CHSRF Synthesis:
Interprofessional Collaboration
and Quality Primary Healthcare

Appendices for final report submitted to
Canadian Health Services Research Foundation

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SUPPORT AGENCIES

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APPENDIX A — DEFINITIONS

Primary healthcare: The foundation of the healthcare system. It is the first point of contact people have with the healthcare system. It could be through a doctor, a nurse, another health professional, or perhaps through phone or computer-based services. Primary healthcare involves providing services, through teams of health professionals, to individuals, families and communities. It also involves a proactive approach to preventing health problems and ensuring better management and follow-up once a health problem has occurred. (Health Canada web site, 2007)

Primary healthcare team: A group of persons who share a common health goal and common objectives determined by community needs, and all team members contribute to achieving these goals and objectives in a coordinated manner, in accordance with their competence and skills and respecting the functions of others. (World Health Organization, 1985)

Primary care: Primary care is the element within primary healthcare that focuses on healthcare services, including health promotion, illness and injury prevention, and the diagnosis and treatment of illness and injury. (Health Canada web site, 2007)

Interdisciplinary team: Defined as a functioning unit composed of individuals with varied and specialized training who coordinate their activities to provide services to a client or a group of clients. (Ducanis & Golin, 1979, p.3)

Interdisciplinary primary healthcare model: An approach to primary healthcare delivery which emphasizes universally accessible, continuous, comprehensive and co-ordinated primary healthcare provision for a defined population through the shared responsibility and accountability of physicians and all other primary healthcare providers. (Adapted from the Working Group on Interdisciplinary Primary Health Care Models, Advisory Committee of Interpersonal Practitioners – ACIP. Interdisciplinary Primary Health Care Models: Final Report)

Collaborative practice: An interprofessional process of communication and decision-making that enables the separate and shared knowledge and skills of care providers to synergistically influence the client/patient care provided. (Way, D., Jones, L., Baskerville, B & Busing, N. Primary health care services provided by nurse practitioners and family physicians in shared practice, CMAJ, 165(9).

Collaborative patient-centred care: An interprofessional process for communications and decision-making which enables the separate and shared knowledge and skills of care providers; it results in “synergy” which leads to better patient care and requires collaboration between patients and various health professionals. (www.cihc.ca)

Inter-disciplinary collaboration: The positive interaction of two or more health professionals who bring their unique skills and knowledge to assist patients/clients and families with their health decisions. (Web site of the Canadian Association of Occupational Therapists, 2005)


Multiprofessional education (may also be referred to as “shared learning” or “common learning”): Occasions when two or more professions learn side by side for whatever reason. (Centre for the Advancement of Interprofessional Collaboration, 2004)

Interprofessional collaboration: Occasions when two or more professions learn from and about each other to improve collaboration and the quality of care. (Centre for the Advancement of Interprofessional Collaboration, 2004)
Health system: Health Canada includes the following as a health system: primary healthcare (in its broadest sense, from promotion to acute and episodic illness), and specialized services in hospital or in long-term care in institutions or in the community. (Health Canada website, 2007, http://www.hc-sc.gc.ca/home-accueil/search-recherche/a_e.html)

Quality: The degree of excellence and the extent to which an organization meets clients’ needs and exceeds their expectations. In the AIM accreditation program, the following four dimensions define quality: responsiveness, system competency, client/community focus and worklife. Each dimension has several descriptors attached to it (Canadian Council on Health Services Accreditation, 2007). According to the World Health Organization, health systems should seek to make improvements in six areas or dimensions of quality which require that healthcare be:

- Effective: Delivering healthcare that is adherent to an evidence base and results in improved health outcomes for individuals and communities, based on need;
- Efficient: Delivering healthcare in a manner which maximizes resource use and avoids waste;
- Accessible: Delivering healthcare that is timely, geographically reasonable, and provided in a setting where skills and resources are appropriate to medical need;
- Acceptable/patient-centred: Delivering healthcare which takes into account the preferences and aspirations of individual service users and the cultures of their communities;
- Equitable: Delivering healthcare which does not vary in quality because of personal characteristics such as gender, race, ethnicity, geographical location, or socioeconomic status;
- Safe: Delivering healthcare which minimizes risks and harm to service users.


Quality healthcare: Is about delivering the best possible care and achieving the best possible outcomes for people every time they deal with the healthcare system or use its services. Essentially, it means doing the best possible job with the resources available. (Health Canada website, 2007)

Outcomes: Changes in health status or in the consequence of a service. (Canadian Council on Health Services Accreditation, 2007)

Cost-benefit: Refers both to a formal discipline used to help appraise or assess the case for a project or proposal, which itself is a process known as project appraisal, and an informal approach to making decisions of any kind. Under both definitions, the process involves, whether explicitly or implicitly, weighing the total expected costs against the total expected benefits of one or more actions in order to choose the best or most profitable option. (http://en.wikipedia.org/wiki/Cost_benefit_analysis)

Uni-professional: One profession only.
APPENDIX B — METHODOLOGY

A systematic search and analysis of Canadian and international peer-reviewed and grey literature was completed to evaluate evidence of interprofessional teams and their benefits (a complete list of search terms appears later in this appendix). The Joint Evaluation Team classification of interprofessional collaboration outcomes was used as a framework for analyzing and categorizing findings from the literature analysis as follows:

<table>
<thead>
<tr>
<th>Level</th>
<th>Classification</th>
<th>Research Question</th>
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<tbody>
<tr>
<td>1</td>
<td>Reaction</td>
<td>How do interprofessional teams affect providers?</td>
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<tr>
<td>2a</td>
<td>Modification attitudes/perceptions</td>
<td>How do interprofessional teams affect providers?</td>
</tr>
<tr>
<td>2b</td>
<td>Acquisition knowledge/skills</td>
<td>How do interprofessional teams affect providers?</td>
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<tr>
<td>3</td>
<td>Behavioral change</td>
<td>How do interprofessional teams affect providers?</td>
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<td></td>
<td>How do interprofessional teams affect patients/clients?</td>
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<tr>
<td>4a</td>
<td>Change in organizational practice</td>
<td>How do interprofessional teams affect the health system?</td>
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<tr>
<td></td>
<td></td>
<td>How do variations among teams affect outcomes?</td>
</tr>
<tr>
<td>4b</td>
<td>Benefits to patients/clients</td>
<td>How do interprofessional teams affect patients/clients?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How do variations among teams affect outcomes?</td>
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Literature searches were performed in the following databases and indexes:

<table>
<thead>
<tr>
<th>Literature Review Resources</th>
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<tbody>
<tr>
<td><strong>MEDLINE</strong></td>
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<tr>
<td><strong>CINAHL</strong></td>
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<tr>
<td>Canadian Research Index (CRI)</td>
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<tr>
<td>Cochrane Library</td>
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<tr>
<td>DARE (Database of Abstracts of Reviews of Effectiveness)</td>
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<tr>
<td>CBCA Reference and Business (Canadian Business and Current Affairs)</td>
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<tr>
<td>Internet</td>
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A supplemental hand search was also performed of documents that meet inclusion/exclusion criteria. Search strategies focused on the topic of interprofessional teams/collaborations and patient/provider outcomes utilizing database-specific controlled vocabulary and synonymous keywords. Evidence-informed strategies were used whenever possible. Articles were collected in RefWorks, and duplications were removed and remaining records were weeded using defined inclusion and exclusion criteria. Documents identified throughout this review are included in the bibliography.

The strategy for the review included a search of the grey literature, and specific reports and evaluation studies from the following sources that were identified as project requirements by the Foundation and the Health Council of Canada (see Appendix C for the list of documents reviewed):

- final reports, evaluation reports and synthesis reports of 47 initiatives funded through the PHCTF (www.hc-sc.gc.ca/hcs-sss/prim/phctf-fassp/index_e.html);
- seven reports commissioned by the Canadian Collaborative Mental Health Initiative (www.ccmhi.ca);
• six commissioned research papers funded through the Enhancing Interdisciplinary Collaboration in Primary Health Care initiative (www.eicp.ca);
• the Collaborative Care Synthesis Report of the Primary Health Care Transition Fund; and
• other reports pertaining to interprofessional teams as completed by organizations such as the Canadian Health Services Research Foundation, the Canadian Interprofessional Health Collaborative, the Cochrane Collaboration’s Effective Practice and Organization of Care Review Group, and international literature, including that from the World Health Organization, Centre for Advancement of Interprofessional Collaboration, Organisation for Economic Co-operation and Development and the Commonwealth Fund.

As part of the analysis of the included peer-reviewed and grey literature, and some of the documents/reports received that met the inclusion criteria, one of the three reviewers assessed the quality and strength of the evidence collected. These assessments were graded by an expert in primary healthcare research (see appendices F and G of the synthesis document for details of the analysis process and templates).

Methodological quality took into account the following dimensions:
• the type of study design used (for example, before and after; controlled before and after; before, during and after; longitudinal; case study; randomized controlled study; action research);
• whether the evaluation design was appropriate in relation to its research aims/questions;
• whether there were clear objectives and criteria for evaluation;
• whether the limitations and ethical considerations of the evaluation were noted; and
• whether validity and reliability or authenticity and trustworthiness had been well considered.

Quality of information took into account the following dimensions:
• whether there was clear rationale for the evaluation;
• whether good contextual information was provided regarding teams and their collaboration;
• whether there was sufficient information on sampling, ethics and possible bias; and
• whether the analysis had been described in sufficient detail.

A key informant environmental scan (see Appendix H for environmental scan letter and template) was completed as a methodological component of the synthesis project, using an online survey tool as the mechanism to collect information. The purpose of this scan was to identify information related to interprofessional collaboration and interprofessional teams in primary healthcare in Canada that may not have been represented as part of the reports and evaluations for the PHCTF, or may have not been reported in the literature. The template for the scan was developed by the team, pilot tested with six individuals, and revised based on feedback. Key informant stakeholders were identified by the working group primarily because of their known leadership roles in primary healthcare or healthcare service in general, and/or secondary to their previous involvement with primary healthcare initiatives. They included representatives from the following areas: primary healthcare leaders from jurisdictional ministries/departments of health; regional health authority leaders and/or family practice physicians within jurisdictions; national associations such as the College of Family Practice of Canada; and researchers and educators in select Canadian universities.
Literature Search Terms

Wherever possible, controlled vocabulary was utilized to search databases and article indexes. As controlled vocabularies differ in most resources, no two searches were the same. Controlled vocabulary searching was supplemented with keyword searching. The following list shows some of the terms used in various combinations in the searches:

Interdisciplinary
Inter-disciplinary
Interprofessional
Inter-professional
Multidisciplinary
Multi-disciplinary
Multiprofessional
Multi-professional
Collaboration
Collaborative
Team
Primary health care
Primary healthcare
Patient care team
Family practice
Evaluation
Assessment
Program evaluation
Evaluation research
Quality assurance
Benchmarking
Health care evaluation mechanisms

Communication
Organization and administration
Resource utilization
Health system outcome(s)
Patient acceptance of health care
Patient outcome(s)
Client outcomes
Scope of practice
Service delivery
Satisfaction
Attitude(s)
Physician-patient relations
Professional-patient relations
Interprofessional relations
APPENDIX C — DOCUMENTS REVIEWED

DOCUMENTS

I. Broad System Context

Policy reports reflecting the political, legislative and regulatory environment regarding interprofessional teams, including:

- Conference Board of Canada report by the Canadian Medical Protection Association on regulatory and medico-legal issues
- Choices for Change: The Path for Restructuring Primary Health Care Services in Canada

Highlights of national and jurisdictional changes that reflect the shift in focus for chronic disease prevention and management from acute and episodic illness to primary prevention, community participation and self-management, as supported by interprofessional teams:

- Emerging Approaches to Chronic Disease Management in Primary Health Care, April 2006;

II. Synthesis Report Theme: Collaborative Care

Provincial-Territorial Envelope

- Alberta
- British Columbia
- Manitoba
- Ontario
- New Brunswick
- Newfoundland and Labrador
- Northwest Territories
- Nova Scotia
- Nunavut
- Prince Edward Island
- Quebec
- Saskatchewan
- Yukon

Aboriginal Envelope

*Health System Renewal*

- Bigstone-Aspen Shared Initiative Care (BASIC)
- Community and Organizational Transition to Enhance the Health Status of all Northerners
- Health Integration Initiative (HII)
- Northern and Aboriginal Population Health and Wellness Initiative
- Tui’kn Initiative

*Health System Enhancement*

- Aboriginal Midwifery Education Program (AMEP)
Multi-jurisdictional Envelope

- Building a Better Tomorrow: Engaging Current Providers in a Renewed Primary Health Care System for Atlantic Canada
- Integrating Primary Health Care with the Multi-disciplinary Team: Collaborative Care for Substance Use and Concurrent Disorders
- Western Canada Chronic Disease Management Infrastructure

National Envelope

National Strategies
National Strategy on Collaborative Care

- Canadian Collaborative Mental Health Initiative
- Enhancing Interdisciplinary Collaboration in Primary Health Care: A Change Process to Support Collaborative Practice
- Helping to Sustain Canada’s Health System: Nurse Practitioners in Primary Health Care
- Multidisciplinary Collaborative Primary Maternity Care

Tools for Transition
Federal/Provincial/Territorial Component

- Becoming Partners: A Consultation to Build Support for a Canadian Care-giving Strategy among Primary Health Care Providers
- Building Capacity in Primary Health Care: Disseminating Best Practices in Interdisciplinary Teams
- Primary Health Care Initiatives and Telehealth: Making the Links National Workshop
- Enhancing Primary Health Care: Learning and Applying Facilitation within a Systems Model
- Increasing Support for Family Physicians in Primary Health Care
- Measuring Cost-Effectiveness: A Proposal to Develop a Methodological Framework for Future Research
- Supporting Implementation of Electronic Medical Records in Multidisciplinary Primary Health Care Settings

Responsive Component

- 6th National Summit on Community Cancer Control: Community Cancer Control in Northern and Rural Communities
- Building Blocks to a Sustainable Primary Health Care System
- Fetal Alcohol Spectrum Disorder in Newfoundland and Labrador
- National Conference/Workshop on the Implementation of Primary Health Care Reform
- Regional Workshops to Encourage and Support Uptake of Chronic Disease Management Best Practices
- Where’s the Patient’s Voice in Health Professional Education?
National Initiatives

- Getting a Grip on Arthritis: A National Primary Health Care Community Initiative
- Health Care Interpreter Services – Strengthening Access to Primary Health Care
- National Home Care and Primary Health Care Partnership Initiative
- Pallium Integrated Care Capacity Building Initiative
- Rainbow Health – Improving Access to Care

Official Languages Minority Communities Envelope

English-Speaking Minority Communities
- Improving Primary Health Care Services for English-Speaking Persons in Quebec

French-Speaking Minority Communities
- Implementing a Digital Radiology and Tele-Radiology System
- Réseautage Santé en français [Francophone Health Networks]

Laying the Groundwork for Culture Change: The Legacy of the PHC Transition Fund

III. Others

- Guiding Facilitation in the Canadian Context
- Six major research projects funded by the EICP Collaboration
- Health Canada’s health human resources strategy
  http://www.hc-sc.gc.ca/hcs-sss/hhr-rhs/strateg/index_e.html
- Documents from the Organisation for Economic Co-operation and Development and the Commonwealth Fund
  http://www.commonwealthfund.org/publications/
- Cochrane Collaboration’s Effective Practice and Organization of Care Review Group
- Canadian Interprofessional Health Collaborative (national organization; no papers to date)
- Documents from the Canadian Health Services Research Foundation, including:
  Inventory of Research & Evaluation Projects on PHC Renewal, 2005
  http://www.chsrf.ca/research_themes/workplace_e.php
- Canadian Collaborative Mental Health Initiative (CCMHI) documents
## APPENDIX D — INCLUSION AND EXCLUSION CRITERIA

### INITIAL REVIEW (INCLUSION AND EXCLUSION CRITERIA)

### Inclusion Criteria

<table>
<thead>
<tr>
<th>Inclusion Criteria</th>
<th>Yes</th>
<th>No</th>
<th>Resp.</th>
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<tbody>
<tr>
<td>Relevance (includes at least the key terms of interprofessional, team, quality, primary healthcare, collaboration, collaborative practice, patient outcomes, health system outcomes, provider or professional outcomes, outputs, evaluation and research).</td>
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<tr>
<td>Does have an outcome/output in at least one of the 5 categories of the Joint Evaluation Team’s classification of interprofessional collaboration outcomes as follows:</td>
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<tr>
<td>o Benefits to patients/clients</td>
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<td>o Change in organizational practice</td>
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<td>o Behavioral change</td>
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<tr>
<td>o Modification of attitudes or opinions</td>
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<tr>
<td>o Simple reaction to the team process</td>
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<tr>
<td>Reference list was detailed and included information from reliable sources (i.e., not letter or responses from readers).</td>
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<tr>
<td>Available Canadian French Grey Literature.</td>
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### Exclusion Criteria

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<tr>
<th>Exclusion Criteria</th>
<th>Yes</th>
<th>No</th>
<th>Resp.</th>
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<tbody>
<tr>
<td>Non-English language for literature search.</td>
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<tr>
<td>Does not have an outcome/output in one of the 5 categories of the Joint Evaluation Team’s classification of interprofessional collaboration outcomes as follows:</td>
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<tr>
<td>Does not provide an analysis for efficiency or effectiveness, or have documentation of outcomes or outputs.</td>
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<tr>
<td>Has program description without evaluation.</td>
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<td>Source: letters, editorials, commentaries or opinion pieces.</td>
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APPENDIX E — DATA COLLECTION PROCESS AND TEMPLATES

LITERATURE AND DOCUMENT REVIEW AND GRADING SYSTEM1 DEFINITIONS

Grading completed:

- For each article/document based on inclusion/exclusion criteria, quantitative and/or qualitative abstraction sheets, level of evidence criteria, health services intervention, administrative databases, results of clinical record review, and differences in outcomes versus differences in interventions;
- Collation of all grading.

