UNIVERSITY OF ALBERTA

The Role of Physical Therapists in Primary Musculoskeletal Care

Linda Woodhouse PT, PhD
Assoc. Prof., Endowed Chair, University of Alberta
President, Canadian Physiotherapy Association
Research Affiliate, McCaig Institute for Bone and Joint Health

MDT CONFERENCE ENDURING PRINCIPLES | EMERGING APPLICATIONS
AUGUST 5-7, 2016 | MIAMI | INTERCONTINENTAL MIAMI HOTEL

ALBERTA Osteoarthritis Team

Canadian Physiotherapy Association / Association canadienne de physiothérapie

McCaig Institute for Bone and Joint Health

Overview

- Challenges with the sustainability of our current health care system.
- Developing & evaluating new models of musculoskeletal care – physical therapists as primary care providers.
- *SpineAccess* Alberta as a model for developing an integrated primary care system.

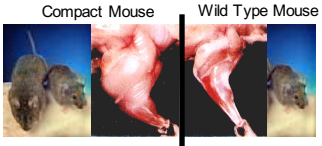
Disclosure

Lilly Answers That Matter.

SCHOLAR ROCK

Monoclonal anti-myostatin antibody

Compact Mouse | Wild Type Mouse



Anabolic Interventions
- myostatin

FOTO FOCUS ON THERAPEUTIC OUTCOMES INC

- Research Advisory Board

Why do we need new models of care?

…..because our current health care "system" is not sustainable

EXHIBIT ES-1. OVERALL RANKING

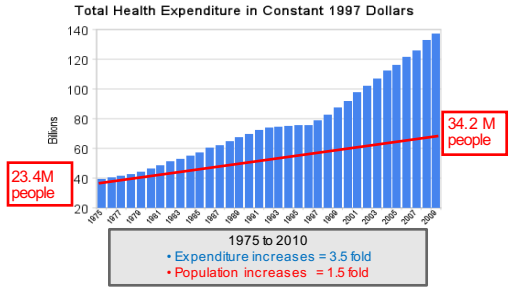
COUNTRY RANKINGS: Top 2* | Middle | Bottom 2*

	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
OVERALL RANKING (2013)	4	10	9	5	5	7	7	3	2	1	11
Quality Care	2	9	8	7	5	4	11	10	3	1	5
Effective Care	4	7	9	6	5	2	11	10	8	1	3
Safe Care	3	10	2	6	7	9	11	5	4	1	7
Coordinated Care	4	8	9	10	5	2	7	11	3	1	6
Patient-Centered Care	5	8	10	7	3	6	11	9	2	1	4
Access	8	9	11	2	4	7	6	4	2	1	9
Cost-Related Problem	9	5	10	4	8	6	3	1	7	1	11
Timeliness of Care	6	11	10	4	2	7	8	9	1	3	5
Efficiency	4	10	8	9	7	3	4	2	6	1	11
Equity	5	9	7	4	8	10	6	1	2	2	11
Healthy Lives	4	8	1	7	5	9	6	2	3	10	11
Health Expenditures/Capita, 2011**	$3,800	$4,522	$4,118	$4,495	$5,099	$3,182	$5,669	$3,925	$5,643	$3,405	$8,508

Notes: * Includes ties. ** Expenditures shown in $US PPP (purchasing power parity); Australian $ data are from 2010.
Source: Calculated by The Commonwealth Fund based on 2011 International Health Policy Survey of Sicker Adults; 2012 International Health Policy Survey of Primary Care Physicians; 2013 International Health Policy Survey; Commonwealth Fund *National Scorecard 2013*; World Health Organization; and Organization for Economic Cooperation and Development, *OECD Health Data, 2013* (Paris: OECD, Nov. 2013).

The Challenge

Non-sustainable healthcare cost increases in Canada



Two-Tiered Health Care System

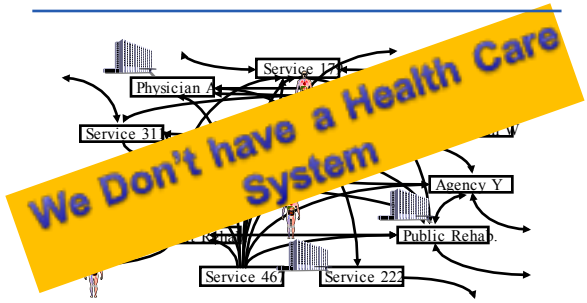
Shift in rehabilitation from public to private health care delivery

Bending the Cost Curve

- Move care out of acute care hospitals into the community.
- Shift from tertiary to primary and secondary prevention.
- Eliminate inappropriate care (Choosing Wisely Campaign).

