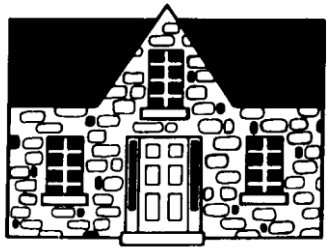
Effectiveness of Physiotherapy and Occupational Therapy for Patients with Chronic Illnesses in Family Health Teams

Lori Letts & Julie Richardson
School of Rehabilitation Science
McMaster University
lettsl@mcmaster.ca

The Integration of Rehabilitation into Primary Health Care for Adults with Chronic Illnesses: A Randomized Controlled Trial

Lori Letts, Julie Richardson, David Chan, Sue Baptiste, Mary Edwards, Liliana Coman, David Price, Linda Hilts, Paul Stratford, Mary Law

Funder: OMHLTC PHCTF



Stonechurch Family Health Centre

McMaster University HEALTH SCIENCES

School of Rehabilitation Science and Department of Family Medicine

Overall Project Objective

To assess the effectiveness and cost of a demonstration project which introduced PT and OT for chronically ill adults into primary health care.

Evaluation

Randomized Controlled Trial

* Intervention group: PT and OT in primary health care
* Control group: Usual care

Setting: Stonechurch Family Health Centre

* Affiliated with the Department of Family Medicine at McMaster
* Study participants assigned to a single team in the practice with 5 physicians, 17 residents, nursing, access to social work, chaplain.