Terms

Case-control studies: The starting point is the outcome of interest, such as adverse events from use or nonuse of health services intervention. Those who experience the event are designated case, and those who do not are designated control. Investigators design case-control studies to ensure controls are reasonably similar to cases with respect to important determinants of outcome such as sex and age, but have not experienced the target outcome.2

Cluster randomization: Investigators commonly recruit all clusters before randomization and assign them to groups at the same time, but they collect data at the individual group level.3

Cohort studies: Investigator identifies groups of patients, each a cohort, who are exposed to the health services intervention and follows them in time to monitor the target outcomes.4

Controlled interrupted time-series study: A comparison group or setting is incorporated, with multiple measures in both groups, only one of which is exposed to the intervention.5

Controlled before-and-after studies: Measure outcomes before and after the introduction of an intervention; observed differences in outcomes, not otherwise explained, are assumed to be caused by the intervention. The investigator identifies a control group or setting that has similar characteristics to the intervention group but is not exposed to the intervention.6

Determinant of outcome: A characteristic of participants that confers increased or decreased likelihood of experiencing the outcome (for example, demographic variables); it is important to compare baseline data and, if necessary, to adjust for baseline differences in the analysis.7

Interrupted time-series studies: Attempt to detect whether an intervention has had an effect that is significantly greater than the underlying secular trend (helps with difficulty in randomizing).8

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2. Ibid, pp 274.
5. Ibid, pp 273.
Meta-analysis: When a systemic review pools data from primary studies to provide a quantitative estimate of the overall effect.9

Mixed methods: Combine data collection approaches, sometimes both quantitative and qualitative, into study methodology and are commonly used in the study of service delivery and organization. Some mixed method studies include a single over-arching research design but use mixed methods for data collection (for example, surveys, interviews, observation and analysis of documentary material).10

Multivariate analyses: Statistical procedures (such as logistic regression, multiple regression and multivariate analyses of covariance) for analyzing the relationships among three or more variables simultaneously.11

Observational study: The goal of an observational study is to draw inferences about the possible effect of a treatment on subjects, where the assignment of subjects into a treated group versus a control group is outside the control of the investigator.12

Other evidence: Other types of evaluation and/or research.

Quality of evidence: The extent to which the reader is confident that an estimate of outcome is correct.

Quasi-randomized trial: A trial using a quasi-random method of allocating participants to different forms of care. There is a greater risk of selection bias in quasi-random trials where allocation is not adequately concealed compared with randomized controlled trials with adequate concealment of allocation.13

Randomized controlled trial: A scientific procedure most commonly used in testing medicines or medical procedures. It is considered to produce the most reliable form of scientific evidence because it eliminates all forms of spurious causality. The basic idea is that treatments are allocated to subjects at random. This ensures that the different treatment groups are statistically equivalent.14 Its success is dependent on two interrelated processes: the generation of an unpredictable sequence by which participants are allocated to intervention and control groups through the use of a random process; and allocation concealment, which shields individuals who are recruiting study participants from knowing upcoming assignments in advance.15

Study design: Basic study design of either observational (cohort studies, case-controlled studies, interrupted time-series analysis, mixed methods studies, systematic reviews, and controlled before-and-after studies) or randomized trials.

Study quality: The detailed study methods and execution (see inclusion/exclusion criteria, quantitative and/or qualitative abstraction sheets, level of evidence criteria, health services intervention, administrative databases, results of clinical record review, and differences in outcomes versus differences in interventions).

Systematic reviews: Investigators specifically state inclusion and exclusion criteria, conduct a comprehensive search for the evidence, and summarize the results according to explicit rules that include examining how effects may vary in different subgroups. They provide strong evidence when the quality of the primary study is high and sample sizes are large.16

Eight potential threats to internal validity of non-randomized designs:

- history (during study period, event occurs in addition to intervention);
- maturation (observed effect caused by changes in passage of time);
- testing (repeat testing may show improvements that are the result of test familiarity rather than intervention);
- instrumentation (changes in calibration of measuring instruments or changes in exposure/outcome assessors may produce changes in obtained measurements);
- statistical regression (participants are selected based on extreme results on pre-intervention measures);
- selection bias (differential selection of participants for comparison groups resulting in unequal probabilities of experiencing the outcomes of interest);
- experimental mortality (differential loss of participants from comparison groups); and
- interactions with selection, such as selection-maturation, selection-history and selection-instrumentation.17

Sparse data: Results include just a few events or observations that are uninformative.

Imprecise data: Confidence intervals are sufficiently wide that an estimate is consistent with either important harms or important benefits/outcomes.

Note: A single study with a small sample size (or few events) yielding wide confidence intervals spanning both the potential for harm and benefits should be considered as imprecise or sparse data. Confidence intervals that are sufficiently wide that, irrespective of other outcomes, the estimate is consistent with conflicting recommendations should be considered as imprecise or sparse data.

Consistency: Similarity of estimates of effect across studies. If there are important unexplained inconsistencies in results, confidence in estimate of effect for the outcome decreases; this includes the direction of the effect (see below), the size of the differences, and the significance of the differences.

Directness: The extent to which the people, interventions and outcomes measures are similar. Researchers should ask whether there is a compelling reason to expect important differences in the size of the effect (for example, if only a small number of senior leaders in two similar groups are interviewed, is there an expectation that there would be a compelling reason to identify important differences in the size of the effect). Overly stringent criteria should not be applied, including when surrogate outcomes are used in the study (for example, team collaboration related to CPG adherence or changes in client outcomes).

Grading System Rating

High: Further research is very unlikely to change the confidence in the estimate of effect of interprofessional teams on quality primary healthcare.

Moderate: Further research is likely to have an important impact on confidence in the estimate of effect and may change the estimate of effect of interprofessional teams on quality primary healthcare.

Low: Further research is very likely to have an important impact on confidence in the estimate of effect/outcome and is likely to change the estimate of effect of interprofessional teams on quality primary healthcare.

Very Low: Any estimate of effect of interprofessional teams on quality primary healthcare is very uncertain.

17. Ibid, pp 289.
### Inclusion and Exclusion Criteria

#### Inclusion

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<th>Criteria</th>
<th>Yes</th>
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<th>Comments</th>
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<td><strong>Relevance:</strong></td>
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<tr>
<td>• There must be team interprofessional* collaboration;</td>
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<td>• The team interprofessional collaboration must be in primary care** or primary healthcare (note: primary healthcare can be provided in primary healthcare hospitals or long-term care if there is clear evidence that the collaboration is among an interprofessional team);</td>
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<td>• There must be reference to outcomes of that team collaboration.</td>
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<td><strong>Outcomes/outputs included one or more of:</strong></td>
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<td>• patient outcomes/outputs, health system outcomes/outputs, provider or professional outcome/outputs.</td>
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<td><strong>Reference list was detailed and included information from reliable sources (i.e., not letter or responses from readers).</strong></td>
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<tr>
<td><strong>Available Canadian French Grey Literature.</strong></td>
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## Inclusion and Exclusion Criteria

### Exclusion

<table>
<thead>
<tr>
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<th>Yes</th>
<th>No</th>
<th>Comments</th>
<th>Resp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-English language for literature search.</td>
<td></td>
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<tr>
<td>Does not have an outcome/output in at least one of the 5 categories of the Joint Evaluation Team classification of interprofessional collaboration outcomes as follows:</td>
<td></td>
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<tr>
<td>- Benefits to patients/clients</td>
<td></td>
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<tr>
<td>- Changes in organizational practice</td>
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<tr>
<td>- Behavioral change</td>
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<tr>
<td>- Modification of attitudes or opinions</td>
<td></td>
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<tr>
<td>- Simple reaction to the team process</td>
<td></td>
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<tr>
<td>Does not provide an analysis for efficiency, effectiveness, or have documentation of outcomes or outputs.</td>
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<tr>
<td>Has program description without evaluation.</td>
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<tr>
<td>Source: letters, editorials, commentaries, or opinion pieces.</td>
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</tr>
<tr>
<td>*synonymous terms include: interdisciplinary, interprofessional, multidisciplinary, multi-disciplinary, multiprofessional, collaborative, patient care teams</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>**synonymous terms include: primary health care, primary healthcare, family practice</td>
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### Abstraction Sheet

#### Quantitative

<table>
<thead>
<tr>
<th>Ref. #</th>
<th>Type</th>
<th>Criteria</th>
<th>Comments</th>
<th>Resp.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Initiative</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Objective(s)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Team size</td>
<td></td>
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<td></td>
<td></td>
<td>Team professionals</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>Target population</td>
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</table>

**Outcomes**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Explicit/Implicit</th>
<th>Level 1: Reaction</th>
<th>Level 2a: Modification attitudes/perceptions</th>
<th>Level 2b: Acquisition knowledge/skills</th>
<th>Level 3: Behavioral change</th>
<th>Level 4a: Change in organizational practice</th>
<th>Level 4b: Benefits to patients/clients</th>
<th>Other/unspecified</th>
</tr>
</thead>
</table>

**Methods of Evaluation**

- Aim of evaluation
- Research design
- Data collection method
- Ethics
- Source of data
- Data analysis method
- Number of groups in study
- Unit of study (1, 2 or more individuals)
- Method of allocation
- Allocation concealment
- Blinding
- Power calculation
- Sample size (original)
- Loss to follow-up
- Significance measures
- Reported biases
- Strength of design
- Strength of number
### Abstraction Sheet

#### Qualitative

<table>
<thead>
<tr>
<th>Ref. #</th>
<th>Type</th>
<th>Criteria</th>
<th>Comments</th>
<th>Resp.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Initiative</td>
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<td></td>
<td>Objective(s)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Team size</td>
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<tr>
<td></td>
<td>Team professionals</td>
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<tr>
<td></td>
<td>Content</td>
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<tr>
<td></td>
<td>Duration</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Interventions</td>
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<tr>
<td></td>
<td>Location</td>
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<tr>
<td></td>
<td>Target population</td>
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</tr>
</tbody>
</table>

#### Outcomes

- Explicit/Implicit
- Level 1: Reaction
- Level 2a: Modification attitudes/perceptions
- Level 2b: Acquisition knowledge/skills
- Level 3: Behavioral change
- Level 4a: Change in organizational practice
- Level 4b: Benefits to patients/clients
- Other/unspecified

#### Methods of Evaluation

- Aim of evaluation
- Sampling
- Data collection method
- Data analysis
- Ethics
- Findings
- Transferability
- Relevance and usefulness
- Allocation concealment (RCT only)
<table>
<thead>
<tr>
<th>Health Services Intervention</th>
<th>Yes</th>
<th>No</th>
<th>Comments</th>
<th>Resp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are results valid?</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Were study participants randomized?</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>(RCT only)</td>
<td></td>
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<tr>
<td>If yes, was randomization concealed?</td>
<td></td>
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<tr>
<td>Were study participants analyzed in the groups to which they were randomized?</td>
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<tr>
<td>Were groups shown to be similar in all known determinants of outcomes, or were analyses adjusted for differences? (RCT, CBAS, CITSS, CS, CCS)</td>
<td></td>
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<tr>
<td>Were valid determinant, process and outcome measures used? (RCT, CBAS, CITSS, CS, CCS, ITSS)</td>
<td></td>
<td></td>
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<tr>
<td>Was assessment of exposure/outcome uniform and unbiased? (RCT, CBAS, CITSS, CS, CCS)</td>
<td></td>
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<tr>
<td>Was ascertainment of exposure/outcome sufficiently complete? (RCT, CBAS, CITSS, CS, CCS, ITSS)</td>
<td></td>
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<tr>
<td>Were analyses adjusted for unit of assignment, if cluster assignment was used? (RCT, CBAS, CITSS, CS)</td>
<td></td>
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</tr>
<tr>
<td>Were rival plausible explanations considered for results of non-randomized studies? (CBAS, CITSS, CS, CCS, ITSS)</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>What are the results?</td>
<td>Rsp.</td>
<td></td>
<td></td>
<td>Rsp.</td>
</tr>
<tr>
<td>How large was the intervention effect?</td>
<td></td>
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</tr>
<tr>
<td>How precise was the estimate of the intervention effect?</td>
<td></td>
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</tr>
</tbody>
</table>

Randomized Controlled Trial (RCT)
Controlled Before-and-After Study (CBAS)
Controlled Interrupted Time-Series (CITSS)
Cohort Study (CT)
Interrupted Time-Series Study (ITSS)
Case-Control Study (CCS)
### Administrative Databases

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Comments</th>
<th>Resp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did investigators provide a detailed description of secondary sources and the specific information obtained from them?</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>If hospital discharge abstracts were used, did they describe diagnosis and procedure codes that defined the study sample?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Did they substantiate appropriateness of data sources by showing that data captured the process of care indicator or outcomes of interest?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Did investigators report the reliability and validity of secondary data sources?</td>
<td></td>
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</tr>
<tr>
<td>Did they cite relevant published work describing the reliability and validity of the data source or incorporate validation of the secondary source into their own study design?</td>
<td></td>
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</tr>
</tbody>
</table>

### Results of Clinical Record Review

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Comments</th>
<th>Resp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was there a systematic review and summary of evidence linking processes to outcomes?</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>If necessary, was an explicit, systematic and reliable process used to elicit expert opinion?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was there an explicit, appropriate specification of values or preferences associated with outcomes?</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Was the process of applying the criteria reliable, unbiased and likely to yield robust conclusions?</td>
<td></td>
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</tbody>
</table>

### Differences in Outcomes versus Differences in Interventions

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Comments</th>
<th>Resp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Were all important determinants measured?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Were measures of determinants of outcomes reliable and valid?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To what extent were study participants similar with respect to these determinants?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was multivariate analysis used to adjust for imbalances in determinants?</td>
<td></td>
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</tbody>
</table>
### APPENDIX F — LEVEL OF EVIDENCE CRITERIA TEMPLATE