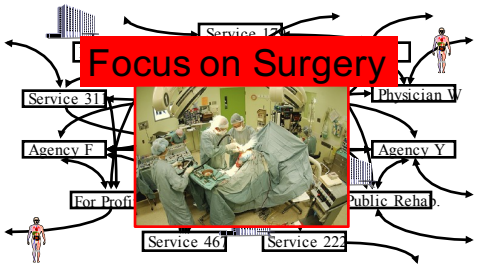
Make health an epidemic!!!!

Challenge #1:



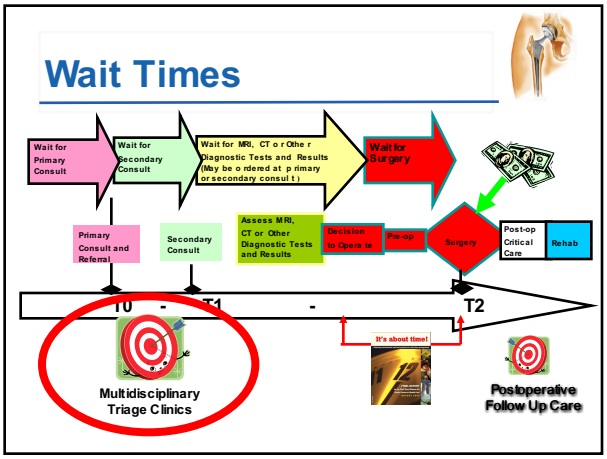
Delays = Poor Outcomes, Waste, Frustration

System-wide Inefficiency



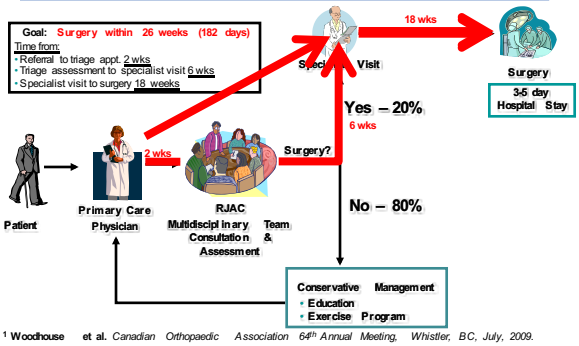
Delays = Poor Outcomes, Waste, Frustration

Wait Times



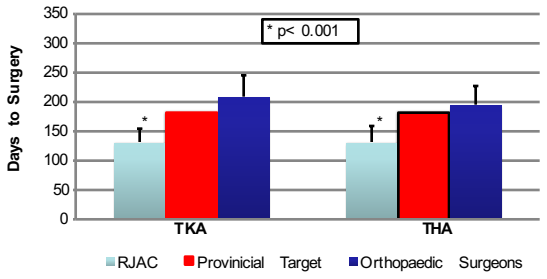
Regional Joint Assessment Centre

Hamilton Niagara Haldimand Brant Local Health Integration Network



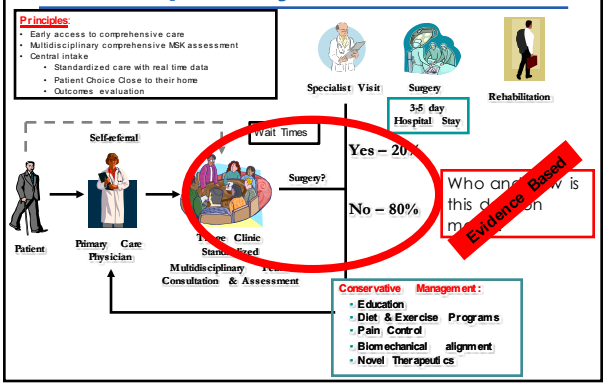
[1] Woodhouse et al. Canadian Orthopaedic Association 64th Annual Meeting, Whistler, BC, July, 2009.

Time to Surgery



[1] **Woodhouse et al.** *Canadian Orthopaedic Association 64th Annual Meeting, Whistler, BC, July, 2009.*

"MSK Specialty Care" Clinics



Evaluation

Structure:

- **Practitioner (Diagnostic Accuracy)**
  - Formal Education
  - Residency programs (competency – medical directives)
- **Process:**
  - **Access to care/wait times**

Outcomes:

- **Patient Satisfaction**
- **Basis for decision/establishing urgency**
- Future: Are longer term post op outcomes improved?

