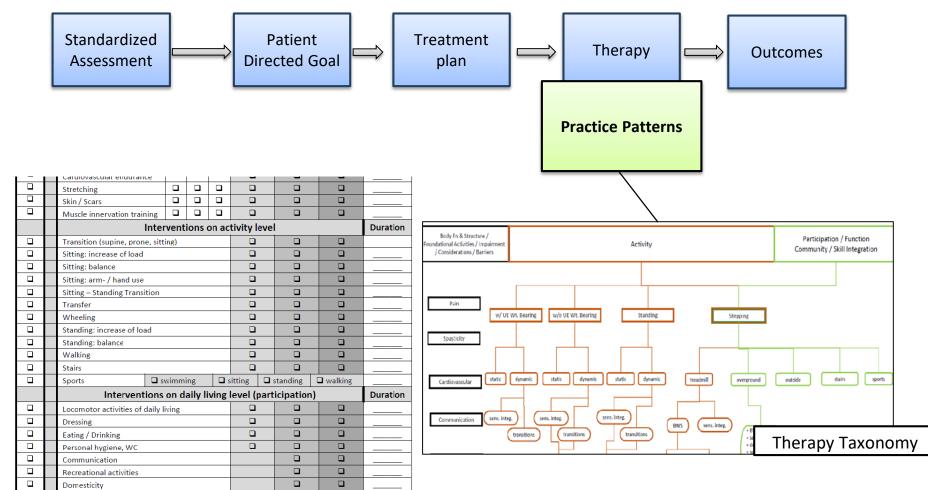
Step	Key Point(s)
1. Identify question (priority)	Use intentional processes that involve all stakeholders (e.g., clinicians, researchers, patients and administrators)
2. Form team	Bring people together with relevant expertise (e.g., subject matter, project management, evaluation, IT, etc.)
3. Define current & future state	Where are you now and where would you like to be?
4. Create data management strategy	Employ structured, systematic processes Identify methods of data management (collection, analysis, storage)
5. Implement and Improve	Use principles of Implementation Science
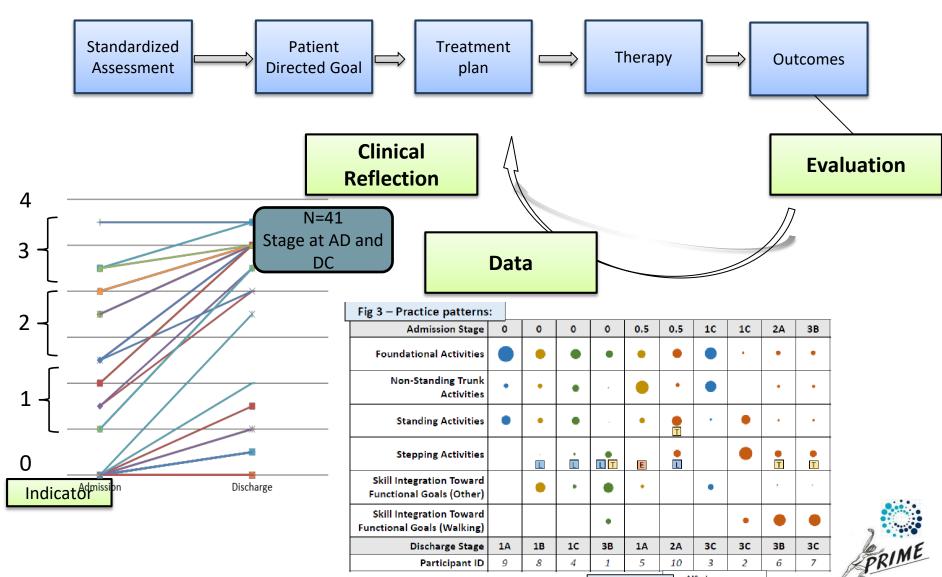
Adapted from Horn et al. 2012

Systematic Approach

Systematic Approach

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┌──────────────┐    ┌──────────────┐    ┌──────────────┐    ┌──────────────┐    ┌──────────────┐
│ Standardized │ →  │   Patient    │ →  │  Treatment   │ →  │   Therapy    │ →  │   Outcomes   │
│  Assessment  │    │Directed Goal │    │    plan      │    │              │    │              │
└──────────────┘    └──────────────┘    └──────────────┘    └──────────────┘    └──────────────┘
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Practice Patterns

							Duration
	Cardiovascular endurance				❑	❑	❑	
❑	Stretching	❑	❑	❑	❑	❑	❑	
❑	Skin / Scars	❑	❑	❑	❑	❑	❑	
❑	Muscle innervation training	❑	❑	❑	❑	❑	❑	