*Table continues on page 20*

<table>
<thead>
<tr>
<th>ARTICLE/DOCUMENT:</th>
</tr>
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<tbody>
<tr>
<td><strong>Level of Evidence Criteria</strong></td>
</tr>
<tr>
<td><strong>Criteria (Oxford)</strong></td>
</tr>
<tr>
<td>1a Systematic reviews (with homogeneity) of randomized controlled trials</td>
</tr>
<tr>
<td>Systematic reviews of randomized trials displaying worrisome homogeneity</td>
</tr>
<tr>
<td>1b Individual randomized controlled trials (with narrow confidence interval)</td>
</tr>
<tr>
<td>Individual randomized controlled trials (with wide confidence interval)</td>
</tr>
<tr>
<td>1c All or none randomized controlled trials</td>
</tr>
<tr>
<td>2a Systematic review (with homogeneity) of cohort studies</td>
</tr>
<tr>
<td>Systematic review of cohort studies displaying worrisome homogeneity</td>
</tr>
<tr>
<td>2b Individual cohort study or low-quality randomized controlled trials (&lt;80% follow-up)</td>
</tr>
<tr>
<td>Individual cohort study or low-quality randomized controlled trials (&lt;80% follow-up/wide confidence interval)</td>
</tr>
<tr>
<td>2c Outcomes research; ecological studies</td>
</tr>
<tr>
<td>3a Systematic review (with homogeneity) of case-controlled studies</td>
</tr>
<tr>
<td>Systematic review of case-control studies displaying worrisome homogeneity</td>
</tr>
<tr>
<td>3b Individual case-control study</td>
</tr>
<tr>
<td>4 Case-series (and poor-quality cohort and case-control studies)</td>
</tr>
<tr>
<td>5 Expert opinion without explicit critical appraisal, or based on physiology, bench research or “first principles”</td>
</tr>
</tbody>
</table>

Adapted from: 
Oxford Centre for Evidence-based Medicine Levels of Evidence (May 2001), Produced by Bob Phillips, Chris Ball, Dave Sackett, Doug Badenoch, Sharon Straus, Brian Haynes, Martin Dawes since November 1998. 
<table>
<thead>
<tr>
<th>Criteria (Types of Research)</th>
<th>Yes</th>
<th>No</th>
<th>Comments</th>
<th>Resp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest–Post-test Control Group Design (if randomized); Post-test Only Control Group (if randomized); Solomon Four Group Design (if randomized)</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Static Group Comparison (Equivalent to Cohort Study); Pretest–Post-test Control Group Design (if not randomized); Post-test Only Control Group (if not randomized); Solomon Four Group Design (if not randomized); Non-Equivalent Control Group Design (equivalent to Before-After Study with a control group); Counterbalance Designs</td>
<td></td>
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<tr>
<td>Time Series Design (longer follow-up of Before-After Study)</td>
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<tr>
<td>One-Group Pre-test–Post-test (this is equivalent to Before-After Study without a control group)</td>
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<tr>
<td>One-shot Case Study (like a case series)</td>
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</tbody>
</table>
APPENDIX G — GRADING OVERVIEW AND TEMPLATE

GRADING THE STUDIES

The studies were graded based on a system devised by the Grade Working Group as published in the June 11, 2007 edition of the British Medical Journal\(^1\). The Grade system relies heavily on the concept of levels of evidence which has been developed to its fullest extent by the Oxford Centre for Evidence-Based Medicine <http://www.cebm.net/index.aspx?o=1025>. The grade system begins by placing all studies in one of three categories based on level of evidence: high, low or very low. Only randomized controlled trials (RCT) (evidence level 1b) and systematic reviews of RCTs (evidence level 1a) are given a starting grade of high. Observational studies with control groups such as cohort studies (evidence level 2), case-control studies (evidence level 3), and pre-post studies (evidence level 2) are given a starting grade of low, and all other studies (descriptive, opinion-based), which have evidence levels of 4 and 5, are given a starting grade of very low.

The final grade of an article is determined by issues related to the quality of the methodology of the study. Hence an RCT which has a small sample size, issues concerning potential contamination and bias, wide confidence intervals concerning the effect size, or questionable relevance of the outcomes might be decreased to a grade of moderate or, if the problems are very serious, low. An observational study with a control group (such as a cohort study or pre-post study) which was well done, had a large sample size, dealt with very relevant outcomes and had a large effect size would be increased to a grade of moderate. Conversely, a poorly done cohort study might be decreased to a grade of very low. It is rare for a study initial graded as very low to be increased except in the situation of a very well done qualitative study where the outcomes seemed relevant. This occurred with two of the qualitative studies we reviewed.

While this approach involves a degree of judgment by the assessors, it is better than relying completely on the level of evidence, which can be somewhat rigid if applied without further consideration of methodology and outcome issues. It still weights the level of evidence highly in its assessment, which gives it credibility since it is the most commonly used and accepted approach to defining quality of evidence, yet allows for adjustment based on other quality factors.

In general, one should probably consider studies with a grade of high or moderate as having trustworthy results. For studies with a grade of low, while they may be pointing in the right direction, one would want multiple studies at this grade level repeatedly showing the same outcomes. Then the consistency of results would increase the credibility. Studies with grades of very low may be useful in a hypothesis-generating sense but certainly should not be relied on for changing practice or implementing policy.
<table>
<thead>
<tr>
<th></th>
<th>Randomized Trial</th>
<th>Quasi-randomized Trial</th>
<th>Observational Study</th>
<th>Other Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Study Design</strong></td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>Study Quality</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>-1 Serious limitations</td>
<td></td>
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<tr>
<td>-2 Very serious limitations</td>
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<tr>
<td><strong>Consistency</strong></td>
<td></td>
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<tr>
<td>-1 Important inconsistency</td>
<td></td>
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<tr>
<td><strong>Directness</strong></td>
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</tr>
<tr>
<td>-1 Some uncertainty</td>
<td></td>
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</tr>
<tr>
<td>-2 Major uncertainty</td>
<td></td>
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<tr>
<td>-1 Sparse data</td>
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<tr>
<td>-1 High probability of reporting bias</td>
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<tr>
<td>+1 Strong, no plausible confounders, consistent and direct evidence</td>
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<tr>
<td>+2 Very strong, no major threats to validity and direct evidence</td>
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<tr>
<td><strong>Score</strong></td>
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</tbody>
</table>
ENVIRONMENTAL SCAN E-MAIL

Dear Colleague

You have been identified as a leader in health policy making, decision-making, and/or research in Primary Health Care (PHC), and we are asking for your valuable input into the attached environmental scan.

I am presently working with a team (Dr. Marshall Godwin, Dr. Vernon Curran, and Ms. Lindsay Glynn) to complete a synthesis report Decision Support Synthesis: Interprofessional Teams and Quality Primary Health Care for the Canadian Health Services Research Foundation and Health Council of Canada. Both the Canadian Health Services Research Foundation (CHSRF) and the Health Council of Canada (Health Council) are interested in having a better understanding of the evidence surrounding interprofessional and collaborative PHC teams in Canada, and their potential benefits for both patients/clients and health care professionals. To increase that understanding, this report is being completed to assess and synthesize Canadian and international experiences and evaluations and/or research with interprofessional teams related to health system outcomes; patient/client outcomes; and provider outcomes. In addition to literature and document reviews, this synthesis report includes an environmental scan within Canada.

I would really appreciate it if you could please take the time over the next few days to complete the attached environmental scan electronically and return it to me. I realize this is summer time and life is extremely busy; however this information can be helpful in clarifying the available evidence about interprofessional teams, promoting PHC teams, and determining the direction needed for further evaluation and/or research.

Thanks very much for your help and we can share the results with you if you wish; have a great summer!!

Please click the following link for the survey:

Cheers
ENVIRONMENTAL SCAN: THEMES AND MESSAGES

The environmental scan survey was distributed via e-mail, with follow-up reminders at three, four and five weeks, to 148 stakeholders in all jurisdictions across the country. Sixteen “no address” responses, and 18 respondents who identified either lack of available information or inability to provide information at this time provided no information. Of the remaining 124 stakeholders, 50 (or approximately 44%) responded to the scan, with the following jurisdictions represented: British Columbia (N=2), Alberta (N=7), Saskatchewan (N=5), Manitoba (N=5), Ontario (N=12), Quebec (1), New Brunswick (N=3), Nova Scotia (N=7), Newfoundland (N=7), Northwest Territories (N=1), Canadian Forces (N=1), Yukon (N=1) and Nunavut (N=1).

A. Overview of Scan Results

Of the 51 respondents, 46 completed the scan, with 43/46 (95.7%) identifying that they were describing a successful interprofessional primary healthcare team. Respondents were a combination of healthcare leaders, and decision or policy makers, with 21% identifying that they were also involved in research.

The teams existed primarily in either regional or district health authorities and community health centres, with 28% in either hospital or private clinic settings. Greater than 98% of the teams included physicians and nurses, with 77%, 66% and 55% having social workers, dieticians and pharmacists, respectively. Almost 50% of the teams provided service to a general population, with about 26% providing services for special needs such as mental illness or chronic disease. The majority (greater than 93%) had been in place for two or more years, and 38% had been in place for four years or more, with supportive funding for most.

The main impetus for moving to interprofessional teams was generally identified as enhanced access, quality improvement and the availability of a funding opportunity to do so. Interventions initiated with the interprofessional teams were broad, with team development, professional development/changes in organization and delivery of care, and co-location/clinical practice tools and guidelines identified by 87%, 78% and 74% of the respondents, respectively. Patients were involved in 65% of the teams in a variety of roles such as advisory committees for planning and evaluation, team and mutual goal-setting, resident councils and case conferencing.

The types of interprofessional models were extremely broad and included: governance partnerships between the health authority, physicians and other providers; continuous improvement programs for nursing homes; Getting a Grip on Arthritis; case managerial models; family health teams; population-specific teams (such as infant/child, youth and women, men); mental health networks; provincial primary healthcare frameworks; shared care (for example, mental health); Wagner models; a variety of family physician and nurse partnerships; several community health centres; the Northern Women’s Health Program; entire system change; primary healthcare networks; self-directed team models; and interdisciplinary care delivery units.

Sixty-three percent of the interprofessional teams were evaluated or participated in some sort of research project, with several respondents noting that evaluation frameworks were currently being developed. However, the questions relating to evaluation and research, design, numbers of teams studied, and outcomes (scan questions 17-30) were answered by 50% or less of the 46 respondents. They identified a wide variety of evaluation and research methods including: qualitative evaluation; randomized trial/cohort (only two); balance and mobility goals measured using objective measures; results-based management accountability framework; logic models (N=5); Simon Fraser University Work Centre evaluation on effective use of dialogue; reflective practice; semi-structured interviews to support quality improvement strategy; process and impact evaluation using cohort analytic research design; and the Kirkpatrick evaluation framework.
Before, during and after evaluation methodology was utilized by 48% of the teams evaluated, and during and after evaluation with 44%. Non-experimental or other designs were used for 80% of the teams, and randomized trial/cohort studies occurred in only two groups. With quantitative designs, only 29% had large sample sizes with adequate statistical power, with 41% and 29% having medium or low statistical power, respectively. When qualitative designs were used, 47% were case studies, with 61% using representatives of key informants, 40% explicit analysis strategy and 33% other rigor.

Approximately 61% had four teams or more, with 92% completing outcome assessments. The outcome assessments included patients/clients (87%), providers (87%) and organizational (57%). Patient/client outcomes looked at improvements in patient/client satisfaction (91%), health/well-being/accessibility/continuity of care (83%), and improvement in knowledge and/or skills in self-management (74%). Approximately 71% noted changes in provider perception or attitude towards the value and use of team approaches to caring for specific patient/client groups. Outcome assessment for service providers includes professional satisfaction (83%), changes in professional practice (79%), and changes in attitudes/perceptions, relationships/trust and knowledge/skills (75%). Organizational assessment measured improvement in accessibility and/or continuity of care (86%) and wider changes in the organization and delivery of care (79%). The outcome assessments identified how the system, patient and provider outcomes were affected by team member relationships (78%), role clarification (56%), the target population and the scope of practice (44%).

There were limited comparison groups involved with the research (only 14% or five respondents), with no randomization of people participating either as patients/clients or teams. A variety of processes and tools were developed through the interprofessional collaboration, including clinical tools to share information, protocols and workshops/learning sessions. A variety of other collaborative interprofessional opportunities were created from the teams’ collaboration, including collaboration with others external to the team, interprofessional committees and interprofessional on-the-job training.

Outcomes of these evaluations, research projects and system changes can be associated with the Joint Evaluation Team classification levels as follows:

- Level 2a (modification of attitudes and perceptions): Modification of attitudes and perceptions were identified (for example, changes in provider perception or attitude towards the value and/or use of team approaches to caring for specific patient/client groups);
- Level 3 (behavioral change): Behavioral change was noted (for example, increase in patient’s knowledge of health, increased skills for self-management);
- Level 4a (change in organizational practice): A change in organizational practice was identified (large increase in the use of the team approach to caring for patients/clients); and
- Level 4b (benefits to patients/clients): Benefits to patients/clients were identified (large increases in satisfaction with care/service, increase in access to service).

B. Scan Follow-up

A facilitated conference call with Quebec resulted in a preliminary evaluation report regarding an interprofessional collaboration project, which was included in the scan. Reforms in health and social services in Quebec were identified from other sources, including a shift to a population-based model, the use of Wagner’s model for chronic illness, and primary healthcare shifts with integrated network clinics. Reports received from Alberta and British Columbia were included in the document overview section. Linkages with Ontario resulted in evaluation of a voluntary quality assessment project that looked at facilitating continuous quality improvement of family practices (included interdisciplinary providers) in Ontario. This was the first step towards the establishment of a provincial assessment/accreditation
system in family medicine. It is also noteworthy that Ontario, partially based on the results of the 101 projects through the PHCTF, recently launched the Quality Management Collaborative for the province, which is meant to assist family health teams with implementing and evaluating programs, integrating health professionals, and building and strengthening teams.
APPENDIX I — TABLES OF REVIEWS

GREY LIT DOCS

NL PHC Renewal

Target Population
Population served by geographic PHC teams

Team #
8 (7 rural and 1 urban)

Team members
All disciplines providing service within geographic area (rural); physicians and community health workers participating in CDPM initiative (urban)

Outcomes

Acquisition Knowledge/ Skills
Stat significant (p≤0.05) improvements in relation to service provider awareness and understanding team purpose/vision/roles, team communication, team support, service delivery, scope of practice, % personal satisfaction.

Change in org. practice
On 5 SOP indicator statements, improvements were observed with stat. sig. higher scores (?10%, p≤0.05) on all 5 between baseline and final TET survey

Benefits to clients/ patients

- Clients who resided in team areas that experienced more improvement in team effectiveness tended to experience lower wait time for appointments (p=0.036), fewer visits to ER (p=0.025), and higher ease of access to PHC services (p=0.061).
- Clients who resided in team areas that experienced more improvement in team effectiveness tended to report a greater willingness to visit providers other than family physicians (not stat. sig.).
- Clients receiving diabetic care are receiving care not typically provided in the past, and the collaborative approach has addressed some of the service delivery gaps.
- Most participants in collaborative reported improvement in their health.
- Wait time for appts and lack of health professionals continue to represent most common type of barriers experienced by clients/patients.
- Increase in clients satisfaction with health services received.
- Very minimal change in self reported general health status between baseline and follow-up

Research &/ or Evaluation

Qualitative
Formative results-based evaluation (logic model)
Quasi-experimental and historical/ retrospective approaches with

- Collection Baseline data on project beneficiaries prior to project implementation (pre-test of team members and clients)
- Collection info same beneficiaries after project in place for some time (post-test of team members and clients 12 months after initiation)
- Standardized survey instruments (Team/SOP effectiveness and client satisfaction tools)
- Key informant interviews, focus groups and standardized records (Administrative Process Records) used for historical/ retrospective approach.