Diagnostic Accuracy - MSK

- Diagnostic accuracy of physical therapists equal to orthopedic surgeons and significantly better than non-orthopedic providers, when magnetic resonance imaging (MRI) was used as the gold standard.[1]
- Very high agreement between APPs and orthopaedic surgeons re: triage recommendations & DI tests ordered, but APPs give more conservative recommendations (NSAIDs, education, joint injection, exercises, physiotherapy).[2]

[1] **Moore JH et al.** *J Orthop Sports Phys Ther* 35: 67-71, 2005.
[2] **Desmeules et al.** *BMC Musculoskeletal Disorders.* 14:162, 2013.

Patient Satisfaction

- High patient satisfaction with APP/extended scope physical therapists in diverse roles. [1-6]

[1] **Desmeules et al.** *BMC Musculoskeletal Disorders.*14:162, 2013.
[2] **Kennedy et al.** *Physiotherapy Canada (in press)* 2009.
[3] **McClellan et al.** *Emerg Med J.* 23(5)"384-387, 2006.
[4] Richardson et al. Emerg Med J. 22(2):87-92, 2005.
[5] Rymaszewski et al. Ann R Coll Surg Engl. 87(3):174-80, 2005.
[6] **Daker-White et al.** *J Epidemiol Community Health* 53(10):643-650, 1999.

Interprofessional Teams

- **Pre Surgical Triage**
  - Australia
  - UK, Scotland, Wales **(-19 to 29 wks)**
    - UK (Aintree, Somerset Coast & Southampton NHS)
  - Canada
    - Alberta Bone and Joint Institute **(- 42 weeks)**
  - Ontario
    - Ottawa, Kingston, Thunderbay, Toronto (Holland, NYG H, UHN, St. Michael's), Hamilton/Niagara

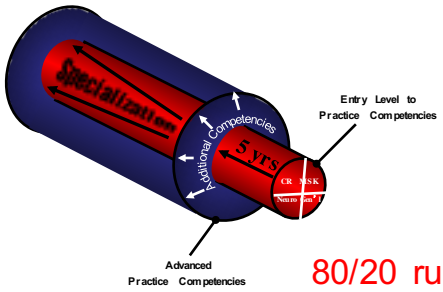
Aiken et al. 2007. Healthc Q 10:88-91, 86 **Aiken et al.** 2008 Healthc Q 11:62-66 **Robarts et al.** 2008 Healthc Q 11:67-75

Evaluation of APP Roles

- Practitioner (Dx Accuracy)- EQUIVOCAL
- Patient Satisfaction – EQUIVOCAL

- Outcomes – APP-led Triage Clinics:
  - Surgical wait times REDUCED
  - Basis for decision/establishing urgency – EVIDENCE BASED
  - Future:
    - Added value? (cost, outcomes??)

Desmeules et al. BMC Musculoskeletal Disorders 13:107, 2012.

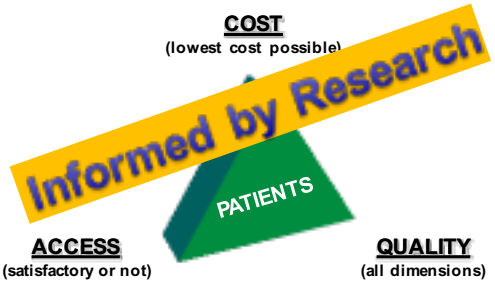


80/20 rule

Experts in clinical practice
In-depth knowledge
Professional development & organizational leadership skills
Research, education & scholarship expertise (Research Master's Level)
Interprofessional Collaboration
Competencies outside PT Scope of Practice required

Balancing the Needs of Health + Health Care

Choices and tradeoffs are required: Around 'one table'



Alberta Health Services

Quality Framework

IMPROVEMENTS (2005-2013)

~20,000 patients now assessed for 9,600 surgeries per year

Acceptability	• 9 out of 10 patients highly satisfied • 98% of patients like the team approach
Appropriateness	• 85% now mobilized day of surgery (up from 40% in 2009/10)
Effectiveness	• 85% have improved function • Why 15% fail to improve is the subject of current prevention research

QUALITY IMPROVEMENTS – BJHSCN - MONETIZED

HIP and KNEE PROGRAM

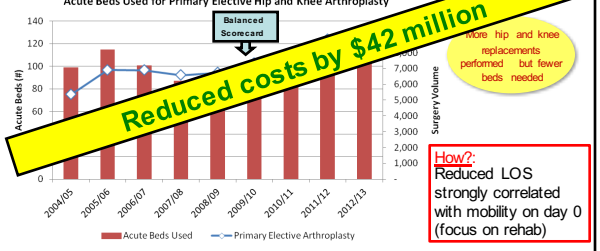
~20,000 patients now assessed for 9,600 surgeries per year