	Interventions on activity level				Duration
❑	Transition (supine, prone, sitting)	❑	❑	❑	
❑	Sitting: increase of load	❑	❑	❑	
❑	Sitting: balance	❑	❑	❑	
❑	Sitting: arm- / hand use	❑	❑	❑	
❑	Sitting – Standing Transition	❑	❑	❑	
❑	Transfer	❑	❑	❑	
❑	Wheeling	❑	❑	❑	
❑	Standing: increase of load	❑	❑	❑	
❑	Standing: balance	❑	❑	❑	
❑	Walking	❑	❑	❑	
❑	Stairs	❑	❑	❑	
❑	Sports	❑ swimming	❑ sitting	❑ standing	❑ walking	

	Interventions on daily living level (participation)				Duration
❑	Locomotor activities of daily living	❑	❑	❑	
❑	Dressing	❑	❑	❑	
❑	Eating / Drinking	❑	❑	❑	
❑	Personal hygiene, WC	❑	❑	❑	
❑	Communication		❑	❑	
❑	Recreational activities		❑	❑	
❑	Domesticity		❑	❑	

Therapy Taxonomy

PRIME

Systematic Approach

Standardized Assessment → Patient Directed Goal → Treatment plan → Therapy → Outcomes

Clinical Reflection

Evaluation

N=41 Stage at AD and DC

Data

Indicator

Fig 3 – Practice patterns:

Admission Stage	0	0	0	0	0.5	0.5	1C	1C	2A	3B
Foundational Activities	●	●	●	●	●	●	●	·	●	●
Non-Standing Trunk Activities	·	·	●	●	●	●	·	●	·	·
Standing Activities	●	●	●	·	●	● T	·	●	●	·
Stepping Activities		· L	· L	● L T	● E	● L		●	● T	● T
Skill Integration Toward Functional Goals (Other)		●	·	●	·		·	·	·	
Skill Integration Toward Functional Goals (Walking)				●				·	●	●
Discharge Stage	1A	1B	1C	3B	1A	2A	3C	3C	3B	3C
Participant ID	9	8	4	1	5	10	3	2	6	7

PRIME

Systematic Approach

Standardized Assessment → Patient Directed Goal → Treatment plan → Therapy → Outcomes

Treatment Recommendations
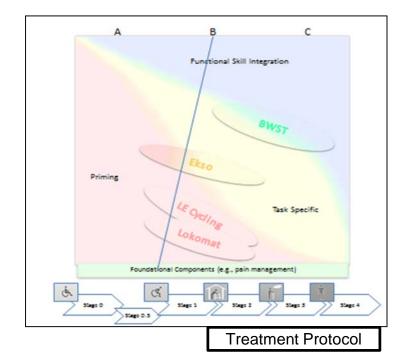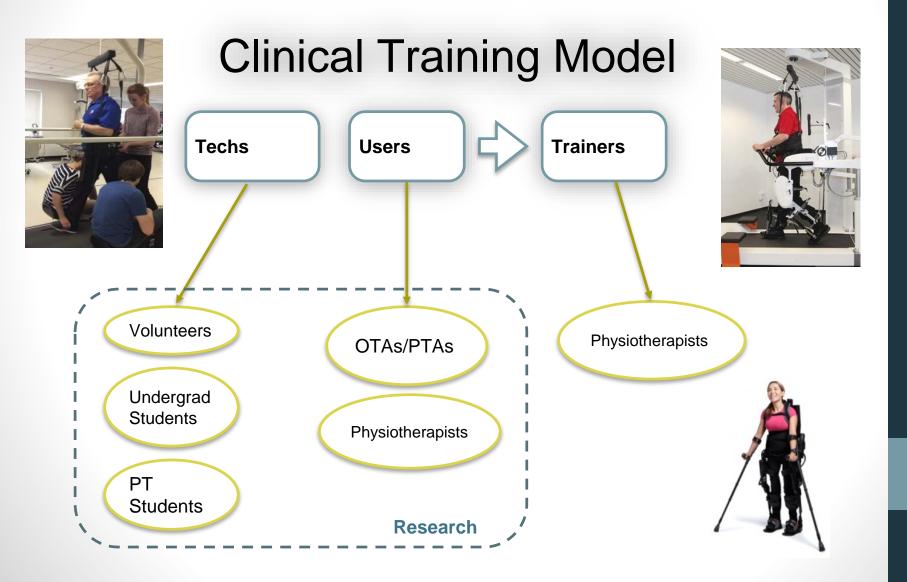

Treatment Protocol

Building Capacity

- Building capacity across the team, which can then be shared with other team members and used across multiple initiatives

- Different models:
    - Train the trainer; Coaching; Mentorship

- Performance Assessment (Evaluation)