Grading
M
Getting a grip on Arthritis: A national primary health care community initiative

Target Population
Patients, general public, PHC providers

Team 
942 participants

Team members
Variety including physicians & rehab providers

Outcomes

Acquisition Knowledge/ Skills
Provider confidence in the musculoskeletal exam and initiating disease modifying anti-rheumatic drugs significantly increased at follow-up (p<0.01). Satisfaction with the ability to manage arthritis in their practice was also significantly increased [10 point scale 10= extremely satisfied; baseline 5.2±2.1; follow-up 6.5±1.7] [p<0.01]. Providers from the Ontario region reported significantly higher satisfaction when compared to SK/MB, QC and Atlantic region (p<0.01). BC/AB did not differ significantly from any of the regions. Providers from Family Health Networks (Ontario) and independent providers were significantly more satisfied compared to community health centres, CSSSs and other primary health care organizations (one way ANOVA, p<0.01). There was no significant difference in satisfaction in providers working in rural versus urban settings. Physicians and rehabilitation professionals were significantly more satisfied compared to nursing and other healthcare professionals. (p<0.01).

Research &/ or Evaluation

Grading
Low

PEI PHC renewal

Target Population
1. FHC: General population served by practice
2. HL: PEI population
3. Pall. C: Palliative Care pts on PEI.

1000-1500 pts/FP position on team; approx. 22,800 patients served by 5 teams.

Team 
5 Family Health Centres

Team members
Physicians, PC nurses, with dietitians and MH counsellors part of 2 of teams

Outcomes

Acquisition Knowledge/ Skills
Some integration of behavioural messaging where it had been separately advocated by 3 alliances in 2004; and municipalities have been engaged with focus on short- and long-term planning for healthy communities.

Change in org. practice
All health regions established palliative care programs, there is improved access to palliative care with increase in # clients registered with program, access by cancer pts is increasing; LOS on program indicates that more timely referrals are occurring, and data indicate that home deaths are occurring and time in acute care is decreasing.
Benefits to clients/patients
Pt. satisfaction rates remained unchanged; provider satisfaction increased; increase in provider collaboration and autonomy; majority providers satisfied with info flow; based on chart audits, pt. outcomes for hypertension impressive, Pap testing had similar participation rates across PEI, diabetes pts were appropriately tested for AIC and lipids, and complexity of diabetes care results in lower levels of glycemic control.

Yukon PHC renewal
Target Population
Yukon territory population
Team #
Not reported
Team members
Physicians, medical office assistants, nurses, pharmacists and dieticians.
Outcomes
Reaction
A survey of awareness and recall conducted in April 2006 indicates that it has been well-received and is being well-used. Survey results indicated that 65% of Yukoners recall receiving the book and that, of these, 82% have used it. Diabetes Collaborative was initiated as a first step in improving chronic disease management, with preliminary activity having effect in all other action areas. Five collaborative learning sessions were delivered to a group ranging from 20-40+ participants.

Group patient visits by physicians together with other HC professionals to focus on aspect of diabetes care, e.g., foot care, self-monitoring, etc.
- Diabetic feet working group – a multidisciplinary group established to develop Yukon standardized materials for screening, lower extremity testing and patient education. Materials will be disseminated through education and training sessions.
- Diabetic walking group – led by a community health nurse with Kwanlin Dun First Nation using indoor walking track at Canada Games Centre

Pre- and post-survey findings indicated increase in indicators of participant satisfaction, including ability to learn about and adopt more effective approaches to CDM (from 13.9% to 58.3%), ability to spend time with patients on health promotion (0 to 16.7%), patient’s access to patient education programs (4.3% to 25%). There was general increase in satisfaction in the work environment. Learning sessions and coordination support were rated as the most helpful aspects of the collaborative at 79% and 50% respectively, with flow sheets and clinical support also identified as helpful by 43%. A total of 93% of participants plan to continue use of toolkit flow sheets, 86% plan to continue self-management teaching and 72% to use of recall lists. Another 78.6% identify themselves as likely to use flow sheets for other chronic condition

Modification attitudes/perceptions
Diabetes Collaborative: Pre- and post-survey (20 and 14, respectively) indicated positive changes in participants’ views of abilities and community resources for CC

Acquisition Knowledge/ Skills
Diabetes Collaborative: Education sessions and coordination support helpful.

Change in org. practice
Diabetes Collaborative: Marked improvement in participant’s attitudes about working environment following collaborative.
Benefits to clients/ patients
Diabetes Collaborative: Most pt outcomes improved from May/June/ July 2005 to final measurement in August 2006: % pts with A1C .0.07 from 34.3 to 52,2; BP at <130/80 from 30.8% to 47.6%; and Chol/HDL ratio<0.07 went from 26.6% to 69.7%; Patients up to date with A1C testing increased from 56.2% to 70%, and LDL testing from 66.8% to 87.3%

Research &/ or Evaluation
Qualitative
• Document reviews
• Assessment of project files
• Individual and group interviews
• Pre- and post-test provider surveys
• Some clinical document review for diabetes collaborative

National HC and PC Partnership project
Target Population
A total of 942 clients (602 from Calgary and 340 from Ontario) were enrolled in the project between October 2004 and September 2005. The majority of clients were seniors over the age of 65, which was expected given that the incidence of diabetes increases with age

Team #
In Calgary – 14 family physicians and 8 home care community care co-ordinators (CCCs) participated in the project. Linkages with the broader team of RNs, LPNs, diabetic educators and specialists were strengthened.

In Ontario – 16 family physicians and 8 home care case managers participated in the project, and linkages with the broader team, including service provider organizations, diabetic educators, Trillium Health Centre and specialists, were strengthened.

Team members
Physicians, CCCs, and case managers

Outcomes
Reaction
There was a significant increase over a six-month period in clients feeling that their home care provider was open to their questions and opinions. Approximately 80% of clients feel that their providers are helpful with reminding them of the need for tests and follow-up, and assisting them to develop a management plan. In Calgary, at baseline, out of a possible score of 100, respondents gave satisfaction with their treatment an average score of 73, and satisfaction with the management of their diabetes an average score of 69. (PERD Study) The level of satisfaction could be linked with other factors such as confronting the realization of a chronic disease with a downward trajectory. In Ontario, close to 80% of Ontario survey respondents in October 2005 (second survey) were very satisfied or somewhat satisfied with their overall treatment and care; 86% of Ontario survey respondents were very or somewhat satisfied with the treatment and care they received from their family doctors; and 77% were satisfied with specialists’ care. Almost two-thirds of Ontario survey respondents were satisfied with the way their provider communicates and co-ordinates their care; 79% said they were very or somewhat satisfied with the information they received on diabetes, and 70% were satisfied with the services available to them. Another 78% were satisfied with their overall knowledge about diabetes.

Among those who received care from home care providers, 52% said they were very or somewhat satisfied with the treatment and care. All providers expressed a high level of satisfaction with the case management, chronic disease management, collaboration and partnership processes since the start of the project.
**Behavioural change**
Providers from Calgary and Ontario noted an increase in information sharing between physicians and CCCs/case managers and felt this has facilitated integration and collaboration of service delivery. In Calgary, the exchange of information (all modes) increased within the partnership from 11 hours at baseline to 14.5 hours at time 1, and 22 hours at time 2. Time spent on knowledge exchange (KE) with clients increased initially from 14 hours at baseline to 17 hours at time 1, but declined at time 2 to 9 hours. KE between members of the partnership reflected an increase in collaboration and communication with LPNs and RNs providing direct care. These partnerships supported the CCCs in doing less treatment-oriented activities and more case management coordinating activities. In Ontario, the overall extent of client knowledge exchange declined from 31 hours 22 minutes at baseline to less than 5 hours at time 1 and time 2. Non-client KE increased from 6 hours at baseline to 8 hours at time 1, and 9 hours at time 2. The function analysis results indicated a high level of coordination activity at both sites (from 31 hours at baseline to 72 hours at time 1 and 88 hours at time 2 in Ontario; and from 140 hours at baseline to 162 hours at time 1 and 130 hours at time 2 in Calgary). Calgary’s decline is a reflection of its strategy to promote client autonomy to contact the CCC when required versus the CCC making outgoing calls to clients.

**Change in org. practice**
In Calgary, 14 physicians and 8 CCCs participated in this project. At the Ontario site, 6 physicians and 2 CCAC case managers in Halton and 10 physicians and 6 case managers in Peel were involved with the project. Physicians in Calgary and Ontario reported an increased knowledge of home care and chronic disease management programs. Correspondingly, CCCs and case managers mentioned that a good knowledge of home care was required for their involvement in the project. Case managers in Ontario noted that they became more knowledgeable about diabetes through the Diabetes Education Centre, which enabled them to increase client awareness and self-management of the disease. In Calgary, where the primary care partnerships were more developed, knowledge improvement occurred mainly in the area of the new software and computer skills. Calgary CCCs achieved an increase in the scope of collaboration with a broader care community in chronic disease management. There was a shift in the use of RNs’ time as they engaged in chronic care, and an increase in the involvement of LPNs (0 minutes at baseline, to 11 minutes at time 1 and 2 hours at time 2). The Ontario site experienced an increase in the amount of time case managers spent engaged with the partnership and the expansion of their care network. Time with family physicians increased. Peel CCAC changed its referral process so non-urgent cases from partner physicians were managed by their designated case managers. The Diabetes Hypertension and Cholesterol Centre in Calgary (DHCC) noted that the collaboration between CCCs and their diabetes health nurse had improved, increasing client satisfaction as a result. The partnerships established between the physicians and CCCs have led to more appropriate and timely referrals to the DHCC.

**Benefits to clients/patients**
Close to three-quarters of clients received education from a diabetes education centre, suggesting that these centres are important contributors to this type of chronic disease management program. In the second survey, the majority of respondents reported a very good or excellent understanding of the role of exercise, medications and the use of tests. An anticipated impact of a strengthened home care and primary healthcare partnership was a reduction in use of more expensive institutional services. The results of both the first and second Ontario client survey found that no respondents were hospitalized for diabetes over the term of the project. In April 2005, 2.7% of Ontario client survey respondents indicated that they had been to the emergency department as a result of a complication related to their diabetes; this dropped to 1.2% in the October 2005 survey. These results suggest that the clients involved in the project maintained relatively good health during the reporting term but the data, particularly for Ontario, must be used with caution because it is self-reported data that might be influenced by client recall and their understanding of whether their hospital visit was related to their diabetes.
Research &/ or Evaluation

Quantitative
Non-equivalent control group design

Taber

Target Population
15,000 residents in geographic area served by Taber

Team #
8 family physicians; unclear re. other numbers

Team members
Family physicians, broad range of PHC services providing 18-bed acute care, 24 ER, 70-bed extended care, HC, PH and rehab

Outcomes

Modification attitudes/ perceptions
Improvement in satisfaction with professional practice; healthcare professionals expressed that they were working harder but had not made lifestyle gains originally anticipated;

Change in org. practice
Utilization data suggest improvements (e.g., day surgeries reduced; rate of use of ER and OPD in Taber 2/3 of the other comparison communities)

Benefits to clients/ patients
Healthcare workers reported that service in Taber improving:
• client satisfaction high;
• residents indicated adoption of healthier lifestyles and reductions in utilization

Research &/ or Evaluation

Quantitative
Case study with many data elements; study of single community with some comparison from 3 additional communities; utilization data analyzed by Centre of Health Outcome Research & Utilization Studies at U of A; organizational change and behavioural aspects analysis by Faculty Management and Centre for Health Care Organizations at U of Lethbridge, with collaborators at Management Faculty at University of Victoria and Faculty of Business at U of A; surveying for health status, satisfaction done thru Chinook HR

Health Care Renewal in NB

Target Population
People served by CHC

Team #
Varied among CHCs

Team members
Very broad (nursing, dietary, SW, RT, pharmacy, PT/OT, community developers, physicians)

Outcomes

Modification attitudes/ perceptions
5 provincial conferences with positive feedback re. changes in attitudes & perceptions
Acquisition Knowledge/ Skills
Enhanced training offered to over 500 ER nurses and 800 LPNs

Change in org. practice
Established and implemented core interdisciplinary team approach in CHCs which would provide services using collaborative approach so that most appropriate care provided by most appropriate provider.

Benefits to clients/ patients
227,555 counts of service activity across 5 CHCs by 16,759 clients

Other
• 5 CHCs established;
• Evaluation framework developed;
• standard provincial framework and core basket services for CHCs developed

Research &/ or Evaluation

Quantitative
Mainly document review (including some client record numbers) and participant feedback

Better Practices in Collaborative MH Care

Target Population
mental health consumers

Team #
varied across studies reviewed

Team members
varied across studies reviewed, generally included family physicians, psychiatrists, psychologists, social workers, nurses

Outcomes

Behavioural change
Degree of collaboration does not in itself appear to predict clinical outcome. Although there was a trend toward positive outcomes occurring more often in studies with moderate or high levels of collaboration, some studies with lower levels of collaboration also had positive outcomes. The pairing of collaboration with treatment guidelines appears to offer important benefits over either intervention alone in patients with depressive disorders. The overwhelming majority of studies with positive outcomes in this patient population included decision support instruments, usually in the form of a research protocol, and/or established clinical treatment guidelines. It is important to note that previous trials of clinical guidelines, treatment protocols or algorithms without collaborative interventions have not shown improvements in patient-level outcomes. One of the most powerful predictors of positive clinical outcomes in studies of collaborative care for depression was the inclusion of systematic follow-up as part of the study protocol. In the studies reviewed, follow-up was delegated to another clinician or care manager, with varying degrees of collaboration with the primary care physician and for varying lengths of time. The studies which included systematic follow-up and a mechanism for treatment to be altered when patients were not responding well (often a stepped approach), had positive outcomes. Efforts to increase medication adherence through collaboration with other healthcare professionals (e.g., practice nurses) were also a common component of many successful studies. Although improving medication adherence has strong face validity, analysis of these studies found no clear direct relationship between medication adherence and clinical outcome. Collaboration alone has not been shown to produce skill transfer or enduring changes in primary care.
physician knowledge or behaviours in the treatment of depression. Only one experimental study demonstrated a trend toward behavioural change in the primary care physician over time (increased prescribing for depression). Collaborative interventions designed to produce changes in the practice patterns of primary care providers should include service restructuring specifically designed to support those changes. Enhanced patient education about mental disorders and their treatment (usually by a health professional other than the primary care physician) was a component of many of the studies with good outcomes.

*Change in org. practice*
Collaborative relationships between primary care physicians and other mental health care providers do not happen instantly or without work. They require preparation, time and supportive structures. A study which built on pre-existing relationships in the primary care practice resulted in high levels of collaboration and good patient outcomes. Ideally, collaborative care arrangements will grow out of pre-existing clinical relationships. System-level collaboration also requires preparation, service reorganization and time to develop. It is likely that real change, sustained over long periods, needs to be gradual and introduced in a step-wise fashion. Co-location is important for both providers and patients. Providers who have not met face to face and/or do not have preexisting clinical relationships are less likely to engage in a collaborative care relationship. From the patient's point of view, offering patients specialty mental healthcare within the primary care setting appears to produce greater engagement of patients in mental healthcare, a *sine qua non* for better patient outcomes. Collaboration between mental health specialists and primary care providers is likely to be most developed when clinicians are co-located and most effective when the location is familiar and non-stigmatizing for patients. Emerging literature on co-location/integration of substance abuse treatment and primary care suggests that patients in integrated models do significantly better, and those with poorer health benefit the most. Collaborative interventions designed to produce changes in the practice patterns of primary care providers should include service restructuring specifically designed to support those changes. Collaborative interventions established as part of a research protocol may be difficult to sustain once the funding for the study is terminated.