Accessibility	• Average wait for consult 59% faster than 2005 • Average wait for surgery 67% faster than 2005 • Faster access avoids $22.7M/yr out-of- pocket for patients (wages etc) + ~$2.5M system costs
Efficiency	• Surgical volume up 73% since 2004/05 • Inpatient bed use up only 5% since 2004/05 • 32,000 bed days gained since 2010 (a resource productivity gain of ~$32.8M)
Safety	• 30 day readmission rates down to 4% from 5% - so now avoiding ~$1M/year of inpatient costs • Now a focus by provincial clinical committee on other safety improvements pending

Improving Quality Reduces Cost

Productivity Gain: 73% more surgeries with 5% bed use increase

Reduced costs by $42 million



More hip and knee replacements performed but fewer beds needed

How?: Reduced LOS strongly correlated with mobility on day 0 (focus on rehab)

Balanced Scorecard

Site: RAH : Royal Alexandra Hospital
Time Period: 2013-04-01 to 2013-06-30

Quality Dimensions:	EFFICIENT†	EFFICIENT†	SAFE†	SAFE†	SAFE†	APPROPRIATE†	ACCESSIBLE†	ACCEPTABLE†	EFFECTIVE†	
Selected Measure:	Avg. length of stay*	% meeting LOS benchmark*	% compliance with SSCL briefing	% compliance with SSCL time out	% compliance with SSCL debrief	% mobilized day of surgery	Avg. time to surgery	Patient satisfaction	Theatre change over time (minutes)	
Definition:	Mean time in days spent in hospital for elective primary H&K replacement, including wards to sub-acute, rehab or another hospital.	Percent of primary elective H&K replacement patients, excluding PHS, who meet the LOS benchmark for their discharge location.	Percent of primary elective H&K replacements where surgeons, anaesthetists and nurses state they briefing using parts of the Safe Surgical Checklist (SSCL).	Percent of primary elective H&K replacements where surgeons, anaesthetists and nurses state they time out using parts of the Safe Surgical Checklist (SSCL).	Percent of primary elective H&K replacements where surgeons, anaesthetists and nurses state they debrief using parts of the Safe Surgical Checklist (SSCL).	Percent of primary elective H&K patients who change position from supine to Mid-Lat body slide w/ help and walking at or day of surgery.	Data from referral to consult + days from decision to surgery, divided by # of elective H&K replacements, including revisions.	Mean score on [VIEWALL SATISFACTION] on patient feedback form.	Average number of minutes between taken over theatre for primary elective H&K replacement patients.	
Change from Last Period:	▲	▲	○	▲	▲	▲	▼	▼	○	
Current Results:	5.34	82.7%	99.8%	100.0%	100.0%	79.1%	245.7	8.73	21.0	
Ideal: 10	4.0	97%	110%	100%	100%	110%	154	9.80	20.0	10
9	4.2	95%	93%	99%	97%	97%	185	9.75	20.5	9
8	4.4	93%	86%	86%	88%	94%	220	9.70	21.0	8
7	4.6	91%	79%	79%	79%	91%	255	9.65	22.0	7
6	4.8	89%	72%	72%	72%	88%	290	9.60	23.0	6
5	5.0	86%	65%	65%	65%	85%	325	9.55	24.0	5
Baseline: 4	5.3	83%	58%	58%	58%	83%	360	9.50	25.0	4
3	5.6	80%	51%	51%	51%	79%	394	9.45	26.0	3
2	6.0	75%	40%	40%	40%	76%	430	8.50	28.0	2
1	6.4	70%	30%	30%	30%	73%	480	8.00	30.0	1
Weighting (%):	10	10	5	5	5	20	10	20	15	100
Optimization Score (Level x Weight):	30	30	45	50	50	60	70	40	120	495