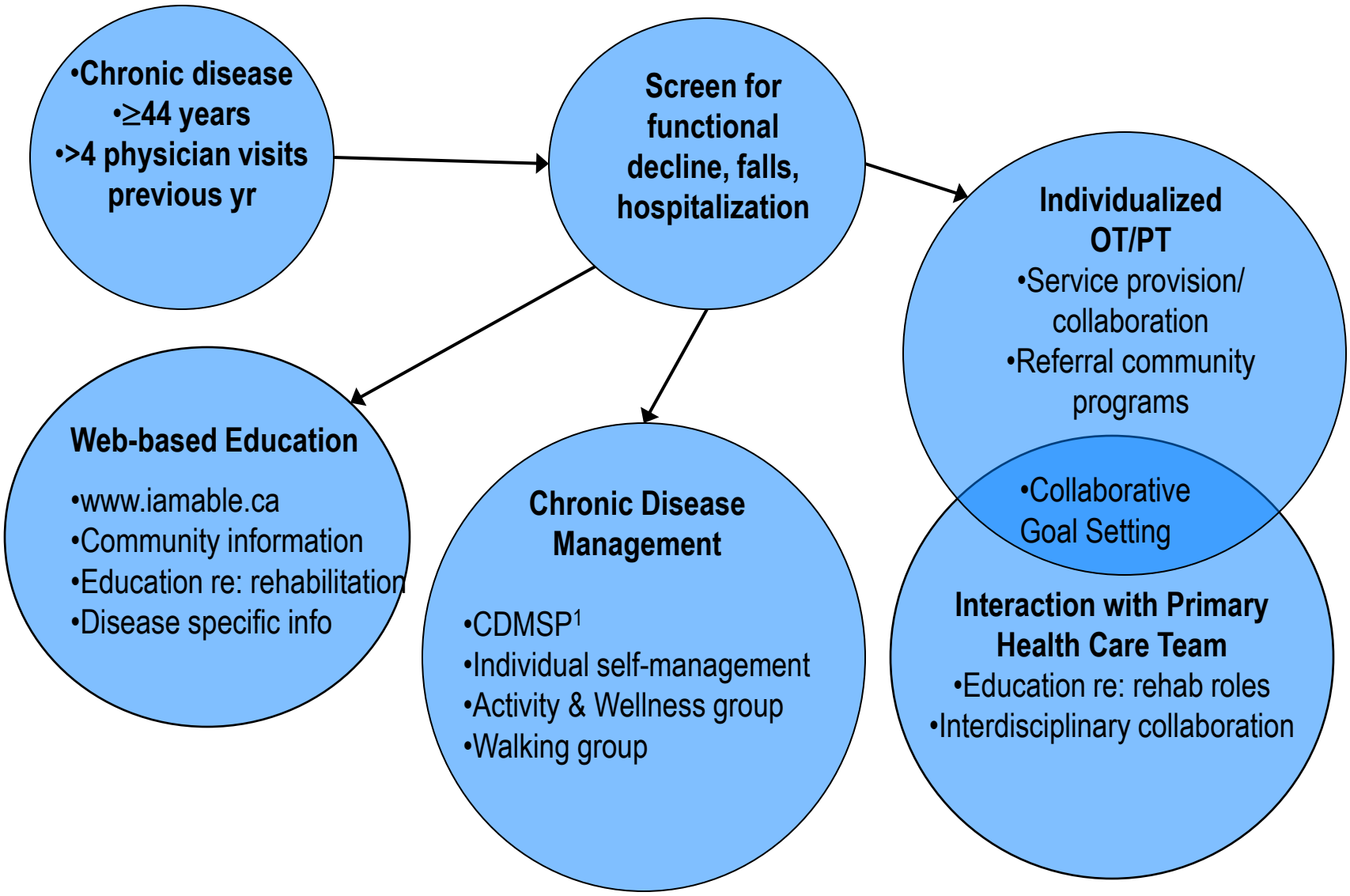
Blind Assessments

* Outcome assessments administered at four points

Sample Eligibility

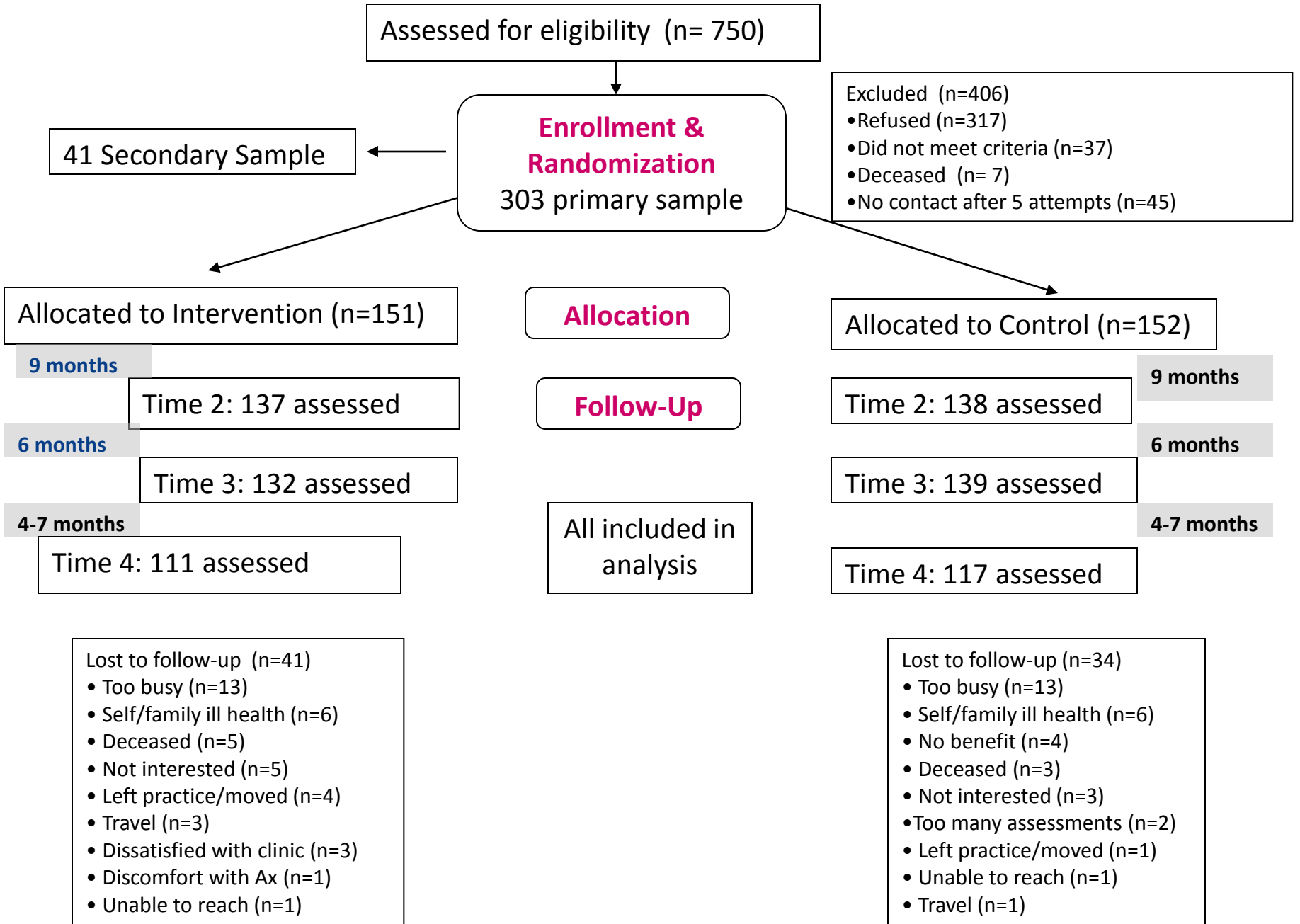
* Persons 44 years of age and older
* With one of the following chronic conditions:
  - back pain
  - chronic pain
  - diabetes
  - multiple sclerosis
  - stroke
  - Parkinson's disease
  - depression
  - COPD
  - emphysema
  - osteoporosis
  - falls
  - fibromyalgia
  - cardiovascular disease (CHF, hypertension)
  - arthritis (rheumatoid, osteoarthritis)
* Had at least 4 visits to the practice in the 12 months prior to recruitment
* Neither have dementia nor are residing in a long-term care facility

