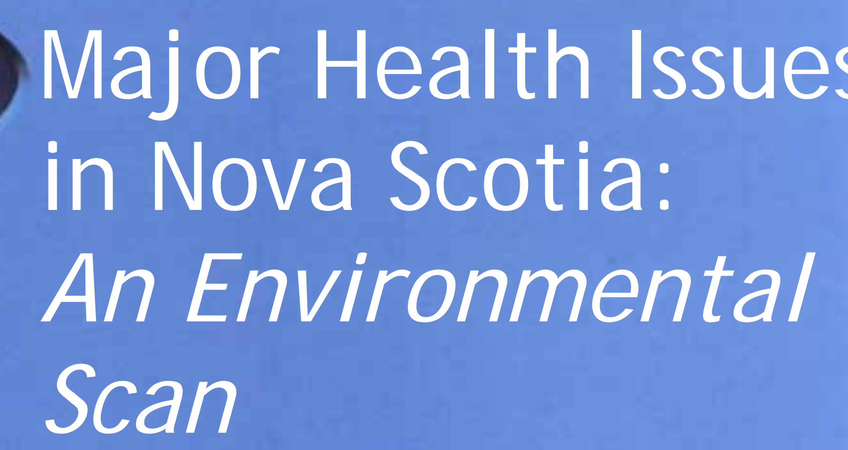

Major Health Issues in Nova Scotia: *An Environmental Scan*

Prepared for:
Nova Scotia Health Research Foundation

September 2009

Pyra
Management Consulting Services Inc.

Executive Summary

Introduction

The NSHRF is updating its health research priorities. The objective of this initiative is to maximize the impact of the health research enterprise on informed decision making through the focused and efficient use of NSHRF resources. The research priorities process has four phases: Process Identification and Information Gathering, Consultations, Priority Identification, Priority Implementation. This process is designed to be inclusive, respectful, fair, and transparent in order to respect the diversity of constituents that the NSHRF serves.

As part of the Information Gathering phase a number of background documents are being prepared. These documents are considered "living documents" and are posted on the NSHRF website as they are completed for your information, feedback, input and suggestions. If readers feel that information is missing, incorrect or misrepresented from any of the background documents, or the process, they are asked to submit that information to the NSHRF up to and including November 2, 2009 for consideration as priorities are established. Please email any comments or additional information to Linda Waterhouse (Linda.Waterhouse@gov.ns.ca).

The Nova Scotia Health Research Foundation (NSHRF) was created by the Health Research Foundation Act and is required under this act to foster health research throughout the province by assisting, collaborating with and funding individuals and organizations conducting health research. According to its legislated mandate the NSHRF must support research that is consistent with the priorities identified by health boards, government, institutions and individuals. In support of an upcoming process to identify new research priorities, NSHRF contracted Pyra Management Consulting Services Inc. to conduct an environmental scan to identify major health issues and create an inventory of existing relevant systematic reviews and quality research.

This report provides the results of the environmental scan. Beginning with an overview of the methods used for the scan, the report offers an overview of major health issues impacting Nova Scotia and an inventory of research reviews related to each issue published in the peer reviewed literature. The inventories are not meant to be comprehensive reviews of the literature but rather a high level look at what systematic reviews and other reviews have been published in the peer reviewed literature related to the major health issues, to provide a sense of current fields of exploration being undertaken related to each of the major health issues.

Health Status

Over 5000 Nova Scotians die of four types of chronic diseases every year: cancer, cardiovascular diseases, chronic respiratory diseases and diabetes. Sixty four percent of all deaths in Nova Scotia are attributable to these diseases.[3]

For self reported conditions, the percentage of Nova Scotians reporting the following is higher than the national average:

- current daily smokers age 12 and over (NS: 24.4%, Canada: 21.9%) ;
- heavy drinkers (5 or more drinks on one occasion 12 or more times per year) (NS: 28.6%, Canada: 21.8%);
- body mass index of 30 or higher (NS: 20.1%, Canada: 16.0%); and
- high blood pressure ((NS: 19.0%, Canada: 15.9%).[7]

Fewer Nova Scotians than the national average consume 5 or more fruits and vegetables per day (NS: 33.0%, Canada 41.3%). Nova Scotians report the third highest percentage of diabetes (NS: 6.8%, Canada: 5.8%) and the highest percentages of arthritis or rheumatism (NS: 23.0%, Canada: 15.0%) and asthma (NS: 10.8%, Canada:8.0%).[7]

Health Disparities

A study of socioeconomic inequality in health in Atlantic Canada confirmed that health disparities exist in Atlantic Canada. The study concluded that the contribution of all the other health determinants to socioeconomic inequality can be traced back to differences in income between individuals, and that health disparities can be reduced with a focus on efforts to improve the incomes of low-income people.[19] Other evidence that some Nova Scotians experience health disparities is available. For example, when compared to the rest of Canada, Nova Scotia has the highest percentage of households experiencing food insecurity (14.6%).[20]

In a report on the health costs of poverty, Hayward and colleagues examined the linkages between poverty and exposure to health risk conditions and lack of social support.[18] The strong links between income and health status and risk factors for disease, and the existence of health disparities in Nova Scotia suggest that health disparities are a significant health issue for Nova Scotia.