* Reporting period for this measure is lagged by 1 quarter

LEGEND: Up ▲ Same ○ Down ▼

Individual Practitioner Reports

QUALITY DIMENSIONS:	EFFICIENT	SAFE	APPROPRIATE	ACCESSIBLE	ACCEPTABLE	EFFECTIVE	
SELECTED MEASURE:	(Length of Stay – LOS) (Note 1)	OR "Time Out" (Note 2)	% of Patients Mobilized Day 0 (Note 3)	Time to Surgery (Dx - Tx) (Note 4)	Patient Satisfaction (on CAHPS® Pain Control Questions) (Note 5)	Date of Discharge/ Predicted date (Note 6)	
TARGETED IDEAL (Level 10):	Full compliance to established standards; non-negotiable			Ideal target based on what can realistically be achieved in two years; negotiable			
PERFORMANCE LEVEL: ❤							
10 (Targeted Ideal)	4.2 days or less	100% compliance	100%	400 days or less	90% or higher for "Always" Score	0%	10
9	4.3	95%	90%	450 Days	88%	0. 5%	9
8	4.5	90%	82%	500 Days	86%	1%	8
7	4.7	85%	75%	550 Days	85%	2%	7
6	4.9	80%	68%	600 Days	82%	4%	6
5	5.1	70%	61%	675 Days	79%	6%	5
4	5.3	65%	54%	775 Days	76%	8%	4
3 ("AS IS" at Start)	5.5	Current Compliance rate 62%	47%	898 Days	63.5% for "Always" Score (Raw Score 51)	10%	3
2	5.7	55%	40%	1000 Days	60%	12%	2
1	5.9	50%	30%	1200 Days	55%	15%	1
WEIGHTING (%)	20	15	20	10	15	20	= 100 (%)
OPTIMIZATION SCORE: (Level x Weight)	140	150	140	70	45	20	TOTAL SCORE = 565

Data analyses must be at arm's length from Regulatory and Decision Makers

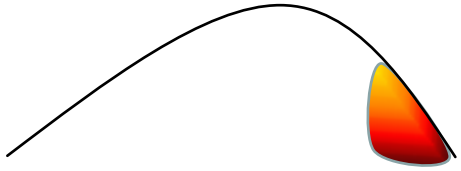
Bias Treatment Options

Younger patients seeking total joint replacements

"Try to focus less on a cure and more on a treatment you can afford."

Current Focus: Tertiary Prevention

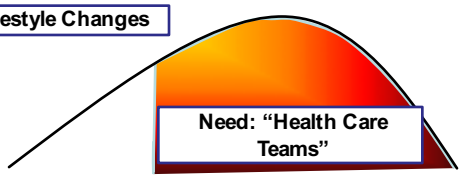
Strategies to manage those with end-stage disease (e.g. OA)



Secondary Prevention

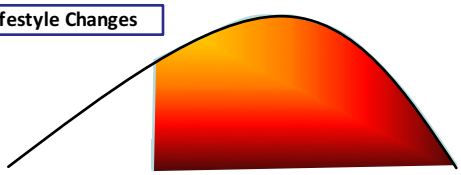
Strategies to delay progression of chronic disease (e.g. OA)

Lifestyle Changes



Secondary Prevention

Lifestyle Changes

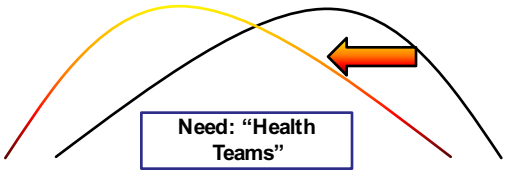


- Shift weight of population downwards
- Increase appropriate exercise, maintain activity
- Reduce occupational hazards
- Improve education and social support

Physiotherapists play a key role in all of these !!!

Primary Prevention

Strategies to reduce injury and the risk of developing chronic diseases (e.g. OA)