Primary Care Model for Rehabilitation Intervention



1: Based on Chronic Disease Self-Management Program from the Stanford Patient Education Research Center for Chronic Disease

Progress through phases of study



Baseline Data

* Mean age = 64 years
  * 56% sample between 46-64yrs
  * 42% sample over 64yrs
* Gender 63% women
* Baseline self-reported health issues include:
  * High blood pressure 59%
  * Arthritis 38%
  * Diabetes 24%
  * Back problem 48%
  * Weight problem 40%
  * Hearing problem 28%
  * Vision problem 32%
  * Past smoker 54%
  * Current smoker 14%

Results
Health Status (SF-36)

* Physical Component:

  Intervention: Mean= 42.0 (11.8)

  Control: Mean = 43.1 (11.9) F=2.56; p=0.11

* Mental Component:

  Intervention: Mean = 51.0 (11.8)

  Control: Mean = 50.6 (11.8) F=0.01; p=0.93

Results
Hospitalizations & ER visits

* Hospitalizations: Planned hospital days

  Intervention: Mean = 0.0 (0.0)

  Control: Mean = 0.4 (1.8), F=6.3; **p=0.01**

  Adjusted difference: 0. 60 days per person; $490 per person

  Cost savings from reduced hospitalizations =$65,700

* Emergency Room Visits

  Intervention: Mean = 0.2 (0.9)

  Control: Mean = 0.2 (0.5), F=0.28; p=0.60

Results
Secondary Outcomes

* **Falls:**
  * Intervention: Yes=33; No=94
  * Control: Yes=39; No=97

  p=0.6 (goodness of fit p=0.96)
* **Home hazards:**
  * Intervention: Mean =3.8 (2.4)
  * Control: Mean = 4.1 (2.3), F=0.86, p=0.35

  Significant interaction Age x hazards

Results
Secondary Outcomes

* **Self-management: Communication with physician score**
  * Intervention: Mean=3.0 (1.3)
  * Control: Mean=2.7 (1.4), F=3.35; p=0.07
* **Caregiver Strain Index**
  * Intervention: Mean =2.5 (1.6); n=9
  * Control: Mean =5.1 (2.3); n=13, F=1.73; p=0.24

