

Chronic Pain Self-Management Programs: Research and Dissemination

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SickKids

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to declare.**

Introduction to Chronic Pain Self-Management

- Concept of self-management (SM):
History and overview
- Differences between SM and traditional patient education
- Key mechanisms: Self efficacy

Chronic Pain

- Access to timely and appropriate care remains problematic
- Pain treatment centres with sufficient scope and complexity to address the multidimensional nature of the pain experience are tertiary-based
- As an adjunct to usual care, pain self-management education is receiving increased attention

Self-Management History

- Emerged as a major research priority in the 1980's, following a swell of prevalence studies of chronic illnesses in the 1960's and 70's
- Realization of chronic disease and pain prevalence, across the world, led to major critiques of standard health care delivery as narrow in scope
- Brought the improvement of symptom management, personal health perceptions, and functional status into vogue

Limitations in Patient Education

- Focus on technical self-care skills and specific disease-related information
- Lack adequate complexity to address:
 - *an aging population*
 - *increase in chronic illness and comorbidity*
- Selected health behaviours may not mediate changes in health status

Bandura 1991, Schwarzer 1992, Lorig et al. 1996

Patient Education vs. SM Principles

Patient Ed.	SM
Condition specific knowledge creates behaviour change	Greater confidence in ability to manage yields better health
Compliance to behaviours taught improves outcomes	Problem solving skills arising from self-efficacy and resourcefulness improve outcomes
Health professional (HP)	HP or peer leader in a group setting

Self-Efficacy

“The exercise of human agency through people’s beliefs in their capabilities to produce desired effects by their actions”

- Skills mastery and performance attainment
- Modeling/vicarious experience
- Reinterpretation of Symptoms
- Social persuasion
- Psychological state

Bandura, 1986;1997; Lorig, 1996

Seminal Pain Self-Management Model

Arthritis Self-Management Program (ASMP):

- Strong theoretical base and adherence to proven self-efficacy enhancing principles
- Tested in 4 RCTs (n = 938)
- Additional trial to evaluate long term impact at 20 months (n = 968)

Lorig, Holman, H. 1993.

ASMP

- Consistently significant improvements in:
 - *Pain-knowledge (32%),*
 - *Exercise and relaxation behaviors (80%),*
 - *Pain (22%),*
 - *Depression (14%),*
 - *Disability (6%)*
- Maintained and associated with reduced health care costs up to 4 years post-intervention Improvements linked to increased self-efficacy

Lorig, Holman, H. 1993

Pain Self-Management in Canada

- *Chronic Pain Self-Management Program*
- *Chronic Angina Self-Management Program*
- *Teens Taking Charge: Managing Arthritis*
On-line web-based intervention for adolescents with JIA