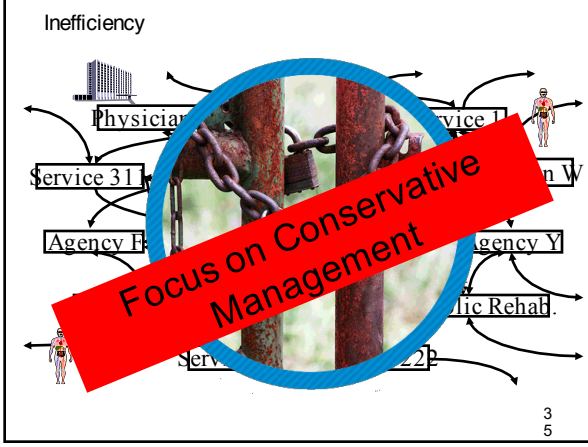


Challenge # 2

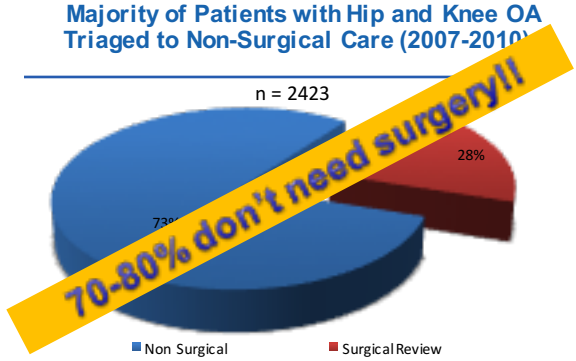
The Challenge – Impact of MSK Disorders

- MSK conditions are the leading cause of severe long term pain and physical disability worldwide[1]
- 2000-2010 "The Bone & Joint Decade"
- Moving from 1 in 8 to 1 in 4 Canadians with Arthritis[2]
- Every 60 seconds, someone in Alberta seeks health care for a musculoskeletal (MSK) condition.

[1] Woolf, A. D., & Pfleger, B. (2003). *Bull World Health Organ, 81*(9), 646-656
[2] Arthritis Alliance of Canada (2011) *The Impact of Arthritis in Canada: Today and Over the Next 30 Years*



Majority of Patients with Hip and Knee OA Triaged to Non-Surgical Care (2007-2010)



[1] **Woodhouse et al.** *Canadian Orthopaedic Association 64th Annual Meeting, Whistler, BC, July, 2009.*

Why Physical Therapists & Why in the Primary Care Sector?

Why Physiotherapists?

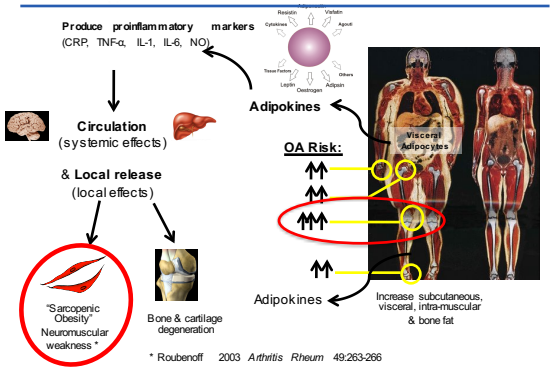
- Self-regulated
- Protected title
- Direct Access
- Majority are involved in direct patient care
- Core competency in musculoskeletal diagnosis & management – across the full continuum of care

Physiotherapists Added Value

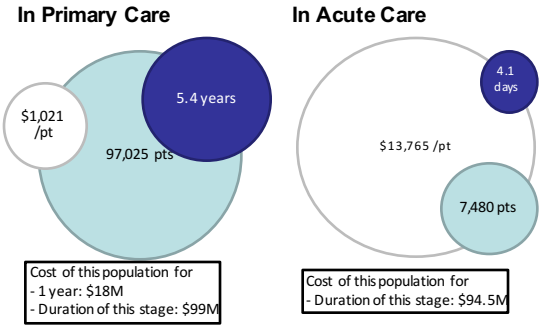
- Expertise in:
  - musculoskeletal assessment and treatment
  - measuring pain and function
  - chronic disease management strategies
- Direct access, evidence-based practitioners

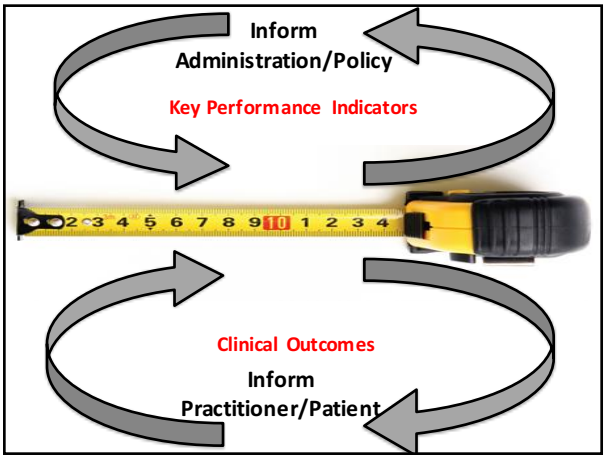
80-90% of activities of advanced practice physiotherapists are within scope of practice

Obesity – Risk Factor for OA



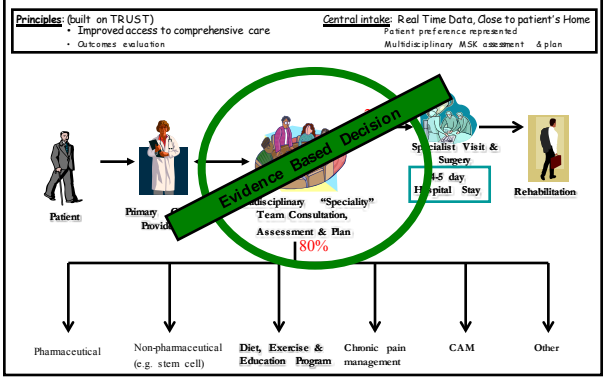
Where do Costs Accumulate?