Patient Satisfaction Questionnaire (PSQ-18) revised

Subscale	Mean (SD)		t	p
	Intervention n=132	Control n=139		
General Satisfaction	3.6 (0.8)	3.2 (0.5)	-4.69	**0.00**
Technical Quality	3.6 (0.6)	3.3 (0.5)	-5.25	**0.00**
Interpersonal Manner	4.1 (0.7)	3.6 (0.7)	-6.26	**0.00**
Communication	3.9 (0.7)	3.5 (0.6)	-5.13	**0.00**
Financial aspects	3.7 (0.9)	3.4 (0.8)	-2.98	**0.00**
Time spent	3.8 (0.7)	3.4 (0.6)	-5.57	**0.00**
Accessibility	3.6 (0.6)	3.3 (0.6)	-3.51	**0.00**

I Am Able: Population Based Rehabilitation in Primary Care for Persons with Chronic Illness

Julie Richardson, Lori Letts,
David Chan, Sarah Wojkowski, Alexis Officer, Ainsley Moore, Lisa McCarthy, David Price, Sarah Kinzie, Doug Oliver.

School of Rehabilitation Science and Dept of Family Medicine

Funded by Ontario Rehabilitation Research Advisory Network

STONECHURCH FAMILY HEALTH CENTRE

McMaster University HEALTH SCIENCES

McMASTER FAMILY PRACTICE

Project Goals

* To assess whether adopting a population-based, rehabilitation self-management approach that focused on physical functioning as a major health outcome in a primary care setting improved the process and outcome of care for patients with chronic conditions.

* To evaluate the extent to which members of a Family Health Team integrated the assessment, monitoring and implementation of interventions to maintain physical function of their patients within the process of delivering chronic illness care.