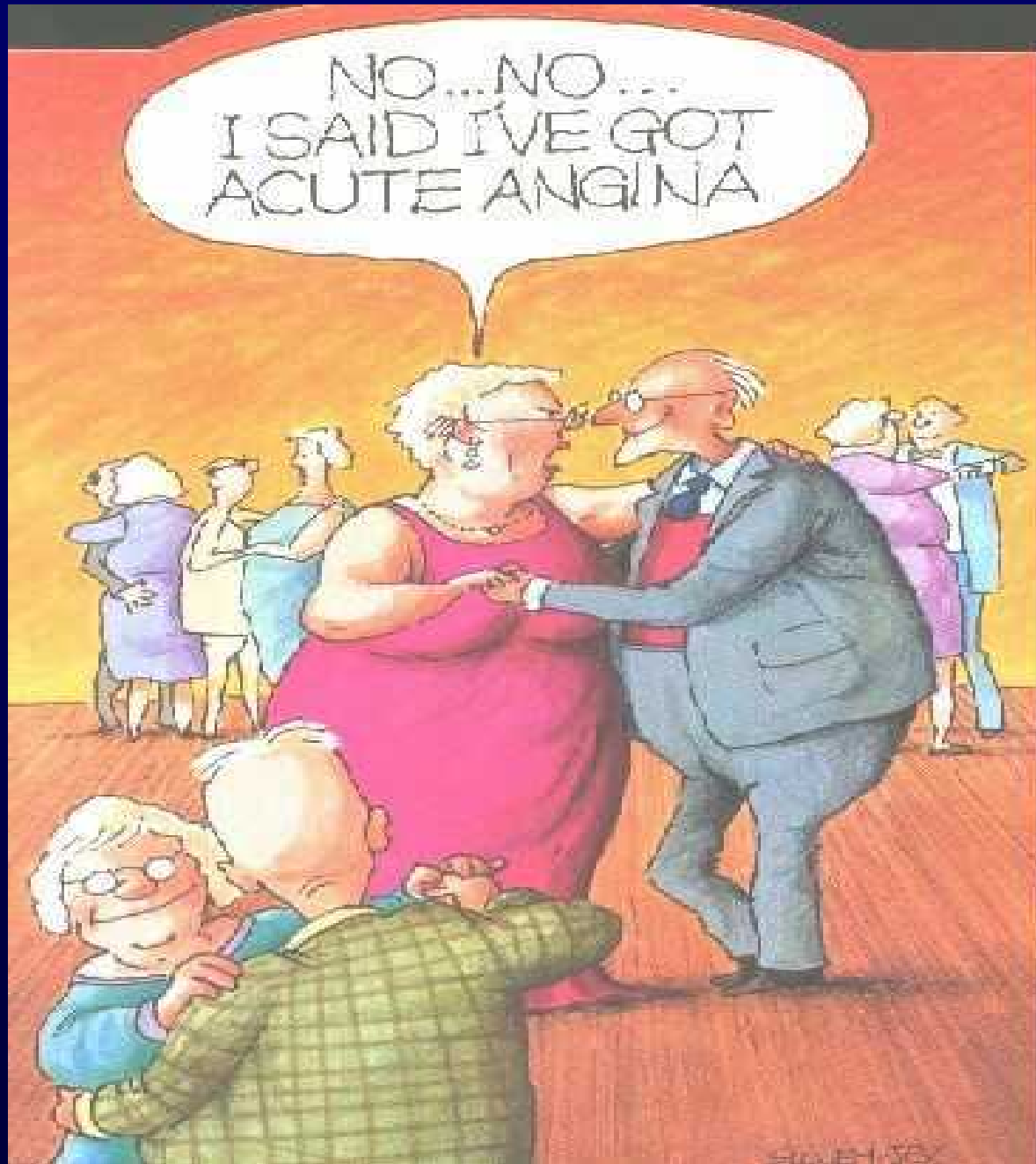
(McGillion et al., 2008; LeFort et al., 1998; 2004; Stinson et al., 2007)

Chronic Angina Self-Management Program

M McGillion, J Watt-Watson, B Stevens, S LeFort, P Coyte, A Graham, J Pain Symptom Manage 2008



NO...NO...
I SAID I'VE GOT
ACUTE ANGINA



Chronic Stable Angina

- Cardinal symptom of coronary artery disease
- Major negative impact on health-related quality of life (HRQL) including persistent chest pain, poor general health status, psychological distress, impaired role functioning, activity restriction and inability to self-manage
- > 6,500,000 Americans live with CSA (1999- 2002)
- > 500,000 Canadians (2000/2001)

Fox et al. EHJ 2006; McGillion et al. JPSM 2008; McGillion et al., BMJ 2008; Murphy et al. Heart 2006

United Kingdom- direct cost of CSA (2000):

- prescriptions, admissions, referrals, procedures

£669, 000, 000 = 1.3% of total National Health Service expenditure

Canada- societal cost of CSA per patient (2003-2005):