Health System Issues

The Provincial Health Services Operational Review (PHSOR) report released in January 2008 provided a comprehensive overview of Nova Scotia's health system and offered many recommendations for transforming the system. At a high-level, the report recommends focussing health care services in the community beginning

first with a re-alignment of the system to focus more on community based primary health care. The PHSOR report emphasized the importance of transforming the continuing care system to ensure consistency across the province and to prepare for the inevitable demographic-driven increase in demand for these services.[1] The PHSOR report also identified that one of the main challenges facing Nova Scotia's health system is the critical shortage of health human resources that will become more problematic as a growing number of health care providers retire.

Summary of Major Health Issues

Based on a review of demographic and epidemiological data as well as recent reports on the status of Nova Scotia's health system, six major health issues were identified for Nova Scotia including:

- Reducing health disparities;
- Integrated approaches to chronic disease and injury prevention;
- Chronic disease management;
- Re-orienting the health system to emphasize primary health care;
- Implementing sustainable continuing care models;
- Implementing best practices in recruitment, retention, role sharing and change among health human resources.

Inventory of Current Literature

The inventory of literature reviews identified through selected databases of peer reviewed literature revealed that there is considerable information in current literature about reducing health disparities, although there is still much more work to be done in understanding the best approaches to feasibly reducing health disparities in society. There is also much literature about chronic disease prevention interventions that focus on individual risk factors and as well as literature about prevention initiatives specific to one or two diseases. Less prevalent are reviews that focus on successful approaches to chronic disease prevention that integrate across risk factors, settings and diseases.

There is substantial literature about implementing the individual elements of renewed primary health care systems (e.g. collaborative teams, physician funding models, electronic health records), however there are not a lot of reviews that examine at a system level how to successfully re-align health systems. There is literature published about health human resources, including research about planning models, recruitment and retention strategies and migration, although the number of published reviews in this area is not substantial. There were very few reviews found about implementing sustainable continuing care approaches.

There appears to be a lack of integration among concepts within the major health issues. For example, research on effective chronic disease and injury prevention interventions, or on health disparities, is often fragmented by disease, risk factor, population group or setting. Less common appears to be research that attempts to integrate across these various factors to find effective approaches that recognize that individuals do not necessarily compartmentalize themselves by disease or risk factor. Also lacking from the research is exploration about how to enact integrated system change.

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Introduction

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The Nova Scotia Health Research Foundation (NSHRF) was created by the Health Research Foundation Act and is required under this act to foster health research throughout the province by assisting, collaborating with and funding individuals and organizations conducting health research. According to its legislated mandate the NSHRF must support research that is consistent with the priorities identified by health boards, government, institutions and individuals. Previous priorities of the NSHRF focused on capacity building and support for students. Recent changes in both the internal and external environments have led to the need to establish new priorities to address these challenges and as a result, the NSHRF plans to establish new health research priorities.

In support of an upcoming process to identify research priorities, NSHRF contracted Pyra Management Consulting Services Inc. to conduct an environmental scan to identify major health issues using epidemiological and demographic data specific to Nova Scotia, and for the major health issues identified, create an inventory of existing relevant systematic reviews and quality research. For the purpose of the scan, the term “health issue” refers to disease burden as well as surgical interventions, and also includes system level concerns as well as risk factors and the determinants of health.

This report provides the results of the environmental scan. Beginning with an overview of the methods used for the scan, the report offers an overview of major health issues impacting Nova Scotia and an inventory of research reviews related

to each issue. The inventories are not meant to be comprehensive reviews of the literature but rather a high level look at what systematic reviews and other reviews have been published in the peer reviewed literature related to the major health issues, to provide a sense of current fields of exploration being undertaken related to each of the major health issues.

Methods

To identify current major health issues for Nova Scotia, demographic and epidemiological data were reviewed from sources such as Statistics Canada, Canadian Institute for Health Information and Nova Scotia Community Counts. The recent Provincial Health Services Operational Review in Nova Scotia was reviewed, as were reports on the Canadian Community Health Survey and reports published by GPI Atlantic.

To provide a high level look at the current state of research related to each of the health issues identified in the document, a literature search was conducted for each topic focusing only on systematic reviews and peer-reviewed reviews (as identified by the database record) of research for each major issue, published between 2003 and 2009. Databases consulted for each search included PubMed, CINAHL, Cochrane Library, Bandolier, and ABI Inform (for the review related to health human resources only). The searches and review of retrieved references and abstracts was conducted by an individual with 22 years of health program and policy development experience in across the breadth of Nova Scotia's health system, so the reviewer relied on her experience and understanding of the health system to help identify the most appropriate references for inclusion in the summary tables.

It is important to emphasize that the purpose of the environmental scan was not to conduct comprehensive literature reviews. Rather, the purpose was to conduct high-level searches related to the identified major health issues in order to provide some understanding of the current focus and directions that current research is taking in these areas. Additional details about each of the literature searches are contained in Appendix 1.