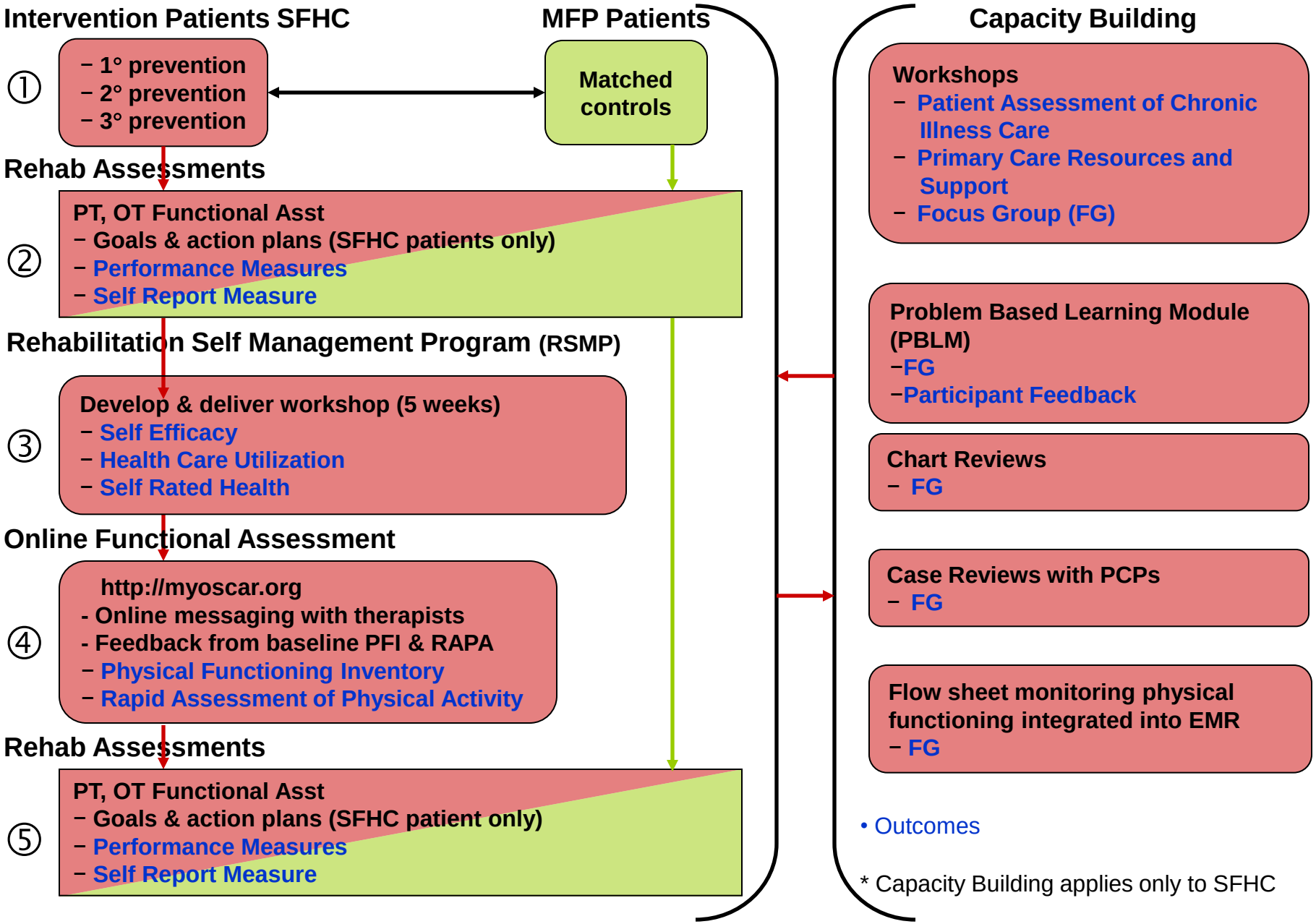
Study Design

* Before-after design with age and sex matched controls
* Participants over 44 years, with at least one chronic condition, 3 visits to their physician in the past year, and willingness to access the internet
* Two sites: Stonechurch Family Health Centre & McMaster Family Practice