*Benefits to clients/patients*
Collaboration paired with treatment guidelines for depression may have a differential effect on outcome, with patients with more severe disorder responding better. Several of the studies reviewed showed improved outcomes only in subgroups of patients with higher depression severity scores. At present, there is more evidence to support targeting collaborative interventions at major depressive disorders. Patient choice about treatment modality may be an important factor in treatment engagement in collaborative care. The popularity of psychotherapy was confirmed, and sustained quality of life benefits regarding mental health were found for psychotherapy which did not occur with medication.

*Research & Evaluation*

*Qualitative*
An extensive review of more than 900 articles identified 38 studies and follow-up reports which investigated the impact of collaborative mental healthcare using experimental methodologies (randomized controlled trials and intervention studies with outcome measures) in the primary care setting. The studies were subjected to systematic review and descriptive analysis. Based on this analysis, recent trends in collaborative mental healthcare research were summarized, and 11 key conclusions and best practices for collaborative mental healthcare were identified. Highlights of the conclusions and best practices are presented below.

Target Population
Primary healthcare providers in Atlantic Canada

Team #
A total of 3725 participants completed at least one interprofessional continuing education module. Participants from the nursing profession represented the largest group (n = 1620), followed by social work (n = 398), occupational/physiotherapy (n = 147), dietetics (n = 138), and medicine (n = 113). Dietitians and social workers were the two professions with the highest percentage representation from the health professional population in Atlantic Canada.

Team members
Nursing, social work, occupational/physiotherapy, dietetics, medicine, pharmacy and other regulated and non-regulated health professionals

Outcomes

Reaction
Overall, the mean ratings on the majority of participant satisfaction items across BBTI modules and provinces were 4 or greater (agree to strongly agree), suggesting a high level of satisfaction with the subject matter, organization and design, and delivery of the BBTI modules across provinces.

Modification attitudes/ perceptions
Overall, the results across all modules and provinces indicate a significant increase in the self-reported pre- to post-confidence sum scores of participants at a p < .05 level. Participants reported significantly greater confidence in competencies related to the subject matter of the BBTI modules. Significant increases in confidence scores were reported across the six BBTI modules and the four provinces.

Acquisition Knowledge/ Skills
Overall, the results across modules and provinces indicated a significant increase between the retrospective pre- to post-performance change ratings of participants at a p < .05 level. These results indicate that participants reported significant enhancements in competency areas related to the subject matter of the BBTI modules at three months post-module completion.

Behavioural change
Overall, the results across modules and provinces indicated a significant increase between the retrospective pre- to post-performance change ratings of participants at a p < .05 level. These results indicate that participants reported significant enhancements in competency areas related to the subject matter of the BBTI modules at three months post-module completion.

Change in org. practice
A fundamental perception and observation was that the BBTI modules were useful in helping teams work together more effectively. Semi-structured telephone interviews were conducted with a stratified sample of participants (N = 23) from across Atlantic Canada. Four interprofessional focus groups (one in each province) were also conducted with participants. Twenty-four respondents were recruited across the Atlantic provinces to participate in focus groups (22 females, 2 males). Respondents reported that the BBTI modules had positively enhanced communication, and relationship-building. Participants reported more comfort and confidence in their communication as well as greater reciprocal communication. Semi-structured telephone interviews were conducted with a stratified sample of health administrators (N = 21) from across Atlantic Canada. Administrators participating in interviews reported observations of greater shifts in providers’ thinking, perceptions and attitudes towards teamwork and partnerships. Improvements in communication between team members had improved, new community partnerships had developed and new programming had been introduced as a result of the new knowledge and skills gained from BBTI participation.
**Benefits to clients/patients**

Semi-structured telephone interviews were conducted with a stratified sample of participants (N = 23) from across Atlantic Canada. Four interprofessional focus groups (one in each province) were also conducted with participants. Twenty-four respondents were recruited across the Atlantic provinces to participate in focus groups (22 females, 2 males). Respondents also believed there was increased interprofessional collaboration at the patient care level. More efficient referrals and expanded sources of referrals were noted with better communication and a better understanding of roles and services.

**Research &/or Evaluation**

*Qualitative*

One group pre-test–post-test design

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**Final Report: Multidisciplinary Collaborative Primary Maternity Care Project.**

**Target Population**

Policy makers, professional associations and organizations

**Team #**

Not reported

**Team members**

Family physicians, nurses, nurse practitioners, midwives

**Outcomes**

**Reaction**

The first set of surveys resulted in 796 respondents and the second set had just over 600 respondents. A typical respondent was female, between the ages of 45 and 54 with less than 10 years’ work experience. Large numbers of all professionals strongly agreed with the key elements of collaborative practice developed in the project, including mutual respect and trust, shared goals, informed choice, professional competence and collegial relationships among team members. There was less agreement on the topics of hierarchy, supervision, and the ultimate accountability of one healthcare provider.

**Research &/or Evaluation**

*Qualitative*

One-shot case study

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**Canadian Collaborative Mental Health Initiative Final Report**

**Target Population**

Mental health policy makers, mental health providers, consumers

**Team #**

A consortium of 12 national organizations representing consumers, families and caregivers, community and healthcare providers worked together under the umbrella of the Canadian Collaborative Mental Health Initiative (CCMHI) to improve mental healthcare for Canadians.

**Team members**

- Canadian Alliance on Mental Illness and Mental Health
- Canadian Pharmacists Association
- Canadian Association of Occupational Therapists
- Canadian Psychiatric Association
- Canadian Association of Social Workers
- Canadian Psychological Association
- Canadian Federation of Mental Health Nurses
- Dietitians of Canada
- Canadian Mental Health Association
- Registered Psychiatric Nurses of Canada
- Canadian Nurses Association
- College of Family Physicians of Canada
Outcomes

Reaction

A. Analysis of the Current State of Collaborative Care – Steering Committee members indicated that the research papers, taken together, constitute an analysis of the current state of collaborative mental healthcare, as intended by the project proposal. Steering Committee members indicated that they believed the comprehensive review of the current literature on collaborative care to be useful to their members.

B. Charter Development – The Charter development process was seen by Steering Committee members to be sound, credible, and to result in a useful Charter.

C. Development of Specific Approaches and Strategies for Collaborative Care – Steering Committee members found the toolkits to be sufficiently comprehensive. The toolkits were seen by Steering Committee members as having the potential to help members of their associations work more collaboratively. They were seen to be practical, addressing many of the issues germane to collaborative work. The toolkits were described as beneficial to consumers and caregivers. The key benefit will be the emphasis placed on the role of consumers and caregivers. An important impact of the toolkits will be the reminder and guide to health professionals of the importance of including consumers and caregivers as equal partners.

Research &/ or Evaluation

Qualitative
Interviews

Grading
Very Low

Final Evaluation of the NWT Primary Health Care Transition Fund Initiative

Target Population
NWT population and communities

Team #
Unknown – varied across projects in the initiative

Team members
Physicians, midwives, nurse practitioners, community health workers

Outcomes

Reaction
Project stakeholders were satisfied with the different aspects of coordination provided by the project.

Stakeholders most satisfied with co-ordination and dissemination of funding, advocating for PCC, advocating for ISDM, and the quality of advice and support provided. Almost 84% of stakeholders surveyed indicated projects were either very successful or successful in facilitating coordination and integration with other health services. Stakeholders indicated initiative was most successful in supporting “increase emphasis on health promotion, disease and injury prevention, and management of chronic diseases.” Stakeholders indicated slightly less successful in supporting NWT’s transition to PCC approach and supporting “facilitate coordination and integration with other health services (i.e. in institutions and in communities).”

Stakeholders indicated that the initiative was least successful in increasing “the proportion of the population having access to primary health care organizations accountable for planned provision of defined set of comprehensive services to defined population;” and in establishing
“interdisciplinary primary health care teams of providers, so that the most appropriate care is provided by the most appropriate provider”.

Research &/ or Evaluation

Qualitative
Document review, individual technical reports, interviews, focus groups

Evaluation of the Health Integration Initiative

Target Population
Enhanced relationships FNIHB & Inuit branches & provincial services

Team #
N/A

Team members
N/A

Outcomes

Reaction
Felt program successes; cost effectiveness

Change in org. practice
New partnerships, with strengthening of previous partnerships

Benefits to clients/ patients
Perceived client benefits

Research &/ or Evaluation

Qualitative
Expert opinion; interviews &/or documentation review

Community Organizational Transition to Enhance Health Status Northerners

Target Population
Partners in Northern Health Strategy Working Group (NHSWG) (Northern Saskatchewan)

Team #
N/A

Team members
N/A

Outcomes

Change in org. practice
Majority of Technical Advisory Committees (TACs) constructed work plans; all TACs developed current state assessment for respective areas, with identification of best practices, standards of care and core services; and recommendations developed with respect to cross-jurisdictional decision-making and developmental relationships as essential to community development.

Initial steps towards community and organizational transition to enhance status of residents. The process and model represents best practice in addressing issues and needs of northern health care.
Tui’kn Initiative, NS

Target Population
5 FN communities in NS

Team 
NA

Team members
NP/Physicians; some had HC

Outcomes

Modification attitudes/ perceptions
Partnerships developed

Acquisition Knowledge/ Skills
Built capacity for collection, interpretation & manipulation of health information

Change in org. practice
Recruitment of FPs and NP; 4 pillars of community action implemented

Other
EPR in 5 communities

Research &/ or Evaluation

Qualitative
Summative evaluation

Northern and Aboriginal Population Health and Wellness Initiative

Target Population
Northern and Aboriginal H atención in Manitoba

Team 
NA

Team members
NA

Outcomes

Change in org. practice
Joint immunization program initiated; joint pandemic plans

Benefits to clients/ patients
Increased health services

Other
Shared home care model implemented; multi-purpose facility completed; Aboriginal H atención developed raw data & provided analysis; implementing Alternate Relationship Plan (ARP) physician remuneration model; specific performance data for FN health delivery

Research &/ or Evaluation

Qualitative
NA

Quantitative
NA
Bigstone-Aspen Shared Care Initiative

Target Population
Bigstone Cree Nation (Shared home care model)

Team #
N/A

Team members
N/A

Outcomes

Other
Working on electronic health record; transition & change requires long-term commitment & patience plus funding

Research &/or Evaluation

Qualitative
Interview & document review

Quebec Health & Social Services

Target Population
People served by FMG’s

Team #
NA

Team members
Physicians; CSLCs

Outcomes

Modification attitudes/ perceptions
Enrolment went more smoothly than expected

Acquisition Knowledge/ Skills
Improved knowledge of patients

Change in org. practice
Notable progress collaboration physicians/ nurses

Benefits to clients/ patients
Accessibility after hours;
doctor-nurse coordination; inclusiveness of care

Other
Slow & bureaucratic government processes; contractual agreement problems between FMG’s & nurse at CSLC’s; lack of support for change process; delays in IM systems
Shared Mental Health Care Service

Target Population
313 MH pts

Team #
43 physicians; 8 SMHC consultants

Team members
See previous

Outcomes

Modification attitudes/ perceptions
Large majority FP (80.5%) felt SMHC services either met all of their expectations or exceeded their expectations;

FP with more exposure to service reported being more comfortable dealing with their MH pts, needing less assistance with MH pts, treating more MH pts within their PC practice, and referring fewer pts to specialized services (compared to FP with little exposure to SMHC);

Both FP groups dissatisfied with many aspects of MH services overall.

Acquisition Knowledge/ Skills
Focus of consultation is on FP learning and skill development

Change in org. practice
Consultation services are providing ST therapy;
Services are being provided in PC setting;
FP is remaining primary person responsible for pts MH care.

Benefits to clients/ patients
Most follow-up visits were for additional psychotherapy (55%) and to monitor pts health status (48.9%) & very few were due to deteriorating health (3.4%) or lack of mental health improvement (1.7%).

Pts with FP exposure to SMHC reported feeling more confident that their visit to FP will help them, and pts seen by FP with minimal exposure felt that their MH problems were having much more of a negative impact on their quality of life, self esteem, social relationships and recreational activities.

Pts seen by SMHC consultant were more satisfied with quality of MH care provided by FP in follow-up visit, they were more confident that their follow-up will help them with their MH problems, and a large percentage felt their FP had very good understanding of their MH problem.

Large percentage (approx 71%) pts seen by consultant during follow-up sessions were reported to have slightly improved or had improved a lot since their last visit, with 13.4% deteriorating since last visit.

Research &/ or Evaluation

Quantitative
3 phases of evaluation:

• preliminary activities (e.g., document and literature review regarding SMHC service and associated evaluation, stakeholder interviews, logic model development and development of evaluation work plan).

• Collection of implementation data and 1st round of data from FPs & SMHC consultants.

• Data collection from patients & pt follow-up data from FPs.
Alberta PHC renewal

Target Population
Varied – Alberta population generally for some, and geographic or physician practice areas for others

Team #
Varied across projects

Team members
Varied across projects

Outcomes

Reaction
Health Link Alberta – Surveys of the general public, conducted in January 2004 and December 2005, found that 63% of Albertan households know of Health Link. Although in January of 2004, the rural population was less likely to be aware of the service, in December of 2005, 63% of rural and urban households and 66% of remote community households were aware of Health Link. There have been no noticeable shifts in awareness levels among demographic groups. Awareness of Health Link is lower among single persons, males, seniors and those under the age of 25, and higher among females, families and those likely to have younger children. In 2003-2004, an estimated 28% of all Albertan households had used the service. By 2005-2006, an estimated 46% (508,479) of households had used Health Link Alberta at least once. User satisfaction surveys have indicated high levels of satisfaction with almost all aspects of the service. Results for 2005 indicate that Health Link callers receive good value from the service. Almost all callers surveyed report that they would use Health Link again and recommend it to family and friends. Findings show that 99% of callers felt comfortable expressing questions, 99% found the information they received from Health Link useful, 96% were able to get the information they needed, 92% felt more informed about their health questions or concerns after the call, and about 87% felt they could handle a similar situation on their own in the future. While 93% of Health Link callers are aware of the triage function, 64% are aware of Health Link’s way-finding services and 57% of the general health information component, and only 14% are aware of the web-based services. Data collected through surveys of Alberta’s physicians show that most are aware of Health Link. By the spring of 2005, awareness among physicians was 93%. However, physicians’ awareness of Health Link varies by scope of practice. Physicians specializing in emergency medicine, as well as those in paediatric medicine and family medicine have particularly high levels of awareness, while other physicians, such as obstetricians, have lower awareness levels.

Urban and rural physicians differ in their opinions about the benefit of Health Link to their patients. Specifically, almost 80% of urban non-emergency physicians compared to 53% of rural non-emergency physicians believe their patients benefit from using the service. Furthermore, 89% of urban physicians believe Health Link’s advice to one of their patients was appropriate, compared to 64% of rural physicians.

Research &/ or Evaluation

Quantitative
The evaluation of Health Link Alberta involved statistical analyses of call data and collection of the views of multiple stakeholders through interviews, surveys and focus groups, including Health Link staff and callers, RHA staff, and the general public. The evaluators have also developed methodologies to determine the impact of Health Link on health system utilization and on health system utilization costs. Regarding CBF initiatives, the evaluators have focused on the nine initiatives regarding how they have met their objectives and overcome key barriers, rather than the specific effects of the initiatives on the healthcare system. Three surveys were designed in order to assess lessons learned, derive best practices and develop a logic model of change incorporating the views of providers and patients. The “Team Functioning” survey
evaluates team processes, including communication, orientation, leadership, feedback and coordination. "Practitioner" surveys were completed to assess: the responsiveness of the delivery model; satisfaction with the delivery model; team roles and change management processes; efficiency and effectiveness of team delivery of services. The "Client" survey collected data on self-reported health status, satisfaction with services, speed and ease of access, continuity of care and the effectiveness of the delivery model.

Becoming Partners: Tools for Transition. A Consultation to Build Support for a Canadian Caregiving Strategy Among Primary Care Providers

Target Population
National health organizations, PHC service provider and caregiver support organizations and academic researchers.