How to Transform Health Care?

MSK Transformation for Alberta Comprehensive Assessment and Plan



Transform MSK Care

Early access to multidisciplinary team MSK care will improve the access, cost, morbidity, satisfaction & experience, quality and comprehensiveness of care for Albertans with:

1) spine pain
2) soft tissue knee injuries, and
3) rheumatological disorders

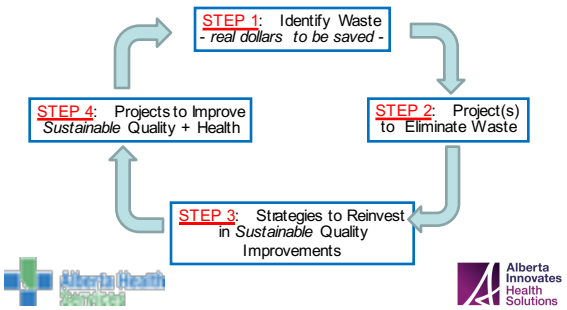
compared to current approaches that focus on use of single specialist access (tertiary care) and wait-lists.

Finding Funding

There will be no/limited new monies for health care, but merely a shifting of resource allocation to areas that demonstrate effectiveness – judged using key performance indicators

Reassessment Strategy

PRIHS Research Project(s) with AIHS



PRIHS Research Project(s)

Alberta Innovates Health Solutions

Alberta Spineaccess

An Innovative Health Service Delivery and Spine Management Model

Linda Woodhouse $750,000 x 3 years

Spine

In Canada:

The lifetime prevalence of back pain in Canada is approximately 85% — High Volumes

Delayed access to care & long wait times for surgery — Delayed Access

Medical expenditures for low back pain is $6-$12 billion per year — High Cost

Overutilization of diagnostic imaging & emergency room visits

Reduced Waste: ER Visits

From 2007 and 2012: 292,555 Albertans visited an emergency room with a spine related disorder

- Approximately 50 000 visit each year
- Average admit rate: 3%

- 50,000 ***ER visits*** at $1,000 per visit, the ***potential cost savings totals $49 million dollars.***

Reduced Waste: DI Visits

- 25,000 lumbar spine ***MRI studies*** done annually in Alberta, with only **44% considered to be necessary** [1].
- At $650 per scan (not including $200 for gadolinium if needed), ***the potential cost saving would be over $10 million dollars***.

[1]Emery et al. (2013)

Appropriate use of DI & ER:

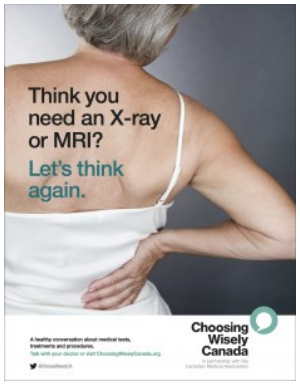
Reduction in "waste" within current health care spending…….

- Even a very conservative estimate of a ***10% reduction in ER visits and MRI studies*** would translate into a ***cost savings of $6.6 million***

ALBERTA MEDICAL ASSOCIATION

Partnership with AMA

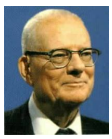
Changing criteria for DI referral reduced utilization by 12% in 2 weeks



Challenge # 3

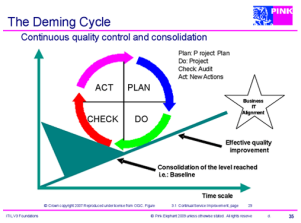
Data in Health Care

Challenge # 3



W.E. Demming

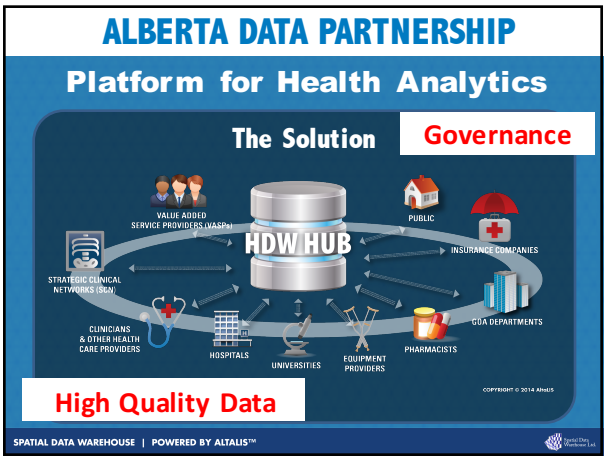
"In God we trust.
All others bring data."