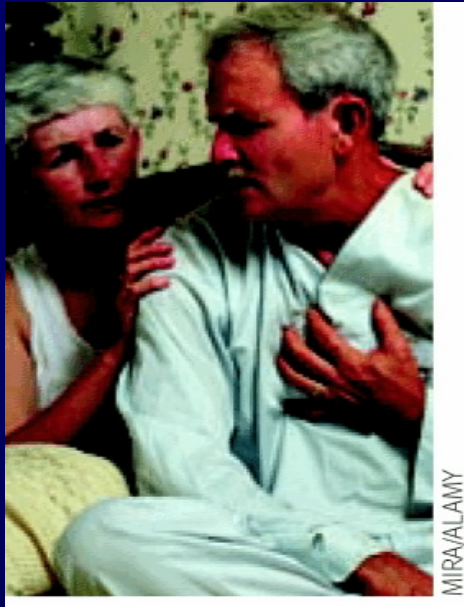
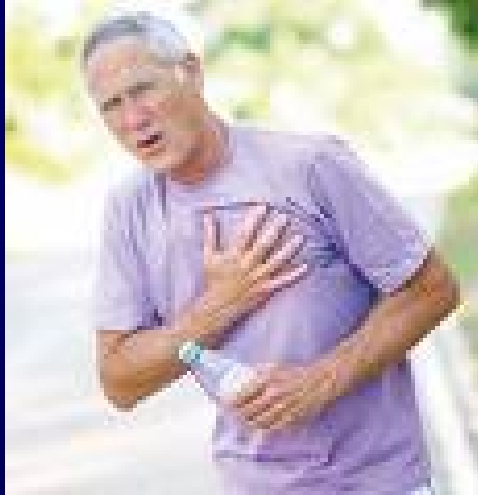
- direct
- indirect
- system costs

\$12,615 (\$7,844, \$22,059) per annum

PILOT STUDY

CSA patients have major angina self-management learning needs:

- monitoring illness severity/seeking help
- identifying and coping with limitations
- role functioning
- symptom management
- managing emotional responses

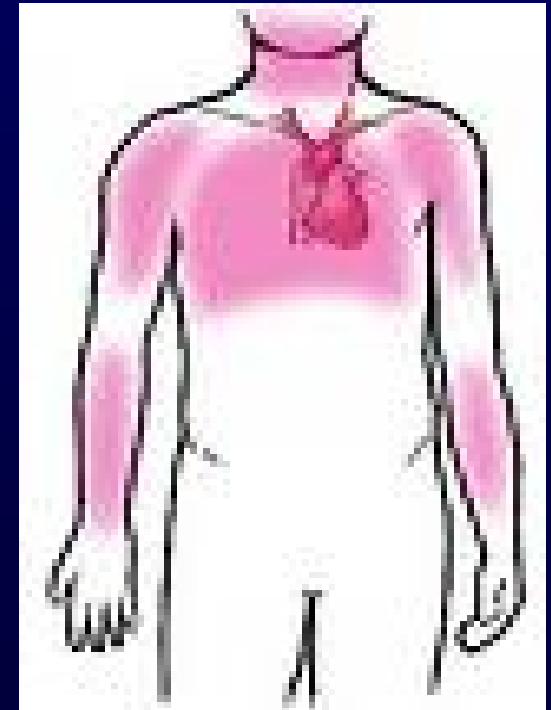


CARDIAC PAIN

1. Cognitive appraisal:

- *intrusive, threatening*
- *activation of pre-frontal cortex and limbic system*
- *apprehension, fear for the future*

2. Relationship between myocardial ischemia and angina pain is equivocal



Patients:

- Major misbeliefs about their angina
- Lack knowledge and skills to monitor and interpret symptoms

Health Care Professionals:

- Do not understand underlying pain mechanisms which has negative consequences for appropriate self-management counseling

Chester et al. BMJ 2008; Moore et al. JPSM 2007; McGillion et al. J Nurs Man 2004; McGillion et al. Can J Nurs Res 2007; McGillion et al. BMJ 2008

CASMP PROCESS

- Adapted from the ASMP and CDSMP
- Standardized 6-week format:
 - *2-hour sessions weekly*
 - *Groups of 10-15 patients*
 - *Classroom setting*
 - *Programs offered both day and evening*
- Strategies known to enhance self-efficacy including skills mastery, modeling, and self-talk