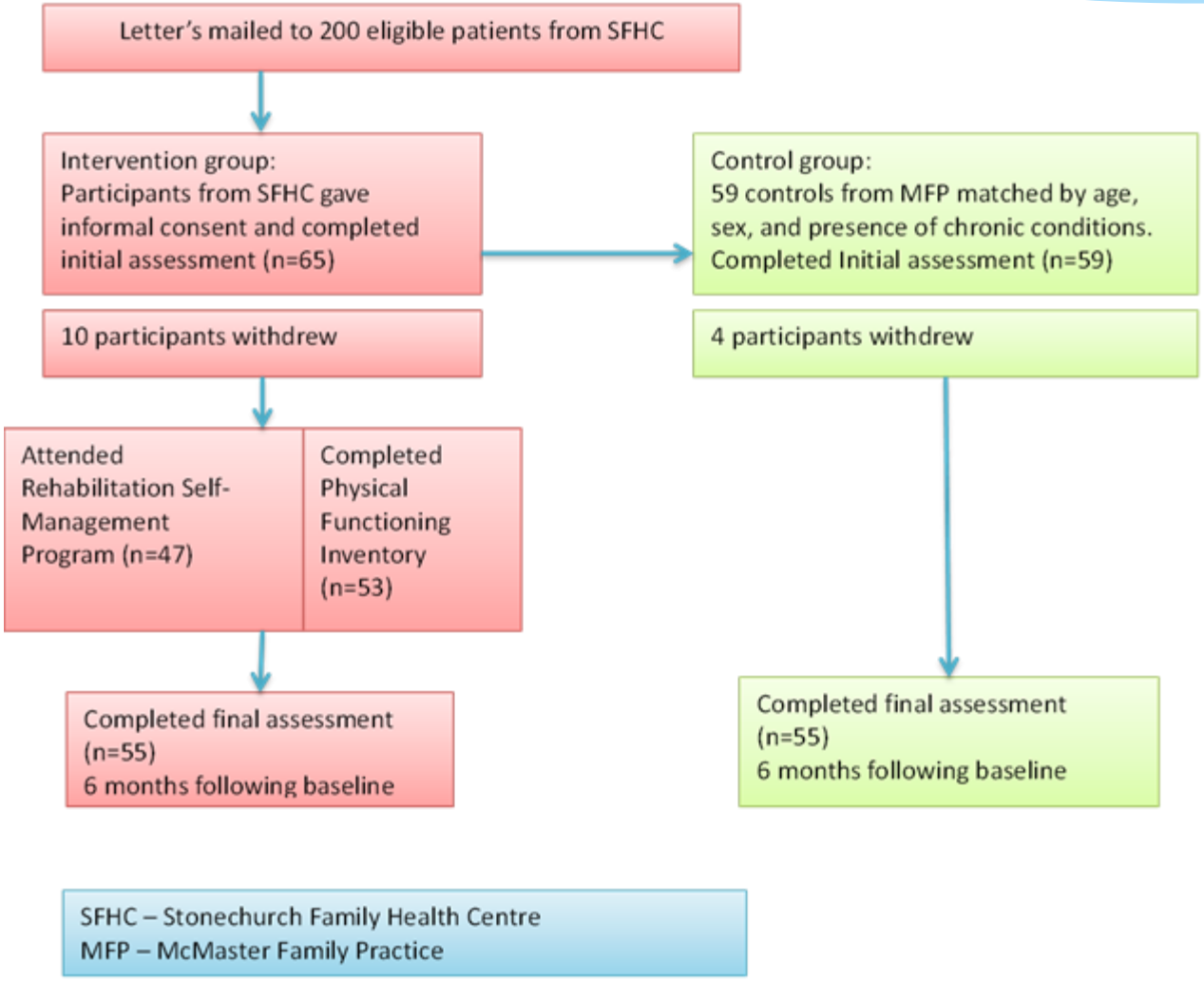
Intervention

* Population-based intervention delivered by OT and PT:
  - Function-based individual assessment and action planning
  - Rehabilitation Self-Management Workshops
  - Organizational capacity building
  - On-line self-assessment of function

I Am Able: Population-Based Rehabilitation Model in Primary Care for Persons with Chronic Illness



Flow Through Study



Patient Outcomes (self report online)

* Physical Functioning Inventory (PFI)

  Assesses ADL, IADL, mobility and strenuousness of tasks, 21 tasks (0-100)

* The Rapid Assessment of Physical Activity (RAPA)
  Assesses frequency and duration of aerobic, strengthening and flexibility types of activity (0-7)

Results:
Baseline Characteristics

	Intervention (n=60)	Control (n=59)		
Age	63 (11)	63 (10)	t= 0.08.	P=0.93
female	42 (70%)	43 (73%)	$\times^2$=0.16	P=0.69
Number of Chronic conditions <2	47 (78%)	36 (61%)	$\times^2$=1.95	P=0.58
>2	13 (22%)	23 (39%)		
Self rated Health	2.94 (0.74)	3.05 (1.13)	t=0.60	P=0.55
Physical Activity level	4.58 (1.61)	4.32 (1.79)	t=0.84	P=0.40

Results: Outcome Measures

* PFI: Trend towards improved functioning

PFI Change Scores, Mean (SD)

Intervention	Control	F	P
5.5 (12.14)	2.96 (10.81)	1.15	0.29

* RAPA: Significantly increased level of activity

RAPA Results by Group

Intervention		Control		F	P
Baseline, Mean (SD)	Final	Baseline	Final		
4.58 (1.61)	5.09 (1.47)	4.32 (1.79)	4.05 (1.58)	1.15	0.0005

Results of Focus Group

* PCPs were more intentional in their inquiries about patients physical functioning
* Noted improvement in the level of patients' physical activity
* Patients were more focused in their interactions with PCPs, interactions more focus driven, patients self monitoring, increased understanding
* Barrier –time and patients' multiple concerns
* Devolve responsibility for physical functioning to rehabilitation professionals

Summary of Findings

* Increase in self-efficacy chronic disease score immediately after workshop not sustained at 4 months, may need reinforcement
* Greater improvement in intervention group in grip strength, physical activity despite short intervention
* Greater positive change in physical functioning in intervention group NS – change score 5.5 points may be clinically significant

Policy Implications/ Practice Changes

* Generic and disease-specific chronic disease self-management interventions that incorporate rehabilitation principles delivered by OT & PT in group and individual formats in primary care setting produce positive health outcomes

* Rehabilitation professionals increase the knowledge and skills of physicians and other team members related to the management of chronic conditions that result in improved overall management of these conditions and more efficient interdisciplinary collaboration

Policy Implications/ Practice Changes

* Preliminary evidence suggests that PT and OT services can be effectively delivered by condition based clinics, education, triaging and interdisciplinary formats in a primary care setting. (This needs further testing in larger context – expanded practice)

* **Overall implication –consideration for the funding of OT and PT services within FHTs is warranted**