Team #
38 participants in the national symposium

Team members
National and jurisdictional professional associations

Outcomes

Reaction
Participants were asked to evaluate the symposium by rating a list of declarative statements using a five-point scale (1 - “definitely not” to 5 - “definitely yes”). All participants reported attending the symposium was a positive experience and that all objectives were met.

Research & Evaluation

Qualitative
One-shot case study

Final Report: Multidisciplinary Collaborative Primary Maternity Care Project

Target Population
Policy makers, professional associations and organizations

Team #
Not reported

Team members
Family physicians, nurses, nurse practitioner, midwives

Outcomes

Reaction
The first set of surveys resulted in 796 respondents and the second set had just over 600 respondents. A typical respondent was female, between the ages of 45 and 54 with less than 10 years’ work experience. Large numbers of all professionals strongly agreed with the key elements of collaborative practice developed in the project, including mutual respect and trust, shared goals, informed choice, professional competence and collegial relationships among team members. There was less agreement on the topics of hierarchy, supervision and the ultimate accountability of one healthcare provider

Research & Evaluation

Qualitative
One-shot case study
NS PHC Renewal

Target Population
Dependent on project (e.g., population if wellness, pre/postnatal care if midwifery)

Team #
Unclear

Team members
Variety (e.g., CHCs have variety of health and social disciplines as well as volunteers; FP/NP collaboration; enhanced FP have FP nurse)

Outcomes
Change in org. practice
30% physicians registered in program;
47 clinics & 501 registered users with PHC Imp program:
DHAs supported changes by renovating PHC organizations:
New ways if delivering PHC in many districts.

Other
Developed an evaluation framework to measure both health outcomes & impacts of changes to PHC at 3 levels: System, District and Project.

Research &/or Evaluation

Grading
Unable to grade; studies in particular areas included elsewhere
LIT REV DOCS - HIGH

Eff et al. (#52)

Target Population
Patients with mean age of 60 who had 2 or more ADL impairments of terminal illness, CHF or COPD

Team #
Unclear

Team members
PC manager, PC physician, other HC providers

Outcomes

Benefits to clients/ patients
Intervention improved most HR-QOL measures among terminally ill patients and satisfaction among non-terminally ill pts; Improved caregiver HR-QoL satisfaction with care, and caregiver burden and reduced hospital readmissions at 6 mos., but did not substitute for other forms of care; higher costs of TM/HBPC should be weighed against these benefits.

Research &/ or Evaluation

Quantitative
X

Grading
High

#24, Physic-Pharm Cpman. Hypertension

Target Population
Hypertensive Adults

Team #
39 physicians, 4 clinical pharmacists

Team members
Physician/pharmacist/nurses developed algorithm for management of hypertension; physician/pharmacist managed patient

Outcomes

Benefits to clients/ patients
Both intervention and control groups experienced significant reductions in BP but reduction was greater in intervention group after adjusting for differences in baseline BPs; average provider/pt costs higher in control group.

Research &/ or Evaluation

Quantitative
X

Grading
High
#27, Integ. H&S Care Older People

**Target Population**
393 people over 64 years of age

**Team #**
Unclear

**Team members**
Social workers, social work assistants, OT, OT assistants, physicians and district nurses

**Outcomes**

*Benefits to clients/patients*
Positive intervention effects for 8 of 11 outcomes measured, 5 of which attained significance at 1 year; greater improvement in health perception, smaller increases in # of clinic visits and instrumental activities of daily living impairments, improved social activity, greater improvement in Centre for Epidemiologic Studies-Depressions scores, general well-being, life satisfaction, MMSE. No significant treatment effects in DL scores, # hospitalizations, or mortality

**Research &/or Evaluation**

*Qualitative*
X

*Grading*
High


**Target Population**
Forty-two primary care pediatric practices affiliated with 4 managed care organizations. Children aged 3 to 17 years with mild to moderate persistent asthma.

**Team #**
Unclear

**Team members**
Physicians, physician assistants, nurse practitioners

**Outcomes**

*Benefits to clients/patients*
Children in the planned care arm experienced an additional reduction of 13.3 (95% CI, –24.7 to –2.1) fewer ASD-14 per year of intervention (P = .02) relative to children in usual care. Children in the peer leader arm experienced 6.5 (95% CI, –16.9 to 3.6) fewer asthma symptom days per year as compared with children in usual care. The greatest absolute difference between interventions and usual care was seen in the high-baseline ASD-14 group (n = 109) in which children in the planned care and peer leader arms experienced respective decreases of 62.4 and 46.8 annualized symptom days relative to usual care. Both interventions showed small, statistically significant effects for 2 of 5 Children’s Health Survey for Asthma scales. The Child Emotional scale scores improved for children in both intervention arms relative to usual care. Planned care subjects had greater controller adherence (parent report) compared with usual care subjects (rate ratio, 1.05 [95% CI, 1.00 to 1.09]).

**Research &/or Evaluation**

*Quantitative*
X

*Grading*
High

Target Population
1966 patients with a mean age of 70 years who had 2 or more activities of daily living impairments or a terminal illness, congestive heart failure (CHF), or chronic obstructive pulmonary disease (COPD).

Team 
16 Veterans Affairs medical centers with HBPC programs

Team members
Physicians were salaried staff who designated a specific percentage of time to the HBPC program. Other disciplines encompassed by the home care team included social workers, dietitians, therapists, pharmacists and health technicians (paraprofessional aides).

Outcomes

*Reaction*
Caregivers of the TM/HBPC group of terminal and non-terminal patients showed significant gains in satisfaction with patient care compared with the control group. Finally, TM/HBPC caregivers of non-terminal patients reported a significant decline in objective burden compared with controls (P = .008).

*Change in org. practice*
Total mean per person costs were 6.8% higher in the TM/HBPC group at 6 months and 12.1% higher at 12 months. The impact on VA hospital readmissions for all patients by treatment group and by disease stratum shows a 7.9% (P = .07) relative reduction in proportion of TM/HBPC group patients admitted in the first 6 months, with most of the reduction occurring among those with severe disability. At 6 months, VA hospital readmission costs for the TM/HBPC group were lower.

*Benefits to clients/ patients*
The TM/HBPC intervention improved most HR-QoL measures among terminally ill patients and satisfaction among non–terminally ill patients. It improved caregiver HR-QoL, satisfaction with care and caregiver burden, and reduced hospital readmissions at 6 months. Significant improvements were seen in terminal TM/HBPC patients in HR-QoL scales of emotional role function, social function, bodily pain, mental health, vitality, and general health. Caregivers of non-terminal patients improved significantly in QoL measures and reported reduced caregiver burden. Team-managed HBPC patients with severe disability experienced a 22% relative decrease.

Research &/ or Evaluation

*Quantitative*
X

*Grading*
High


Target Population
Older adults with depression

Team 
Unclear
Team members
Providers involved in the interventions included nurses, social workers, psychologists, master’s-level counselors and physicians. The interventions were required to take place within the primary care setting. The GEM projects provide team care from various disciplines. One intervention involved care from an interdisciplinary team made up of physicians, nurse practitioners, social workers, psychologists, and clinical pharmacists. The other two interventions involved teams of geriatricians, nurse practitioners and social workers. All three interventions involved an initial assessment (one to two visits) in which patients saw all members of the GEM team. Following the initial visits, a team care plan was developed and patients returned for regular follow-up appointments.

Outcomes

Other
The authors recommend the use of interdisciplinary teams and more implementation of psychosocial treatments shown to be effective for older adults. Psychosocial therapies provided by mental health professionals with experience providing care to older adults should be tested as first-line treatment. More truly interdisciplinary models are needed, such that depression is treated in the context of medical care in a coordinated, holistic approach. More description of the specifics of primary care interventions and providers is needed. The level of training for work with older adults of the mental health providers, the number of sessions actually provided to each participant, and the specific psychotherapy details should be included to allow for replication of the intervention.

Research &/ or Evaluation

Quantitative
X

Grading
High


Target Population
Patients with mean age of 60 who had 2 or more ADL impairments of terminal illness, CHF, or patients with Type II Diabetes from 30 general practice clinics in North Dublin

Team #
Unclear

Team members
Practice nurse, diabetes nurse specialist, dietitian, general practitioner

Outcomes

Reaction
Feedback from participating GPs and PNs was collected during semi-structured interviews 1 year after the intervention commenced. GPs and PNs were generally very positive about the new service

Modification attitudes/ perceptions
Feedback from participating GPs and PNs was collected during semi-structured interviews 1 year after the intervention commenced. GPs and PNs were generally very positive about the new service and expressed increased confidence in providing routine diabetes care within general practice.
Change in org. practice
There was evidence of increased diabetes care for intervention group patients both in the specialist centre and in participating general practices. There was a significant increase (from 65 to 85%, \( P < 0.0001 \)) in the numbers attending for annual reviews in the specialist centre.

The proportion of patients defaulting from care (patient self-report) fell by 8% in the intervention group as compared with an increase of 7% in the control group.

Research &/ or Evaluation
Quantitative
X
Grading
High


Target Population
RCTs in collaborative care interventions for depression in primary care

Team #
n/a

Team members
various

Outcomes
Change in org. practice
Studies with all 3 elements of collaborative care in place (a case manager, a primary care physician, and access to specialist input) tended to be more effective and were certainly more homogeneous than those studies with less model fidelity. The use of regular and planned supervision of the case manager, usually by a psychiatrist, was related to a more positive clinical outcome. Case managers with a specific mental health background also achieved better outcomes.

Benefits to clients/ patients
Collaborative care had a clearly positive effect on standardized depression outcomes at 6 months compared with standard care (standardized mean difference [SMD], 0.25; 95% confidence interval [CI], 0.18–0.32). Eleven studies provided longer-term outcomes of up to 57 months with collaborative care compared to standard care. The overall trend was for clinical improvement to be maintained at 12 months (SMD, 0.31; 95% CI, 0.01 to 0.53), 18 months (SMD, 0.25; 95% CI, 0.03 to 0.46), 24 months (SMD, 0.15; 95% CI, –0.03 to 0.34), and 5 years (SMD, 0.15; 95% CI, 0.001 to 0.30). Collaborative care can be designed with varying levels of intensity and requires careful consideration in its implementation.

Research &/ or Evaluation
Quantitative
X
Grading
High

**Target Population**
Patients with late-life depression

**Team #**
18 primary care clinics from 8 health care organizations in 5 states

**Team members**
Depression care manager or DCS (nurses or psychologists), supervising team psychiatrist, primary care practitioner

**Research &/ or Evaluation**

*Quantitative*
X

*Grading*
High

#38 collaborative care for depression

**Target Population**
patients with depression

**Team #**
various

**Team members**
various

**Outcomes**

*Benefits to clients/ patients*
Depression outcomes improved at 6 mos. and evidence of longer-term benefit up to 5 years; effect size directly related to medication compliance and to professional background and method of supervision of case managers; addition of psychotherapy did not substantially improve outcomes nor decrease # sessions; cumulative meta-analysis showed sufficient evidence to demonstrate statistically significant benefit of CC.

**Research &/ or Evaluation**

*Quantitative*
X

*Grading*
High
Target Population
Patients with late-life depression

Team 
18 primary care clinics from 8 health care organizations in 5 states

Team members
Depression care manager or DCS (nurses or psychologists), supervising team psychiatrist, primary care practitioner

Outcomes

Benefits to clients/ patients
Pts fare significantly (P<0.05) better than controls regarding continuation of antidepressant treatment, depressive symptoms, remission of depression, physical functioning, quality of life, self efficacy, and satisfaction with care at 18 and 24 mos. One year after IMPACT resources were withdrawn, a significant difference in SCL-20 scores (0.23, p<0.0001) favouring IMPACT pts remained.

Research &/ or Evaluation

Quantitative
X

Grading
High


Target Population
Patients in family practice clinics

Team 
unclear

Team members
Family practitioners and a nurse facilitator

Outcomes

Change in org. practice
Outreach visits by nurse facilitator; production and dissemination of educational material for patients and professionals; periodic reminders to the gp to screen

Benefits to clients/ patients
99% increase in number of requests for screening tests for haemoglobin disorders made by intervention practices (p=.0001); average increase was 50% in practices with 20% ethnic minority residents and 126% in practices with >= 20% ethnic minority residents

Research &/ or Evaluation

Quantitative
X

Grading
High

**Target Population**
The VA system serves a primarily aging male population in a lower socioeconomic bracket and with a much greater prevalence of chronic illness and co-morbid psychiatric illness. The study enrolled 354 patients who consented to participate, 168 of whom were assigned to the collaborative care group and 186 to the consult-liaison care group.

**Team #**
Unclear

**Team members**
Staff included physicians, residents, fellows, nurse practitioners, one psychiatry resident, one clinical psychologist, one clinical psychology intern, four social workers, and two social work interns.

**Outcomes**

*Benefits to clients/patients*
Patients in the collaborative care group were more likely to visit a primary care provider for depression treatment than those in the consult-liaison group (77% compared with 39), with significantly more visits per patient. Patients who received collaborative care were less likely to be referred to GIMC psychiatrists than those in consult-liaison care. A significantly greater number of collaborative care patients were treated for depression and given prescriptions for antidepressants. The collaborative care patients experienced an average of 14.6 additional depression-free days over the nine months. We found that a collaborative care model designed to improve depression treatment in a veteran primary care population was associated with modest increases in time free of depression and in treatment costs over the nine-month study period. However, the difference in the number of depression-free days between groups was not statistically significant. This intervention was developed on the basis of the availability of treatment resources in VA primary care clinics, including team treatment meetings, brief follow-up telephone calls, and cognitive-behavioral therapy.

**Research &/or Evaluation**

*Quantitative*
X

*Grading*
High

**Target Population**
Patients in family practice clinic with documented diagnosis of Type II Diabetes

**Team #**
Unclear

**Team members**
Clinical nurse specialist, family practice physicians, exercise specialist and nutrition specialist

**Outcomes**

*Benefits to clients/ patients*
Average fasting blood glucose, mean systolic and diastolic BP, total cholesterol and LDL and HbA1c increased in control group and decreased in intervention group; HDL cholesterol decreased in the control group and increased in the intervention group; no changes were statistically significant, although effect sizes reflected moderate to large effect sizes in the desired direction for HbA1c, systolic and diastolic BP. Physical function, bodily pain, vitality and social functioning improved in the experimental group (not statistically sig, but effect sizes were small-moderate and clinically important). Experimental patients showed trend toward improvement of role functioning, energy and health distress (not statistically sig.) Patient feeling of self-empowerment was strongest theme to emerge in focus group.

**Research &/or Evaluation**

*Quantitative*
X

*Grading*
Moderate


**Target Population**
PCPs, psychiatrists, patients with PHQ9 depression severity scores>=12

**Team #**
Small VA community-based outpatient clinics with no on-site psychiatrists. Practice-based collaborative care involves primary care providers (PCPs) working with an on-site depression care team comprising non-physicians (e.g., nurses, pharmacists) and mental health specialists (e.g., psychiatrists).

**Team members**
The intervention involved 5 types of providers: (1) PCPs located at CBOCs; 2) consult telepsychiatrists located at parent VAMCs; (3) an off-site depression nurse care manager (RN); (4) an off-site clinical pharmacist (PharmD); and 5) an off-site supervising psychiatrist. The supervising psychiatrist provided clinical supervision to the care manager and clinical pharmacist via weekly face-to-face meetings. Nurse care manager encounters were conducted via telephone and were scripted to enhance standardization and reproducibility.
Outcomes

Reaction
Most patients were satisfied with care, with 70.9% of the intervention group reporting that they were very or somewhat satisfied with their care for emotional problems at the 12-month follow-up compared to 61.4% in the usual care group. Patients in the intervention group had greater odds of being satisfied than usual care patients at both 6 and 12 months.

Change in org. practice
We speculate that the active intervention component was telephone-based supervised nurse care management and the resultant impact on medication adherence. The importance of the nurse care manager suggests that outcomes can be modestly improved by implementing a nurse care management model without investing in interactive video equipment or reorganizing practices to provide team-based care in a virtual environment.