CASMP CONTENT

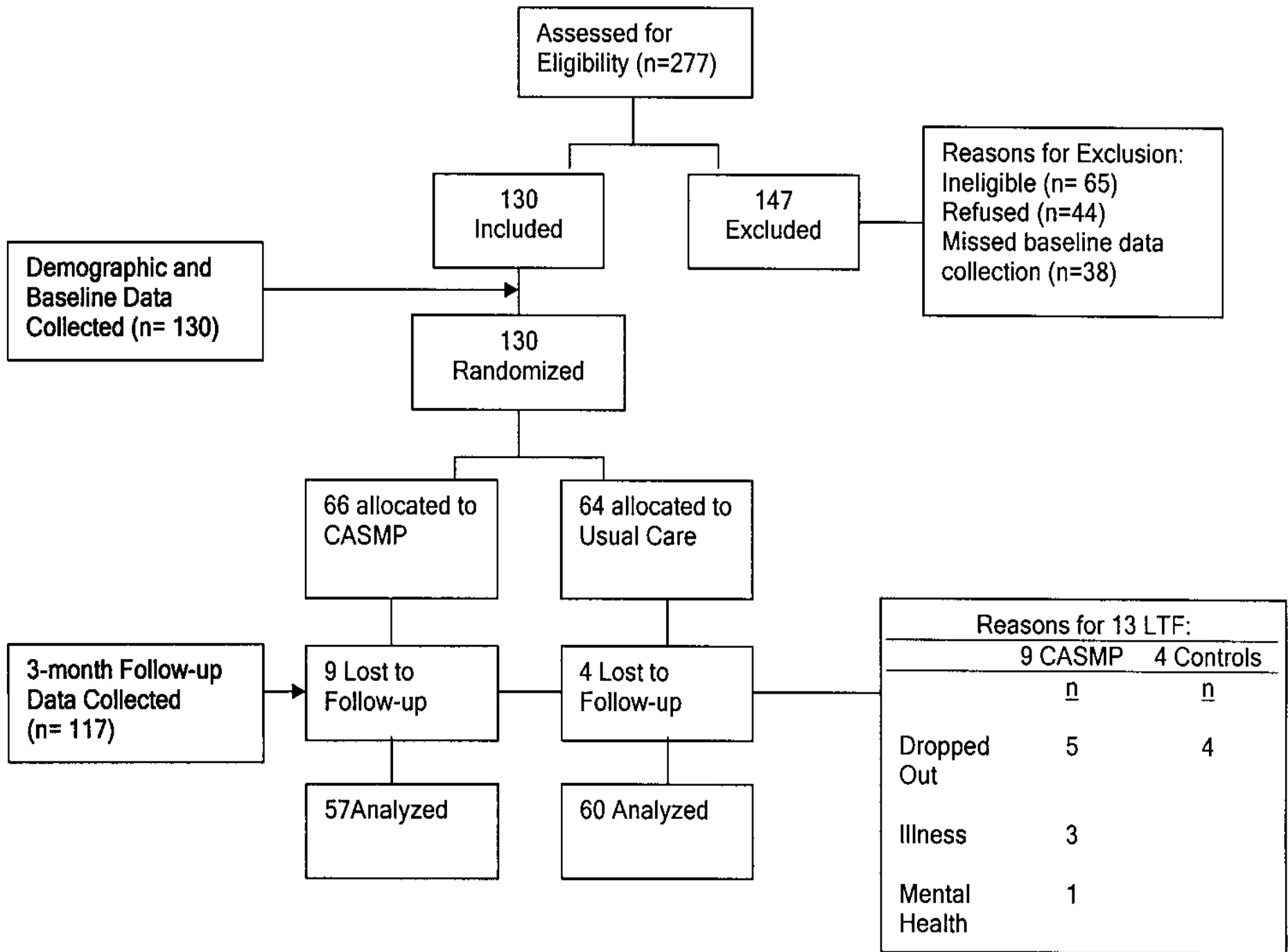
- Strategies known to enhance self-efficacy (skills mastery, modeling and self-talk)
- Self-help principles, CSA, benefits of exercise, angina management strategies including: energy conservation, pacing, emotional responses, communication skills, medications, fatigue/sleep, non-traditional therapies, problem solving, goal setting, decision making about seeking emergency assistance