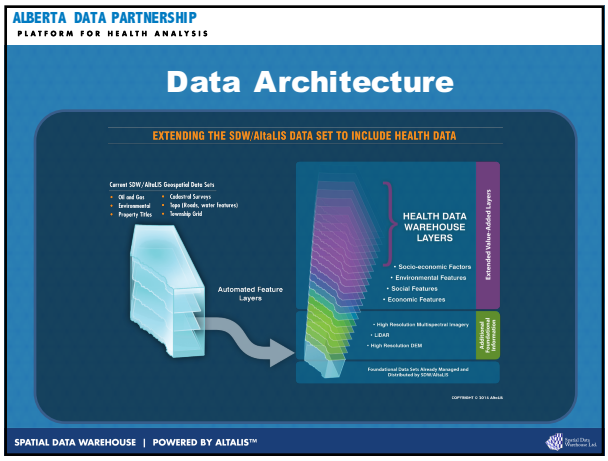


Building an Integrated Data System

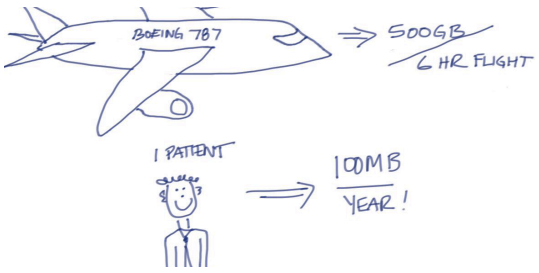
- We need to build integrated data systems - public & private sector - that enable **primary care** for patients and **secondary use data analytics** to transform the health care system
- Real time data to evaluate individual performance (patient & practitioner outcomes) - reward quality!!!

Alberta Spineaccess





Health data are not large data sets



HealthCatalyst ignite change

Dale Sanders, March 2015

Conclusions

- We must move upstream to focus on primary and secondary prevention strategies to manage the tsunami of patients with chronic diseases that will occur in the next decade.
- We need system-wide changes in data collection and funding to enable "teams" in primary care to manage these conditions.
- Physical therapists need to play a major role managing MSK disorders in primary care teams.
- We must collect data to demonstrate the value and impact of PT services in the primary care sector.

Alberta, Canada

Alberta Health Services

Strategic Clinical Networks (SCNs) AHS' engines for innovation. Learn More

Acknowledgements

UNIVERSITY OF ALBERTA

Alberta Innovates Health Solutions

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ALBERTA Osteoarthritis Team

Any Questions…?

Contact Information

Linda Woodhouse PT, PhD
Associate Prof. University of Alberta
David Magee Endowed Chair in MSK Clinical Research
President, Canadian Physiotherapy Association
Faculty of Rehabilitation Medicine
3-10 Corbett Hall, Edmonton, Alberta, Canada T6G 2G4
Tel. Office 780.492.9674
Email: linda.woodhouse@ualberta.ca

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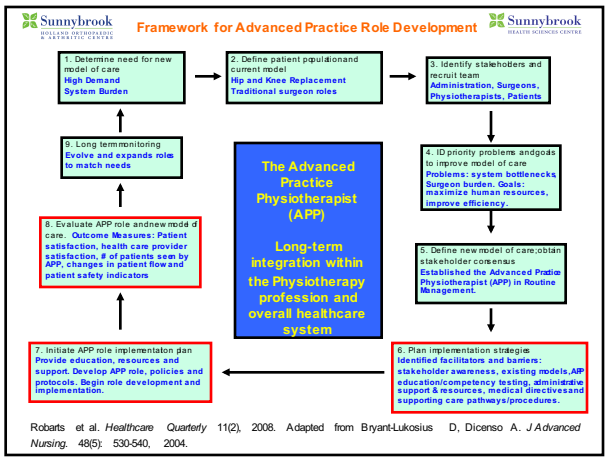
Framework for Developing Advanced Practice Roles



Robarts et al. *Healthcare Quarterly* 11(2), 2008. Adapted from Bryant-Lukosius D, Dicenso A. *J Advanced Nursing*. 48(5): 530-540, 2004.