Benefits to clients/patients
Patients in the intervention group had significantly greater odds of being adherent than those in usual care at both 6 and 12 months. At 6 months, patients in the intervention group were significantly more likely to respond, but not to remit compared to usual care. By 12 months, the intervention group had significantly greater odds of remitting, but not responding. Intervention patients reported larger gains in mental health status and health-related quality of life, and reported higher satisfaction.

Research &/or Evaluation

Quantitative
X

Grading
Moderate


Target Population
Population of residential facility in Sydney living in self care units and hostels.

Team #
Unclear

Team members
General practitioners, carers, residents

Outcomes

Benefits to clients/patients
Main outcome measure: Geriatric depression scale. There was significantly more movement to “less depressed” levels of depression at follow-up in the intervention than control group (Mantel-Haenszel stratification test, $P=0.0125$). Multiple linear regression analysis found a significant intervention effect after controlling for possible confounders, with the intervention group showing an average improvement of 1.87 points on the geriatric depression scale compared with the control group (95% confidence interval 0.76 to 2.97, $P=0.0011$). Intervention participants were more likely to be taking antidepressants at follow-up than controls. Evidence that the intervention helped prevent mild depression from becoming worse. Social support increased significantly in the intervention compared with the control group.

Target Population
Veterans with moderate to severe depression

Team #
41 primary care clinicians (staff physicians, fellows, physician assistants, and nurse practitioners); depression decision support team consisted of 1 psychiatrist who was assigned up to 4 hours per week and 1 nurse care manager who was assigned up to 8 hours per week.

Team members
Psychiatrist and nurse care manager, full- and part-time staff physicians, fellows, physician assistants, and nurse practitioners.

Outcomes

*Reaction*
At 12 months, intervention patients reported greater satisfaction and were more likely to have had at least 1 mental health specialty appointment, to have received an antidepressant, and to have received antidepressants for 90 days or more.

*Benefits to clients/ patients*
Both intervention and usual care groups showed significant improvement in SCL-20 scores overall. Overall mental health component scores improved over time in both groups. Utilization of primary care visits, psychiatric or medical–surgical inpatient services, or emergency care did not statistically significantly differ between the groups. Over 12 months, intervention patients were more likely to receive antidepressants than usual care patients, more likely to have had at least 1 mental health specialty appointment, and to have received antidepressants for 90 days or more. Although SCL-20 depression scores improved in both groups, the intervention had no effect compared with usual care. Changes in SF-36V scores also did not differ between groups.

*Other*
Differences in baseline characteristics were not statistically significant between the intervention and usual care clinicians and patients. The depression decision support intervention had a positive effect on the rates of clinicians recognizing and treating depression and on patient satisfaction, but did not generate sustained improvements in depression severity or health-related quality of life compared with usual care. The findings suggest that the intervention influenced clinician behaviors and that differences in clinician behaviors may have been perceived by patients, as evidenced by improvements in satisfaction scores. The intervention was not robust enough to influence clinical outcomes over time.
Target Population
Patients with a BMI above 27 plus two or more cardiovascular risk factors.

Team #
3 primary care clinics

Team members
Family physicians, clinical dieticians

Outcomes

Benefits to clients/patients
The percentage of patients who attained their weight reduction goals was largest in group A, where patients received orlistat and intense follow-up, in addition to a personally-designed diet. A greater percentage of patients in group A achieved their weight reduction goals than in other groups (51%, 13% and 9% in groups A, B and C, respectively). The intervention of primary physicians during a ten minute physician/patient encounter and telephone consultation with a community dietitian resulted in a significant decrease in the weight of patients.

Research &/or Evaluation

Quantitative
X

Grading
Moderate

Target Population
Patients with depression

Team #
Total 19 physicians, 38 residents, 10 fellows and 22 NPs, with 1 fte psychiatry resident per clinic (4 clinics)

Team members
Physicians, residents fellows, nurse practitioners, psychiatry residents

Outcomes

Benefits to clients/patients
CC produced greater improvement than CL in depressive symptomatology from baseline to 3 mos., but no significant difference at 9 mos.; intervention increased portion pts receiving prescriptions and cognitive therapy; greater portion of CC pts exhibited improvement in SF-36 Mental Component Score of 5 pts or more from baseline to 9 mos.; CC resulted in more rapid improvement in depressive symptomatology and sustained movement in mental health status.

Quantitative
X

Grading
Moderate

**Target Population**
PC pts with COPD or asthma, dementia or cancer

**Team #**
7 groups (48 physicians; 5 NPs); NPs served 6-9 FPs

**Team members**
7 groups (48 physicians; 5 NPs); NPs served 6-9 FPs

**Outcomes**

*Change in org. practice*
Number of contacts during surgery hours increased in the intervention group; number of consultations out of hours declined slightly (not stat sig.); no significant changes apparent in subjective workload.

**Research &/or Evaluation**

*Quantitative*
X

*Grading*
Moderate


**Target Population**
Diabetes patients

**Team #**
17 healthcare professionals including general practitioners, hospital-based medical specialists, practice nurses and diabetes specialist nurses.

**Team members**
Teams consisting of a specialist physician and a diabetes specialist nurse were assigned to individual general practices to support them in delivering diabetes care to an increasing proportion of their patients with diabetes.

**Outcomes**

*Reaction*
All professional groups supported the overall aims of the initiative but expressed a range of concerns about the impact on workload and job satisfaction. Implementation of the pilot required new ways of working together that included the sharing of information. Consultants felt that they would be seeing the more complicated cases, which could have implications for the role and job satisfaction of clinicians in the hospital setting. There could be extra referrals from primary care due to the increased knowledge and vigilance of GPs and practice nurses. GPs, on the whole, were not concerned about their caseload increasing. They were, however, concerned about the extra workload that would be expected of practice nurses. Historically, collaboration had been lacking between primary and secondary care, and this could lead to misconceptions, and a “them and us” situation. GPs on the whole were positive about having more control over the care of patients. Differences between professional groups emerged, with nurses much more concerned about the impact of change in terms of the practical implications for their role and workload. Doctors identified the major impact as improving
relationships and communication between specialists and generalists. Consultants and
specialist nurses were now providing support and education to primary care teams.

Research & Evaluation

Quantitative
X

Grading
Moderate

determinants and effects of shared care on patient outcomes and psychiatric admissions: An inner

Target Population
Patients with severe mental illness

Team #
Unclear

Team members
All (n = 101) general practices from an inner London health authority, comprising three
primary care groups and nine community mental health teams, were invited to participate in
the study. Participating practices (n = 50) did not differ from those that did not participate in
terms of list size, number of partners, special interest in psychiatry, languages spoken in the
practice, year of qualification of partners, or primary care group.

Outcomes

Benefits to clients/ patients
Receipt of high shared care was associated with greater patient satisfaction with services and
social functioning at baseline (p=0.005). Patients receiving high shared care showed greater
improvements in SF-12 mental health scores at follow-up compared to low shared groups
(p=0.02). Participants with a high level of shared care reported greater satisfaction with
services (p=0.004), increased social functioning based on scores on the SFD (p=0.001) and
decreased depression based on scores on the CPRS depression subscale (p=0.01). Patients
with an identified secondary care worker (p<0.01) and those receiving antipsychotic
medication (p=0.01) were more likely to receive a higher level of shared care. Presence of a
secondary care keyworker was the only significant predictor of shared care (p<0.01).
Overall, the number of patients admitted to a psychiatric unit fell from 80 (22.9%) in the
year before baseline to 51 (14.6%) in the follow-up year (p<0.001). The proportion of
patients admitted during the follow-up year, adjusted for baseline admission history, did not
differ significantly with the level of shared care. Similarly, length of stay in a psychiatric
unit was not statistically different between groups receiving different levels of shared care.

Other
Factors that might be expected to determine receipt of higher levels of shared care, such as
marital status, employment, psychiatric diagnosis or clinical symptomatology, were not
associated with shared care at baseline.

Research & Evaluation

Quantitative
X

Grading
Moderate

**Target Population**
The service is available to adults from a total population of 19,358 people. The area is a large council estate in South Manchester. It is a poor area, about a third of it qualifying for urban deprivation payments to general practitioners.

**Team #**
Initially the team comprised three full-time members: two community psychiatric nurses and one social worker. These were joined by a full-time occupational therapist after ten months and a clinical psychologist five months later.

The team is supported by medical input on a sessional basis: three senior registrars and two consultant psychiatrists provide six sessions between them. The psychology input was also sessional in the first year until the arrival of the full-time psychologist.

**Team members**
Community psychiatric nurses, social worker, occupational therapist, clinical psychologist

**Outcomes**

*Change in org. practice*
The higher rates of inception into care of index patients was apparent across the full spectrum of psychiatric disorder but was marked for the less severe diagnoses. The inception rate of depressive illnesses in the index group was over four times the rate for the controls (p<0.01). The number of patients using the out-patient departments was lower in the index group (p<0.01). However, there were no differences in the use of in-patient facilities. There were also no differences in the rates of emergency contacts or in parasuicide rates. Few patients with anxiety disorders and adjustment reactions were referred to the hospital service, but a substantial number of such patients were seen by the community team (p<0.01). The inception rate of cases of alcohol abuse in the index group was 1.5 times that in the control group (p<0.1). The higher inception rates have led to higher prevalence rates of treated disorder for those diagnoses with high referral rates. The prevalence of depressive disorders in the index group is three times the control level, for anxiety states and adjustment disorders the prevalence is six times the control level, and for substance abuse 1.5 times the control level.

*Other*
Inceptions in the two groups differed in their socio-demographic profile. There were more women, more people living with a partner and more employed people in the index group than in the control group.

**Research &/ or Evaluation**

*Quantitative*
X

*Grading*
Moderate

**Target Population**
Patients with depressive symptoms or diagnosed depressive disorders in primary care settings

**Team #**
N/A

**Team members**
N/A

**Outcomes**

**Benefits to clients/patients**
1. Meta-analysis showed a positive effect of collaborative care on antidepressant use (OR1.92, 95% CI) and reduction in depressive symptoms at 6 months (standardized mean difference 0.24, 95% CI).

**Research &/or Evaluation**
Quantitative
X

**Grading**
Moderate

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#31 CC older adults Alz.

**Target Population**
Older adults with Alzheimer disease and their caregivers

**Team #**
Unclear

**Team members**
Team of usual care providers lead by PC physician and geriatric nurse practitioner who served as care manager

**Outcomes**

**Benefits to clients/patients**
Intervention pts more likely to receive cholinesterase inhibitors and antidepressants, had significantly fewer behaviour and psychological symptoms of dementia, at 12 and 18 months; Caregivers reported significant improvements in distress and showed improvements in depression; there were no group differences on Cornell Scale for Depression in Dementia (CSDD), cognition, ADL, or on rates of hospitalization, nsg home placement or death.

**Research &/or Evaluation**
Quantitative
X

**Grading**
Moderate

**Target Population**
Maternal care

**Team #**
Unclear

**Team members**
Nurse practitioners and primary care physicians

**Outcomes**

*Benefits to clients/patients*
Finding generalizable to low-risk patients only; trends suggest that NP/NM care is equivalent to, or sometimes better than, physician care (greater patient compliance with treatment recommendations, patient satisfaction and resolution of pathological conditions greater, used less technology and analgesia than physicians, and neonatal outcomes equivalent).

Gap in literature: studies must be conducted in controlled settings that provide sound data; primary care process must be modelled and studied; outcome measures must be sensitive indicators of PC process, not just measures of medical diagnosis and treatment, studies should compare processes of care and outcomes of PC teams that include nurses, physicians and other providers; and cost-effectiveness of providers in varying practice arrangements needs to be addressed.

**Research &/or Evaluation**

*Quantitative*
X

*Grading*
Moderate


**Target Population**
Senior patients with chronic illness

**Team #**
Eighteen PCPs with sufficient patients to recruit for the study accepted; 13 internists and 5 family physicians

**Team members**
Primary care physicians, nurses, internists, social workers

**Outcomes**

*Change in org. practice*
During the 18-month SCC, all 280 intervention patients had at least 1 face-to-face contact (other than the initial assessment visit done in the home) with the nurse or social worker. Patients averaged 34 nurse or social worker contacts. Compared with controls, intervention patients had a lower proportion of admissions for exacerbation of chronic illnesses. During the 18 months, each physician-nurse-social worker team met formally 24 times on average. Compared with controls, intervention patients had a lower proportion of admissions for exacerbation of chronic illnesses. From 1993 to 1994, year 2 of the SCC, we observed a stable hospital admission rate for intervention patients (0.38 to 0.36) compared with controls,
whose rate increased from 0.34 to 0.52. In addition, intervention patients showed a 6% to 4% decrease in the percentage with 1 or more hospital readmissions within 60 days contrasted to the controls' increased proportion. For total physician office visits, we observed a decrease in intervention patients' mean office visits of 1.5 visits (12.5 to 11.0) to any type of physician compared with a 0.5-visit increase for controls. Differences between groups first became apparent during the final 6 months of the SCC. At this time, the control group's hospitalization rate increased to 0.30 in contrast to 0.14 for the same period a year earlier; this increase contrasts with the intervention group, for which the rate remained stable at 0.16 for both periods (P=.01). Similarly, the control group's mean office visits for this period increased to 7.1 compared with 6.4 a year earlier. In contrast, the intervention group's mean office visits fell to 6.4, down from 6.8. Once established, the team-patient relationship showed potential for effecting less use of acute care services and physician office visits while maintaining, if not improving, patient-perceived health status

Benefits to clients/ patients
From 1992 (baseline year) to 1993, the two groups did not differ in service use or in self-reported health status. From 1993 to 1994, the hospitalization rate of the control group increased from 0.34 to 0.52, while the rate in the intervention group stayed at baseline (P=.03). The proportion of intervention patients with readmissions decreased from 6% to 4%, while the rate in the control group increased from 4% to 9% (P=.03). In the intervention group, mean office visits to all physicians fell by 1.5 visits compared with a 0.5-visit increase for the control group (P=.003). The patients in the intervention group reported an increase in social activities compared with the control group's decrease (P=.04).

No significant differences at P<.10 were observed in group change rates from 1992, the baseline year, to 1993, year 1 of the SCC, for the 7 measures of health status. In contrast, from 1993 to 1994, we observed a higher mean number of social activities for intervention patients compared with controls. In addition, compared with controls, we observed trends for intervention patients to report fewer symptoms and to have slightly improved overall health

Other
As regards the SCC's possible mechanism of impact, preliminary investigation suggests a dose-response relationship between number of nurse and social worker contacts and both service utilization and patient health status. Preliminary analyses by geographic site suggest that differences in the hospitalization rates between the control and intervention groups were the greatest in the county where the PCP, nurse and social worker were the most satisfied with their working relationships.