Limitations

Given the scope of the project, exhaustive literature searches were not conducted for the identified health issues. For example, although the term health disparities was used in combination with other terms, given the substantial number of references retrieved using these search strategies, the search was not expanded to include related terms such as "health inequities" or "health inequalities", which in some jurisdictions are phrases used interchangeably or instead of "health disparities". References retrieved for inclusion in the summary tables were done so on the basis of the reference title and if available, the abstract. The notes about each reference were excerpted directly from the published abstract when available. The project scope did not include retrieval and review of the articles referenced in the summary tables.

The decision was made to focus this major health issue scan around high level morbidity and mortality information. NSHRF recognizes that other significant health issues such as poverty, gender and other issues related to the diversity of the our population have a significant impact on the health of our population. However NSHRF also recognizes that efforts must be focused in order to maximize the impact of limited funding. NSHRF believes that research to support efforts to better understand the complex interactions of the above factors and health could still be pursued as part of the identified major health issues.

Current Major Health Issues in Nova Scotia

The mandate of the NSHRF includes supporting research that is consistent with priorities of Nova Scotia's health system. Therefore, a logical place to start in identifying major health issues facing Nova Scotia is the 2008 report of the Provincial Health Services Operational Review, which provides the result of a comprehensive analysis of Nova Scotia's Health system and suggested priorities for action. The report identified several pressures on the health system including the aging population and associated increases in demand on the acute care system and need for management of chronic diseases. The health status of Nova Scotians relative to the rest of Canada was also noted as a challenge to the health system, with Nova Scotia having some of the highest disease burdens across the country. The rising costs of prescription medications and infrastructure replacement as well as the recruitment, retention and retirements of health human resources were also cited as significant challenges to the system.[1]

Demographics

In Nova Scotia, both the number of people 65 years of age and older, and the proportion of the population in this age group are increasing. As shown in the Population Projections Table, in 2007, 14.8% of the population was aged 65 years or older. By 2031, the 65+ age group will represent 28% of the total provincial population.[2] Almost 50% of current hospital-based care is provided to people aged 65 and over. Therefore as the proportion of the population in this age group increases, it is reasonable to expect that hospital expenditures will increase unless there are dramatic changes in how and where care is provided. [1]

Table 1: Population Projections

	2007	2011	2016	2021	2026	2031
Total Reporting	*934,147*	932,542	931,205	928,402	919,033	900,441
By 5-year Age Groups						
65-69	40,749	47,900	60,879	64,297	70,231	70,523
70-74	32,791	35,511	43,507	55,668	59,110	64,611
75-79	26,450	27,411	30,083	37,093	47,775	50,940
80-84	*19,243*	19,834	20,883	23,042	28,802	37,245
85+ years	19,135	20,913	22,505	24,221	26,834	32,178
Total Population 65+ yrs	138,368	151,569	177,857	204,321	232,752	255,497
Percentage of NS Population Aged 65+	14.8%	16.3%	19.1%	22%	25.3%	28.4%

Mortality

Over 5000 Nova Scotians die of four types of chronic diseases every year: cancer, cardiovascular diseases, chronic respiratory diseases and diabetes. Sixty four percent of all deaths in Nova Scotia are attributable to these diseases.[3] The following table shows the top 10 causes of death in Nova Scotia and how the percentage of deaths attributable to these diseases compares to the Canadian situation.

Table 2: Causes of Death- Canada and Nova Scotia[3]

Rank	Cause	Percent of All Deaths	
		Canada	Nova Scotia
1	Cancer	29.3%	29.2%
2	Cardiovascular disease	22.4%	23.5%
3	Cerebrovascular disease	6.1%	6.3%
4	Chronic lower respiratory disease	4.6%	5.1%
5	Unintentional injury	4.1%	4.2%
6	Diabetes mellitus	3.4%	3.2%
7	Influenza and pneumonia	2.5%	2.6%
8	Alzheimer's Disease	2.5%	3.0%
9	Suicide	1.6%	1.0%
10	Nephritis, nephritic syndrome and nephrosis	1.6%	1.9%

Nova Scotia reports a greater percentage of people with other chronic diseases compared to the Canadian average, including arthritis, asthma, and high blood pressure. [4]

In 2002, an analysis of the cost of chronic disease in Nova Scotia estimated that chronic disease accounts for 60% of total medical care expenditures, and conservatively estimated that the indirect cost of lost productivity due to chronic diseases is $1.79 billion per year. The analysis concluded that chronic illnesses account for more than 70% of the economic burden of illness in Nova Scotia. Colman and colleagues also noted that different kinds of chronic diseases have different cost distributions, with cardiovascular diseases and mental illnesses accounting for the highest direct health care costs, cancer accounting for the highest losses in premature death, and musculoskeletal disorders accounting for the highest disability costs.[4]

Clearly, preventing and managing chronic diseases is of considerable importance to the future sustainability of Nova Scotia's health system. Key to prevention is addressing some of risk factors associated with several chronic diseases, including overweight and obesity, physical inactivity, smoking and mental health issues.