- Deeper understanding of different contexts and environments of team members of various backgrounds (i.e., research; clinical; administration; lived experience)

Building Capacity: PRIME

Clinical Training Model

Techs → Users → Trainers

Research

- Volunteers
- Undergrad Students
- PT Students
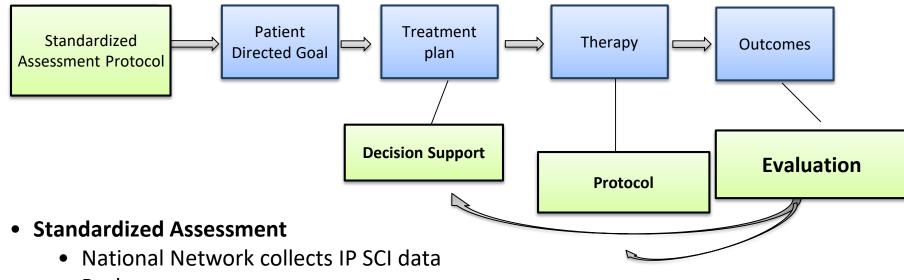
- OTAs/PTAs
- Physiotherapists

- Physiotherapists

Hard-Wiring Infrastructure

Becoming business as usual

- Innovations (practices; processes; products; skills) are being used in daily practice

- Integrative culture - Embed various team members and skill sets in everything we do
  - Existing processes
  - Existing structures (e.g., program council)
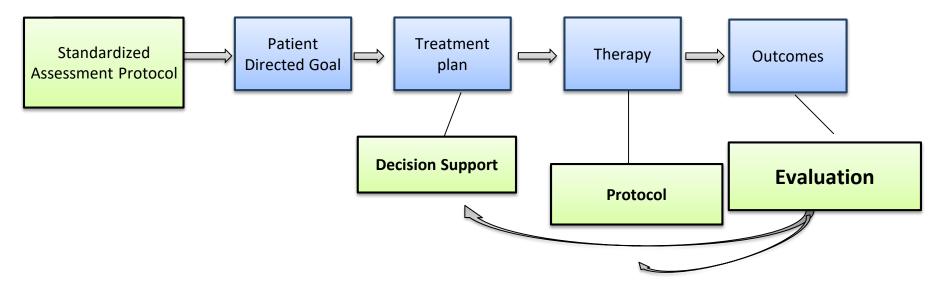 - Existing teams

Hard-Wiring Infrastructure: PRIME

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┌──────────────┐     ┌──────────┐     ┌──────────┐     ┌─────────┐     ┌──────────┐
│ Standardized │ ──► │ Patient  │ ──► │Treatment │ ──► │ Therapy │ ──► │ Outcomes │
│ Assessment   │     │ Directed │     │  plan    │     │         │     │          │
│ Protocol     │     │  Goal    │     │          │     │         │     │          │
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Decision Support

Protocol

Evaluation

- **Standardized Assessment**
  - National Network collects IP SCI data
  - Packages
- **Practice Patterns**
  - Standardized daily treatment flowsheets (paper) with categorization embedded
- **Outcomes Data**
  - Manual report generation by research team
- **Protocol Revisions**
  - Data-informed clinical decision making
- **Clinical Reflection**
  - Monthly Community of Practice meetings
  - More deliberate practice

PRIME

Hard-Wiring Infrastructure: PRIME

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┌─────────────────┐   ┌─────────────┐   ┌─────────────┐   ┌─────────────┐   ┌─────────────┐
│ Standardized    │──▶│ Patient     │──▶│ Treatment   │──▶│ Therapy     │──▶│ Outcomes    │
│ Assessment      │   │ Directed    │   │ plan        │   │             │   │             │
│ Protocol        │   │ Goal        │   │             │   │             │   │             │
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Decision Support

Protocol

Evaluation

- **IT System**
    - Online charting of assessment data and treatment sessions
    - Data-analytics to compare demographics, outcomes and treatments
    - Data driven treatment recommendations

PRIME

Overcoming Challenges to Sustainability

- Consider different levels of sustainability
  - of specific practice
  - within a program/organization
  - across the health system
- Think "sustainability" from beginning and throughout entire process
- Explore alternative incentive models (currently varying incentives)
- View practice change as sustainable program initiatives (vs time limited projects; "protected time" for clinicians)
- Policies (incorporate policy review as part of practice change)
- Build Culture of INNOVATION (avoid "risk aversion")
- Facilitate knowledge and skills building in practice change process
- Need timely and responsive infrastructure to Evaluate, Evaluate, Evaluate-----Act, Act, Act!

In all that you do, do it TOGETHER!

A Research to Practice Tale
A **<u>sustainable</u>** happy valley

Questions