Research &/ or Evaluation

Quantitative
X

Grading
Moderate
## APPENDIX J — NUMERICAL TABLE OF OUTCOMES AND GRADES

*Table continues on page 64*

<table>
<thead>
<tr>
<th>Classification of Outcomes</th>
<th>Grade</th>
<th>Document (71)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number at Level</td>
<td>Total Number in Grade</td>
</tr>
<tr>
<td>1 (Reaction)</td>
<td>High</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Very Low</td>
<td>10</td>
</tr>
<tr>
<td>2a (Modification of attitudes or opinions)</td>
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<td>0</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Very Low</td>
<td>23</td>
</tr>
<tr>
<td>2b (Acquisition skills/knowledge)</td>
<td>High</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Very Low</td>
<td>19</td>
</tr>
<tr>
<td>3 (Behavioral Change)</td>
<td>High</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Very Low</td>
<td>3</td>
</tr>
<tr>
<td>4a (Change in organizational practice)</td>
<td>High</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Very Low</td>
<td>36</td>
</tr>
<tr>
<td>4b (Benefits to patients/Clients)</td>
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<td>3</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Very Low</td>
<td>37</td>
</tr>
</tbody>
</table>

* Outcomes most frequently in environmental scan
### Numerical Overview of Classification of Outcomes by Grade

<table>
<thead>
<tr>
<th>Number at Level</th>
<th>Total Number in Grade</th>
<th>Total Documents &amp; Literature Review</th>
<th>Percentage</th>
<th>Environmental Scan (51)</th>
</tr>
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<tbody>
<tr>
<td>2</td>
<td>13</td>
<td>2/17</td>
<td>11.76%</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>14</td>
<td>3/20</td>
<td>15.00%</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>22</td>
<td>1/6</td>
<td>16.67%</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>14</td>
<td>16/61</td>
<td>26.23%</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>13</td>
<td>1/17</td>
<td>5.88%</td>
<td>*</td>
</tr>
<tr>
<td>0</td>
<td>14</td>
<td>1/20</td>
<td>5.00%</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>22</td>
<td>1/9</td>
<td>11.11%</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>14</td>
<td>26/61</td>
<td>42.62%</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>13</td>
<td>1/17</td>
<td>5.88%</td>
<td>*</td>
</tr>
<tr>
<td>0</td>
<td>14</td>
<td>1/20</td>
<td>5.00%</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>22</td>
<td>5/36</td>
<td>13.89%</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>21/61</td>
<td>34.43%</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>13</td>
<td>0/17</td>
<td>0/17</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>14</td>
<td>3/20</td>
<td>15.00%</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>22</td>
<td>11/36</td>
<td>30.56%</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>14</td>
<td>3/61</td>
<td>4.92%</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>13</td>
<td>5/17</td>
<td>29.41%</td>
<td>*</td>
</tr>
<tr>
<td>3</td>
<td>14</td>
<td>1/4</td>
<td>25.00%</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>22</td>
<td>5/12</td>
<td>41.67%</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>14</td>
<td>41/61</td>
<td>67.21%</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>13</td>
<td>15/17</td>
<td>88.24%</td>
<td>*</td>
</tr>
<tr>
<td>9</td>
<td>14</td>
<td>3/4</td>
<td>75.00%</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>22</td>
<td>11/12</td>
<td>91.67%</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>14</td>
<td>48/61</td>
<td>78.69%</td>
<td></td>
</tr>
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</table>
### High- and Moderate-Level Evidence

<table>
<thead>
<tr>
<th>Condition</th>
<th>Outcomes</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>Significant improvements in psychosocial outcomes, with a significantly higher diabetes well-being score and a significantly higher proportion of patients “very satisfied” on the Diabetes Clinic Satisfaction Questionnaire (GP version).&lt;br&gt;&lt;br&gt;No significant differences at study completion in biophysical outcomes, patient-reported attendance at dieticians and chiropodists, proportions taking aspirin/warfarin and use of lipid-lowering medication.&lt;br&gt;&lt;br&gt;Increase in prescribing for aspirin, antihypertensive medication and lipid-lowering medication in both the intervention and control group, with no statistically significant differences that could be attributed to the intervention at study completion.&lt;br&gt;&lt;br&gt;Average fasting blood glucose, mean systolic and diastolic BP, total cholesterol and LDL and HbA1c increased in control group and decreased in intervention group.&lt;br&gt;&lt;br&gt;HDL cholesterol decreased in the control group and increased in the intervention group.&lt;br&gt;&lt;br&gt;No changes were statistically significant; however, effect sizes reflected moderate to large changes in the desired direction for HbA1c, systolic and diastolic BP.&lt;br&gt;&lt;br&gt;Physical function, bodily pain, vitality and social functioning improved in the experimental group.</td>
<td>*Smith, S., Bury, G., O’Leary, M., Shannon, W., Tynan, A., Staines, A., et al. (2004). The North Dublin randomized controlled trial of structured diabetes shared care. <em>Family practice</em>, 21(1), 39-45.</td>
</tr>
</tbody>
</table>
### Mental Health

<table>
<thead>
<tr>
<th>Condition</th>
<th>Outcomes</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental Health</td>
<td>Clearly positive effect on standardized depression outcomes at 6 months compared with standard care (standardized mean difference [SMD], 0.25; 95% confidence interval [CI], 0.18-0.32). Overall trend was for clinical improvement to be maintained at 12 months (SMD, 0.31; 95% CI, 0.01 to 0.53), 18 months (SMD, 0.25; 95% CI, 0.03 to 0.46), 24 months (SMD, 0.15; 95% CI, –0.03 to 0.34), and 5 years (SMD, 0.15; 95% CI, 0.001 to 0.30).</td>
<td>* Gilbody, S., Bower, P., Fletcher, J., Richards, D., &amp; Sutton, A. J. (2006). Collaborative care for depression: A cumulative meta-analysis and review of longer-term outcomes. <em>Archives of Internal Medicine</em>, 166(21), 2314-2321.</td>
</tr>
<tr>
<td>Mental Health</td>
<td>At 12 months, 45% of patients in the interprofessional group had 50% or greater reduction in depressive symptoms from baseline compared with 19% of usual care participants, more satisfaction with depression care, lower depression severity, less functional impairment, and greater quality of life.</td>
<td>* Unützer, J., Katon, W., Callahan, C. M., Williams, J. W., Jr., Hunkeler, E., Harpole, L., et al. (2002). Collaborative care management of late-life depression in the primary health care setting: A randomized controlled trial. <em>JAMA: Journal of the American Medical Association</em>, 288(22), 2836-45</td>
</tr>
</tbody>
</table>
## High- and Moderate-Level Evidence

<table>
<thead>
<tr>
<th>Condition</th>
<th>Outcomes</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Interprofessional group patients fare significantly (P&lt;0.05) better than controls regarding continuation of antidepressant treatment, depressive symptoms, remission of depression, physical functioning, quality of life, self efficacy, and satisfaction with care at 18 and 24 months; One year after interprofessional resources were withdrawn, a significant difference in SCL-20 scores (0.23, p&lt;0.0001) favoring interprofessional patients remained.</td>
<td><strong>Hunkeler, Enid M. et al. Long term outcomes from the IMPACT randomized trial for depressed elderly patients in primary care. BMJ 2006;332, 259-263</strong></td>
</tr>
<tr>
<td></td>
<td>Interprofessional group patients had significantly greater odds of being adherent than those in usual care at both 6 and 12 months. At 6 months, patients in the intervention group were significantly more likely to respond, but not to remit compared to usual care. By 12 months, the intervention group had significantly greater odds of remitting, but not responding. Intervention patients reported larger gains in mental health status and health-related quality of life, and reported higher satisfaction.</td>
<td><strong>Fortney, J. C., Pyne, J. M., Edlund, M. J., Williams, D. K., Robinson, D. E., Mittal, D., et al. (2007). A randomized trial of telemedicine-based collaborative care for depression. Journal of General Internal Medicine: Official Journal of the Society for Research and Education in Primary Health Care Internal Medicine, 22(8), 1086-1093.</strong></td>
</tr>
<tr>
<td></td>
<td>There was significantly more movement to “less depressed” levels of depression at follow-up in the intervention group than in the control group (P=0.0125). Interprofessional patient group showed an average improvement of 1.87 points on the geriatric depression scale compared with the control group (95% confidence interval 0.76 to 2.97, P=0.0011). Interprofessional patient group was more likely to be taking antidepressants at follow-up than controls, and the intervention helped prevent mild depression from becoming worse.</td>
<td><strong>Llewellyn-Jones, R. H., Baikie, K. A., Smithers, H., Cohen, J., Snowdon, J., &amp; Tennant, C. C. (1999). Multifaceted shared care intervention for late life depression in residential care: Randomised controlled trial. BMJ (Clinical research ed.), 319(7211), 676-682.</strong></td>
</tr>
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</table>
### High- and Moderate-Level Evidence

<table>
<thead>
<tr>
<th>Condition</th>
<th>Outcomes</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interprofessional care produced greater improvement in depressive symptomatology from baseline to 3 months, but at 9 months there was no significant difference. Interprofessional group patients saw increase in the proportion receiving prescriptions and cognitive therapy. Improvement in SF-36 Mental Component Score of 5 pts or more from baseline to 9 months. Interprofessional care resulted in more rapid improvement in depressive symptomatology and sustained movement in mental health status.</td>
<td><strong>Hedrik, Susan C. et al. Effectiveness of Collaborative Care Depression Treatment in Veterans' Affairs Primary Care. Journal Gen Intern Med. 2003;18, 9-16</strong></td>
<td></td>
</tr>
<tr>
<td>Patients receiving interprofessional care showed greater improvements in SF-12 mental health scores at follow-up compared to low shared groups (p=0.02), increased social functioning based on scores on the SFQ (p=0.001) and decreased depression based on scores on the CPRS depression subscale (p=0.01). The number of patients admitted to a psychiatric unit fell from 80 (22.9%) in the year before baseline to 51 (14.6%) in the follow-up year (p&lt;0.001).</td>
<td><strong>Fitzpatrick, N. K., Shah, S., Walker, N., Nourmand, S., Tyrer, P. J., Barnes, T. R., et al. (2004). The determinants and effect of shared care on patient outcomes and psychiatric admissions – An inner city primary health care cohort study. Social psychiatry and psychiatric epidemiology, 39(2), 154-163.</strong></td>
<td></td>
</tr>
<tr>
<td>Meta-analysis showed a positive effect of collaborative care on antidepressant use (OR1.92, 95%CI) and reduction in depressive symptoms at 6 months (standardized mean difference 0.24, 95%CI). Meta-regression showed a positive relationship between antidepressant use and depressive symptoms (beta co-efficient 0.20, 95%CI).</td>
<td><strong>Bower, P., Gilbody, S., Richards, D., Fletcher, J., &amp; Sutton, A. (2006). Collaborative care for depression in primary health care. Making sense of a complex intervention: Systematic review and meta-regression. The British Journal of Psychiatry: The Journal of Mental Science, 189, 484-493.</strong></td>
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### High- and Moderate-Level Evidence

<table>
<thead>
<tr>
<th>Condition</th>
<th>Outcomes</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adherence and medication switch rates were significantly higher in the interprofessional group. The percentage of patients continuing antidepressant therapy beyond three months was also higher in the intervention group.</td>
<td>*** Finley, P. R., Rens, H. R., Pont, J. T., Gess, S. L., Louie, C., Bull, S. A., et al. Impact of a collaborative pharmacy practice model on the treatment of depression in primary health care. <em>American Journal of Health-System Pharmacy</em>, 59(16), 1518.</td>
<td></td>
</tr>
<tr>
<td>Interprofessional group patients were more satisfied with the quality of mental health care provided. During follow-up sessions, 71% of patients seen by consultant were reported to have improved slightly or a lot since their last visit, with 13.4% deteriorating since last visit.</td>
<td>**** Sully, P. (Feb. 28, 2003). <em>Shared mental health care service: Evaluation project 2002. Evaluation report</em>. Alberta Mental Health Board and Calgary Health Region.</td>
<td></td>
</tr>
<tr>
<td>Asthma</td>
<td>13.3 (95% CI, −24.7 to −2.1) fewer ASD-14 per year of intervention (P = .02); 6.5 (95% CI, −16.9 to 3.6) fewer asthma symptom days per year. Greater controller adherence (parent report) compared with usual care subjects (rate ratio, 1.05 [95% CI, 1.00 to 1.09]).</td>
<td>* Lozano, P., Finkelstein, J. A., Carey, V. J., Wagner, E. H., Inui, T. S., Fuhlbrigge, A. L., et al. (2004). A multisite randomized trial of the effects of physician education and organizational change in chronic-asthma care: Health outcomes of the pediatric asthma care patient outcomes research team II study. <em>Archives of Pediatrics &amp; Adolescent Medicine</em>, 158(9), 875-883.</td>
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<tr>
<td>Condition</td>
<td>Outcomes</td>
<td>Reference</td>
</tr>
<tr>
<td>--------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Hypertension</td>
<td>Reduction in BP but was greater in intervention group after adjusting for differences in baseline BPs.</td>
<td>*Borenstein, Jeff E. et al. Physician-Pharmacist Comanagement of Hypertension: A Randomized, Comparative Trial.</td>
</tr>
<tr>
<td>Alzheimer Disease</td>
<td>Interprofessional group patients more likely to receive cholinesterase inhibitors and antidepressants, had significantly fewer behaviour and psychological symptoms of dementia at 12 and 18 months. Caregivers reported significant improvements in distress and showed improvements in depression. No group differences on Cornell Scale for Depression in Dementia (CSDD), cognition, ADL, or on rates of hospitalization, nursing home placement or death.</td>
<td>*<em>Callahan, Christopher M. et al. Effectiveness of Collaborative Care for Older Adults with Alzheimer Disease in Primary Care: A Randomized Controlled Trial. (2006). Journal of the American Medical Association, 295</em>(18), 2148-2157</td>
</tr>
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</table>
## High- and Moderate-Level Evidence

<table>
<thead>
<tr>
<th>Condition</th>
<th>Outcomes</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic Illness</td>
<td>Interprofessional group patients reported an increase in social activities compared with the control group’s decrease ($P=.04$). No significant differences at $P&lt;.10$ were observed in group change rates from 1992, the baseline year, to 1993, year 1 of the SCC, for the 7 measures of health status. In 1993 to 1994, a higher mean number of social activities was observed for interprofessional group patients compared with controls. Trend for interprofessional group patients to report fewer symptoms and to have slightly improved overall health.</td>
<td><strong>Sommers, L. S., Marton, K. I., Barbaccia, J. C., &amp; Randolph, J. (2000). Physician, nurse, and social worker collaboration in primary health care for chronically ill seniors. Archives of Internal Medicine, 160(12), 1825-1833.</strong></td>
</tr>
<tr>
<td>General Population</td>
<td>Clients who resided in team areas that experienced more improvement in team effectiveness tended to experience lower wait time for appointments ($p=0.036$), fewer visits to ER ($p=0.025$) and higher ease of access to primary healthcare services ($p=0.061$). Clients who resided in team areas that experienced more improvement in team effectiveness tended to report a greater willingness to visit providers other than family physicians (not stat. sig.). Clients receiving diabetic care are receiving care not typically provided in the past, and the collaborative approach has addressed some of the service delivery gaps. Most participants in collaborative reported improvement in their health. Wait time for appointments and lack of health professionals continue to represent most common type of barriers experienced by clients/patients. Increase in client satisfaction with health services received. Very minimal change in self-reported general health status between baseline and follow-up.</td>
<td>Med-Emerg Inc., Newfoundland and Labrador Primary Health Care Renewal Initiative. Final Evaluation Report October 2006, Department of Health &amp; Community Services, NL.</td>
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*High **Moderate ***Low ****Very Low
## High- and Moderate-Level Evidence

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<td>Total mean per person costs were 6.8% higher in the interprofessional group at 6 months and 12.1% higher at 12 months; Impact on hospital readmissions for all patients by treatment group and by disease stratum shows a 7.9% (P = .07) relative reduction in proportion of interprofessional group patients admitted in the first 6 months, with most of the reduction occurring among those with severe disability. At 6 months, hospital readmission costs for the TM/HBPC group were lower.</td>
<td>* Hughes, S. L., Weaver, F. M., Giobbie-Hurder, A., Manheim, L., Henderson, W., Kubal, J. D., et al. (2000). Effectiveness of team-managed home-based primary health care: A randomized multicenter trial. JAMA, 284(22), 2877-2885.</td>
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<td>Reduction in average PMPY (1.7%-10.1% increase as compared with 31.2% nationally). Lowering in cost per prescription claim (average cost per claim nationally 31.2 increase, compared with 2.1 decrease in medical group). Increase in PMPY drug utilization of 4% in medical group compared with no change nationally.</td>
<td>*** Walker, S., &amp; Willey, C. W. (2004). Impact on drug costs and utilization of a clinical pharmacist in a multisite primary health care medical group. JMCP, 10(4), 365-354.</td>
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