Modifiable Risk Factors for Chronic Disease

The four chronic diseases that account for over 5000 deaths in Nova Scotia each year share common risk factors. Overweight and obesity, lack of physical activity, smoking, overuse of alcohol and poor mental health are all modifiable risk factors that have been associated with increased rates of chronic disease.[21]

Nova Scotia is not exempt from a national trend towards increasing overweight and obesity. About 60% of the adult population are overweight /obese (60.5% of women; 58.8 % of men).[5] Excess weight is associated with numerous diseases including diabetes, cardiovascular disease, high blood pressure and some cancers, as well as psychosocial problems and disabilities.[5] Youth overweight and obesity rates are also of concern. In 2004, 32% of Nova Scotia children and youth were overweight or obese, significantly higher than the national average of 26%.[6] Only 33% of Nova Scotians age 12 and over report eating 5 or more fruits and vegetables day (compared to Canada at 42.3%)[7]

Physical inactivity remains an important risk factor for Nova Scotians, both in terms of physical and mental health status. Fifty one percent of Nova Scotians report being inactive; which is significantly higher than the Canadian average. Physical activity declines with age, and physically active Nova Scotians were more likely to report better physical and mental health.[8]

While Nova Scotia has seen decreases in the number of people smoking over the past decade, 24.4% of Nova Scotians aged 12 and over report they smoke (compared to 21.9% of Canadians), indicating that smoking remains a significant risk factor for chronic disease for Nova Scotians. [7] Unborn or newborn children are placed at increased risk if pregnant or nursing mothers smoke. Among Nova Scotia women aged 15 to 55 who have given birth in the past year, 30.7% reported that they had either smoked or been exposed to second hand smoke during or immediately following their last pregnancy.[9]

Overuse of alcohol has been linked to various chronic diseases (e.g. some cancers). 28.6% of Nova Scotians age 12 or over report heavy drinking (5 or more drinks on one occasion 12 or more times per year) compared to 21.8% for Canada.[7] Alcohol remains the most significantly used substance by students in grades 7,9,10 and 12: 52% of students in these grades report some use of alcohol in the 12 months before the 2007 Student Drug Use Survey, with 28% reporting 5 drinks or more per day at least once in the month prior to the survey.[10]

7.6% of Nova Scotians self rate their mental health as only fair or poor (compared to 6.9% for Canada overall.[11] Eight percent of Nova Scotians aged 12 and over report being depressed, with depression being more common among women, in the 20 to 44 year old age group and among those who report poorer physical

health status.[12] Of Nova Scotians who identify that they have health care needs associated with mental health problems, 5.1% report that their mental health care needs are unmet (compared to 5.5% for Canada).[13]

Injury

Unintentional injury is the fifth largest contributor to mortality in Nova Scotia, [14] and over half of all deaths among men and one third of deaths among women under 40 years of age are a result of unintentional injury.[15] Annual and indirect costs of injury in Nova Scotia accounts for $518 million.[15] Rates of injuries resulting from a fall are higher in Nova Scotia than the national average.[16] The 2009 Health Indicators Report highlights hospitalized hip fracture events for the population aged 65 and older because hip fractures can result in disability or death and can have a major impact on independence and quality of life. The age standardized rate per 100,000 for hospitalized hip fracture events for Nova Scotia is 517 compared to the national rate of 486.[7]

Determinants of Health and Health Disparities

> "Many of the factors that influence health lie outside of the health system, in the broader context of the economy and society. Health is influenced by a range of economic and social factors often referred to as "social determinants of health". These determinants include socio-economic status, gender, education and literacy, employment and working conditions, social and physical environments, personal health practices and coping skills, social support networks, healthy child development, health services, and culture. Socio-economic status is often cited as the most critical determinant, with strong influences on the conditions in which people grow, learn, live, work and play, their vulnerability to illness and injury, and the consequences of illness and injury. Other determinants, such as gender, race/ethnicity, age, education and physical environments interact with socio-economics to determine health over the life course."[15]

The Nova Scotia Department of Health Promotion and Protection defines health disparities as the "differences in health status across the population. Disparities in health are highly influenced by economic and social factors such as poverty, gender and race/ethnicity."[15] Income is particularly strongly associated with health disparities, with lower income associated with poorer health status. For example, diet,[17] physical inactivity,[8] injury,[18] and poorer mental health[12] are all associated with lower income. A study of socioeconomic inequality in health in Atlantic Canada confirmed that health disparities do exist in Atlantic Canada. The study concluded that the contribution of all the other health determinants to socioeconomic inequality can be traced back to differences in income between individuals, and that health disparities can be reduced with a focus on efforts to

improve the incomes of low-income people.[19] Other evidence that some Nova Scotians experience health disparities is available. For example, when compared to the rest of Canada, Nova Scotia has the highest percentage of households experiencing food insecurity (14.6%).[20]

In a report on the health costs of poverty, Hayward and colleagues reviewed the literature in some detail about the impacts of poverty and the linkages between poverty and exposure to health risk conditions and lack of social support. They also examined stress related to the deprivation associated with poverty at an individual level and at a community level where poverty weakens social cohesion[*] and social capital.[18] The strong links between income and health status and risk factors for disease, and the existence of health disparities in Nova Scotia suggest that health disparities are a significant health issue for Nova Scotia.