INCLUSION CRITERIA

- Diagnosis of CAD and CSA
- CCS class I-III symptoms for at least 6 months
- Basic command of English
- No MI/CABG last 6 months
- No class IV angina

INSTRUMENTS

Primary	HRQOL	SF-36, SAQ
Secondary	Self-Efficacy	SES
	Resourcefulness	SCS



SAMPLE CHARACTERISTICS

- Mean age= 68
- 80% male
- Living with angina 7 years
- 21% diabetes
- 49% at least one prior revascularization

NO BASELINE DIFFERENCES

- Demographics
- Angina-related history
- Prior revascularizations, cardiac rehab
- Comorbid conditions
- CCS Class
- Medications *ACE inhibitors, anti-arrhythmics, anticoagulants, β blockers, CA^+ blockers, cholesterol lowering agents, diuretics, insulins*

RESULTS (n= 130)

Phys. Functioning	F=11.75 (1,114)	p<0.001, ES= 0.64
General Health	F=10.93 (1,113)	p<0.001, ES= 0.62
Angina Frequency	F=5.60(1,115)	p=0.02, ES= 0.44
Angina Stability	F=7.37(1,115)	P=0.001, ES= 0.50
Self-Efficacy	F=8.45(1,115)	P=0.004, ES= 0.54

McGillion et al., JPSM 2008

Meaning of Angina for HRQL

SESSION 1

- Major negative life change
- Life curtailed
- Warning sign, constant reminder of ill-health
- Fear of sudden death
- Source of altered role functioning and relationship tension

SESSION 6

- Not curable but manageable
- Acceptance of limitations
- A broad and ongoing health problem
- Can maintain quality of life
- and some control

McGillion et al., CJNR, 2007

SESSION 1 (PRE)

Chronic angina is for me, a constant hindrance and severe roadblock to enjoying my day and planning each twenty-four hour period. To me, it is a curse that I have this affliction. Therefore, I have to constantly monitor my physical exercise habits, and I sort of exist in a physical straight jacket.

SESSION 6 (POST)

Although my angina will never be cured, I now understand the condition better and I am not as frightened as I used to be of my attacks as I was in the past. When I had attacks I was paralyzed with fear, sometimes I was even afraid to fetch my nitro-spray. Now I know how to manage an attack and how to administer my nitro- I can manage this.

Overall PSMT Effectiveness for Chronic Angina

McGillion et al., 2008: 7 trials, n= 949:

- Intervention format and process varied
- Self-efficacy enhancing techniques were a major focus

McGillion et al., Current Cardiol Rev, 2008

Overall PSMT Effectiveness for Chronic Angina

7 trials, n= 949:

- Angina frequency, $\Delta = -2.85$, 95% CI, -4.04 to -1.66, $p < 0.001$
- Nitroglycerine use, $\Delta = -.3.69$, 95% CI, -.5.50 to -1.89, $p < 0.001$
- HRQL (SF-36):

Physical limitation, $\Delta = 8.00$, 95% CI, 4.23 to 11.77, $p < 0.001$

Disease Perception, $\Delta = 4.46$, 95% CI, 0.15 to 8.77, $p = 0.042$

McGillion et al., Current Cardiol Rev, 2008

Implications for Research

Dissemination of CASMP in Canada requires support for additional research to examine:

- Impact on adverse events (AE)
- Correlations between reductions in indirect costs and AE
- Health service utilization behavioural patterns
- Cost to run these programs (recognized as cheap)
- Large-scale, multi-site trials

Policy: Dissemination

CDSMP (Lorig et al., 2001-2005):

- Market early success of the standardized, replicable program with messages from patient volunteers
- Conduct pilot studies to examine stakeholder willingness to consider and champion SM
- Continue early end-user involvement
- Regional health authority leaders as SM champions/collaborators critical to make transition from academic centre base to implementation within existing system infrastructure— e.g. in Ontario: LHINS, CCACs