Health System Issues

The Provincial Health Services Operational Review (PHSOR) report provided a comprehensive overview of Nova Scotia's health system and offered many recommendations for transforming the system. At a high-level, the report recommends focussing health care services in the community beginning first with a re-alignment of the system to focus more on community based primary health care.[†] The PHSOR report also emphasized the importance of transforming the continuing care system to ensure consistency across the province and to prepare for the inevitable demographic-driven increase in demand for these services.[1] Changes in the primary health care system and the continuing care system are also linked, as the DHAs and the Department of Health work towards finding the means to increase and improve the provision of primary health care services within continuing care facilities, to both improve outcomes for residents of the facilities and to relieve pressure from the acute care system. The Physician per Floor Model currently being implemented in Capital Health is an example of this type of work.

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[*] Social cohesion is a "measure of how tightly coupled, robust and unified a community is across a set of indicators. A community with a strong sense of identity and shared goals is considered to be more cohesive than one without these qualities. A cohesive community is also able to buffer more effectively changes resulting from realignments of international actors, national priorities, local political climates, economic upturns or downturns and the introduction of new technologies."[22] Social capital refers to "features of social organization, such as networks, norms, and trust, that facilitate coordination and cooperation for mutual benefit. Social capital enhances the benefits of investment in physical and human capital."[23]

[†] Primary health care as defined by the Nova Scotia Advisory Committee on Primary Health Care Renewal is "concerned with all the factors that promote health as they apply to a given population, not just personal health services" and "is developed with the full participation of the people it serves, … requires a strong foundation of community based services that enable people to maintain and strengthen their health … primary care is one aspect of primary health care. It is the individual's or family's initial and continuing contact with the health system."[24]

The PHSOR report also focused on the need to re-align the acute care system, beginning with the definition of core programs for the regional hospitals outside of Halifax and Sydney to include at a minimum safe and reliable emergency care, family medicine, general internal medicine, general surgery, anaesthesia, and critical care.

The PHSOR report also identified that one of the main challenges facing Nova Scotia's health system is the critical shortage of health human resources that will become more problematic as a growing number of health care providers retire. As reported in the PHSOR report, 20% of current staff within a group of health professionals that are currently experiencing recruitment challenges will be eligible to retire in 2010; 56% will be eligible to retire by 2015. The current rate of training and retention of new health professionals is not enough to replace the proportion of the workforce that is retiring.[1] The current state of health human resources in the province is a significant and imminent threat to stability of Nova Scotia's health system.

Comparisons to Canada

Statistics Canada and the Canadian Institute for Health Information regularly publish a report that provides information about how Nova Scotia fares on a number of health indicators compared to the rest of Canada. For self reported conditions, the percentage of Nova Scotians reporting the following is higher than the national average:

- current daily smokers age 12 and over (NS: 24.4%, Canada: 21.9%) ;
- heavy drinkers (5 or more drinks on one occasion 12 or more times per year) (NS: 28.6%, Canada: 21.8%);
- body mass index of 30 or higher (NS: 20.1%, Canada: 16.0%); and
- high blood pressure (NS: 19.0%, Canada: 15.9%).[7]

Fewer Nova Scotians than the national average consume 5 or more fruits and vegetables per day (NS: 33.0%, Canada 41.3%). Nova Scotians report the third highest percentage of diabetes (NS: 6.8%, Canada: 5.8%) and the highest percentages of arthritis or rheumatism (NS: 23.0%, Canada: 15.0%) and asthma (NS: 10.8%, Canada:8.0%).[7]

Summary of Major Health Issues

Based on the information presented in the preceding sections, the following high level issues are identified as major health issues for Nova Scotia:

- Reducing health disparities;
- Integrated disease and injury prevention;
- Chronic disease management;
- Re-orienting the health system to emphasize primary health care;
- Implementing sustainable continuing care models;
- Implementing best practices in recruitment, retention, role sharing and change among health human resources.

Current Areas of Research Related to the Major Health Issues

Searches of peer reviewed literature were conducted for each of the six major health issues defined in the previous section. As described in the Methods section, the purpose of this activity was not to conduct comprehensive literature reviews, but rather to create a high level inventory of systematic reviews or other peer-reviewed reviews to provide NSHRF with a sense of the current topics being researched related to each major health issue. Only review articles were included in this search that covered research published between 2003 and 2009. Appendix 1 contains tables for each major health issue, presenting the bibliographic reference and when available, excerpts from the abstract of the article.

There is much research published on health disparities, as they relate to specific populations, specific diseases, and specific elements of the health system (e.g. public health). Approaches to reducing disparities are described in the literature, however, results appear to be fragmented by risk, condition, population, and setting. While progress is being made in this area, there is still much more work to be done in understanding the best approaches to feasibly reducing health disparities in society.

Many of the risk factors for the major chronic diseases are common, such as diet, physical activity and tobacco use. There is much literature about chronic disease prevention interventions that focus on each of these risk factors individually or in combinations of two or three. There is also literature about prevention initiatives specific to one or two diseases. Less prevalent is literature that focuses on successful approaches to chronic disease prevention that integrate across risk factors and diseases. Not surprisingly, there is some overlap between the health disparities and chronic disease prevention literature. In terms of injury prevention, there is a considerable amount of literature focussed on best practices in falls prevention, particularly for older adults. Community-based strategies for injury prevention, particularly for children also seem to be a frequent subject in the literature.

Reports on various models of chronic disease management are common in the literature, as are studies on the effectiveness of self-management for specific diseases. There is also a cluster of research in the chronic disease management literature that focuses on the complex management needs of frail elderly people. Less evident in the literature is research exploring the relationship between mental health and management of chronic disease, however, this may be reflective of the literature search strategy used.

There does not appear to be a lot of recently published literature about best practice approaches for shifting health systems to more strongly emphasize primary health care. There is substantial literature about implementing the individual elements of renewed primary health care systems (e.g. collaborative teams, physician funding models, electronic health records), however there is not a lot of literature that examines at a system level how to successfully re-align health systems that have been traditionally focused and heavily invested in acute care to support improved primary health care, within the context of finite resources.

There is some review literature published about health human resources, including research about planning models, recruitment and retention strategies and migration, although the number of published reviews in this area is not substantial. There is are few reviews about sustainable models of continuing care in the literature, however, this may be related to the phrase "continuing care", which though widely used in Canada does not appear to be broadly used elsewhere, and is sometimes used elsewhere to refer to continuing care in substance abuse treatment. It may be that review articles focus on subsets of the continuing care concept that were not captured in the high level search strategy, such as care for the frail elderly. There are researchers in Nova Scotia, Canada and elsewhere who focus on issues such as care for the frail elderly and aging in place, however their work did not appear in the high level searches conducted related to continuing care, again suggesting the search phrases may have been the limiting factor. It is also possible that published work about sustainable approaches to continuing care is more often found in the grey literature[‡].

[‡] Grey Literature is the term used for documents and ephemeral material issued in limited amounts outside the formal channels of publication and distribution. It is difficult to estimate how much Grey Literature is produced since Copyright Laws indicate only the volume of conventional literature published commercially. Examples of Grey Literature include: scientific and technical reports, government documents, theses, patent documents etc. (http://www.biblio.uottawa.ca/content-page.php?g=en&s=rgn&c=src-litgris)

Summary

Through a review of data presented in numerous reports about the health status of Nova Scotians and the state of the health system, six major health issues were identified:

- Reducing health disparities;
- Integrated approaches to chronic disease and injury prevention;
- Chronic disease management;
- Re-orienting the health system to emphasize primary health care;
- Implementing sustainable continuing care models;
- Implementing best practices in recruitment, retention, and role sharing; and change among health human resources.

Published reviews exist to different degrees in each of the major health issue areas. What appears to be common is a lack of integration among concepts within the issues. For example, research on effective chronic disease and injury prevention interventions, or on health disparities, is often fragmented by disease, risk factor, population group or setting. Less common appears to be research that attempts to integrate across these various factors to find effective approaches that recognize that individuals do not necessarily compartmentalize themselves by disease or risk factor.

Also lacking from the research is exploration about how to enact integrated system change. For example, there is much literature available about the various elements of an effective primary health care system. However, there is less evidence about what incremental steps, in what order, supported by what change management strategies are necessary to re-orient the health system so that resources for primary health care are balanced with resources for acute care.

Appendices

Appendix 1: Detailed Notes About Literature Search Strategies

This section provides additional details about the scope of the search for literature related to each of the major health issues. To provide a high level look at the current state of research related to each of the health issues identified in the document, a literature search was conducted for each topic focusing only on systematic reviews and peer-reviewed reviews (as identified by the database record) of research for each major issue, published between 2003 and 2009. Databases consulted for each search were focused on health literature and included PubMed, CINAHL, Cochrane Library, Bandolier, and ABI Inform (for the review related to health human resources only). Campbell reviews were not included because they are not specifically focused on health.

It is important to emphasize that the purpose of the environmental scan was not to conduct comprehensive literature reviews. Rather, the purpose was to conduct high-level searches related to the identified major health issues in order to provide some understanding of the current focus and directions that current research is taking in these areas. The scope and focus of the searches was on high level concepts such as "health disparities" rather than the many specific elements that contribute to the high level concepts.

Health Disparities

In PubMed the MeSH Headings[§] "health status disparities" or "healthcare disparities" were used, yielding 276 findings. Items selected focused on reviews that examined ways to reduce health disparities, rather than solely confirming their existence. Did not usually include reviews specific to health disparities related with specific conditions or specific populations (e.g. asthma, obesity, renal, Hispanic). In addition, used keywords "health disparities", "community", and "population" not "health status disparities" not "healthcare disparities", which yielded 23 additional results. Selected 4 of these. Searched "health disparity" with "community" and "population", which yielded no additional findings. Searched "reducing health disparities" which yielded 25 additional results.

In CINAHL, used the key word "health status disparities" which yielded no results. "Healthcare disparities" yielded 2 results. "Health disparities" yielded 11 results. In Cochrane, used "health disparities which yielded 5 review results. "Health disparity" yielded 1 result. "Health status disparities" and "healthcare disparities" each yielded no results. "Disparities" searched with "population"

[§] MeSH terminology provides a consistent way to retrieve information that may use different terminology for the same concepts.

yielded 1 result. In Bandolier, no results were yielded using "health status disparities", "healthcare disparities" or "health disparities".

Integrated Chronic Disease Prevention

In PubMed, used MeSH Headings "chronic disease" and "preventive health services". Yielded 10 results. Broadened search to "chronic disease prevention" which yielded 122 findings. Selected items focusing on broad prevention reviews rather than those that were disease specific. Searched integrated chronic disease prevention with same limits and nothing was found. In CINAHL, searched "chronic disease prevention". Yielded 25 results. In Cochrane, searched "chronic disease prevention" which yielded 9 reviews and 5 economic evaluations. In Bandolier, using the search term "chronic disease prevention" which yielded no results. Using "chronic disease" and "preventive health services did not yield results either.

Injury Prevention

In PubMed used key word "injury prevention". Yielded 272 findings. Items selected mainly focussed on broad injury prevention reviews rather than reviews focused on specific injuries (e.g. brain injury, sports related injury). Included reviews related to falls. Used MeSH heading "Accident Prevention" not "Injury Prevention" which resulted in 106 additional findings.

In Cochrane, searched "injury prevention" which yielded 35 reviews and 23 economic evaluations. Searching "accident prevention" yielded 20 review results, of which 6 were selected, and 14 economic evaluations. In CINAHL used key word "injury prevention". Yielded 36 results. In Bandolier, searching "injury prevention" yielded no results.

Chronic Disease Management

In PubMed used key word chronic disease management. Yielded over 12,000 results, so phrase was limited by the terms "model" and "program," yielding 475 and 620 results respectively. Items selected focused on chronic disease management models in general rather than highly disease-specific chronic disease management approaches. For example, an item titled "Oral 5-Aminosalicylic Acid for Maintenance of Medically Induced Remission in Crohn's Disease" was excluded from the inventory because of its highly specific nature. Successfully searched on key word chronic disease management in CINAHL and Cochrane, also in Bandolier with no relevant results.

Primary Health Care

In PubMed used MeSH Headings "primary care" and "delivery of health care". Yielded 110 results. Selected items focusing mainly on reviews that examined primary care broadly. Mostly did not include reviews that were disease specific

(e.g. learning disabilities, asthma) except when a systems approach to reorienting services was implied in the abstract. Used MeSH Heading "Primary Care" with keyword "reform". Yielded 35 results. Used MeSH Heading "Primary Care" with keyword "enhancing". Yielded 34 results.

In CINAHL, used CINAHL Headings "primary health care" and "health care delivery", which yielded 10 results. Used "primary care" and "reform". Yielded 1 result. Used "primary care" and "enhancing" which yielded 2 results. In Cochrane, used headings "primary care" and "delivery of health care" which yielded 20 reviews. "Primary care" and "renewal" or "reform" or "enhancing" yielded no results. Searched "primary health care," yielding 30 results. In Bandolier, searched "primary care renewal" and "primary care reform" and both yielded no results. Searched "enhancing" and "primary care" which yielded 11 results and searched "delivery" and "primary care" which yielded 30 results.

Health Human Resources Recruitment and Retention

In PubMed using the MeSH heading "health manpower", which yielded 53 results. Using the key term "health human resources" yielded 4 results. In CINAHL, used CINAHL heading "health manpower". This yielded 1 result. Using CINAHL headings "personnel recruitment" or "personnel retention" yielded 14 results. Using the key term "health human resources" yielded no results. In Cochrane, searching "health human resources" yielded no results. "Human resources" and "recruitment" or "retention", also yielded no results. Searched "health manpower" which yielded 5 results. In Bandolier, searching "health human resources" yielded no results. Searching the term "recruitment" yielded 19 results.

Specifically for this topic, ABI was searched, using a combination of key terms such as "human resources", "health care", "health human resources", "recruitment" and "retention". 12 results were selected from this search and included.

Continuing Care

In PubMed used keyword "continuing care". Yielded 60 results. Selected items focusing mainly on broad system models. Used MeSH Headings "long term care" and "home care" or "housing for the elderly", excluding the keyword "continuing care". Yielded 60 results. Searched on key term "integrated continuing care". Yielded 41 results. Used key phrase "integrate home care and long term care". Yielded 3 results. In CINAHL used keyword "continuing care". Yielded 1 result. Used CINAHL Headings "long term care" and "home care" or "housing for the elderly", 12 results were found. In Cochrane "continuing care" yielded 15 reviews. Searching "long term care" and "home care" yielded no results. In Bandolier searching "continuing care" only yielded 1 result. Searching "long term care" yielded 4 results while "home care" yielded 12.

Appendix 2: Inventories of Current Research Related to Identified Major Health Issues

This section presents tables for each of the major health issues identified in this document. Information in the brief notes column is extracted from published electronic abstracts when available. When abstracts were not available, n/a is indicated in this column. Chronic disease prevention and injury prevention were searched separately, therefore there are two separate tables for this issue.

Reducing Health Disparities: Annotated Inventory of Reviews

#	Reference	Brief Notes
1.	Adler,NE and Newman,K. Socioeconomic disparities in health: Pathways and policies. *Health.Aff.(Millwood);* 2002; 21(2):60-76.	Socioeconomic status (SES) underlies three major determinants of health: health care, environmental exposure, and health behaviour. In addition, chronic stress associated with lower SES may also increase morbidity and mortality. Reducing SES disparities in health will require policy initiatives addressing the components of socioeconomic status (income, education, and occupation) as well as the pathways by which these affect health. Lessons for U.S. policy approaches are taken from the Acheson Commission in England, which was charged with reducing health disparities in that country.
2.	Anderson,GM, Bronskill,SE, Mustard,CA, et al. Both clinical epidemiology and population health perspectives can define the role of health care in reducing health disparities. *J.Clin.Epidemiol.;* 2005; 58(8):757-62.	This study's objective was to compare and contrast clinical epidemiology and population health perspectives on the role of health care in reducing socioeconomic disparities in health. Population health has a focus on health disparities, particularly disparities related to socioeconomic status, and many of its proponents have a pessimistic view of the degree to which health care can reduce these disparities. Clinical epidemiology has a focus on the production of valid evidence on the impact of health care interventions; however, RCTs rarely report the impact of interventions across socioeconomic strata. The authors conclude that principles drawn from both population health and clinical epidemiology could be used to provide a clearer picture of the role that health care interventions can have on socioeconomic disparities in health and to identify implications for policy, research, and clinical practice.
3.	Andre,FE, Booy,R, Bock,HL, et al. Vaccination greatly reduces disease, disability, death and inequity worldwide. *Bull.World Health Organ.;* 2008; 86(2):140-6.	In low-income countries, infectious diseases still account for a large proportion of deaths, highlighting health inequities largely caused by economic differences. Vaccination can cut health-care costs and reduce these inequities. Immunization programmes have improved the primary care infrastructure in developing countries, lowered mortality in childhood and empowered women to better plan their families, with consequent health, social and economic benefits. Vaccination helps economic growth everywhere, because of lower morbidity and mortality. The annual return on investment in vaccination has been calculated to be between 12% and 18%. Vaccines are efficient tools to reduce disparities in wealth and inequities in health.
4.	Asante,AD and Zwi,AB. Public-private partnerships and global health equity: Prospects and challlenges. *Indian.J.Med.Ethics;* 2007; 4(4):176-80.	Health equity remains a major challenge to policymakers despite the resurgence of interest to promote it. This paper examines the viability of public-private partnerships for improving global health equity and highlights some key prospects and challenges. The paper is intended to stimulate further debate on the implications of public-private

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		partnerships for global health equity.
5.	Bambra,C, Gibson,M, Sowden,AJ, et al. Working for health? evidence from systematic reviews on the effects on health and health inequalities of organisational changes to the psychosocial work environment. *Prev.Med.;* 2009; 48(5):454-61.	This study's objective was to map the health effects of interventions which aim to alter the psychosocial work environment, with a particular focus on differential impacts by socio-economic status, gender, ethnicity, or age. Seven systematic reviews were identified. Changes to the psychosocial work environment were found to have important and generally beneficial effects on health. Importantly, five reviews suggested that organisational level psychosocial workplace interventions may have the potential to reduce health inequalities amongst employees. The authors conclude that policy makers should consider organisational level changes to the psychosocial work environment when seeking to improve the health of the working age population.
6.	Bostick,N, Morin,K, Benjamin,R, et al. Physicians' ethical responsibilities in addressing racial and ethnic healthcare disparities. *J.Natl.Med.Assoc.;* 2006; 98(8):1329-34.	This report explores the ethical obligations of individual physicians and the medical profession as they pertain to racial and ethnic disparities in healthcare. To address these disparities, the AMA Council on Ethical and Judicial Affairs recommends that physicians customize the provision of medical care to meet the needs and preferences of individual patients. Moreover, physicians must learn to recognize racial and ethnic healthcare disparities and critically examine their own practices to ensure that inappropriate considerations do not affect clinical judgment. Physicians can also work to eliminate racial and ethnic healthcare disparities by encouraging diversity within the profession, continuing to investigate healthcare disparities, and supporting the development of appropriate quality measures.
7.	Bowman,BA, Gregg,EW, Williams,DE, et al. Translating the science of primary, secondary, and tertiary prevention to inform the public health response to diabetes. *J.PublicHealthManag.Pract.*; 2003; Nov: S8-14	This article summarizes key scientific studies of primary, secondary, and tertiary prevention that provide evidence that diabetes complications can be prevented and controlled. The authors also discuss how findings from large-scale randomized clinical trials support the critical need for complementary public health approaches to address and eliminate persistent health disparities, using health systems, health communications, and community intervention research and practice.
8.	Butterfield,P, Postma,J and ERRNIE research team. The TERRA framework: Conceptualizing rural environmental health inequities through an environmental justice lens. *ANS Adv.Nurs.Sci.;* 2009; 32(2):107-17.	The deleterious consequences of environmentally associated diseases are expressed differentially by income, race, and geography. Scientists are just beginning to understand the consequences of environmental exposures under conditions of poverty, marginalization, and geographic isolation. In this context, the authors developed the TERRA (translational environmental research in rural areas) framework to explicate environmental health risks experienced by the rural poor. In the face of scientific and political uncertainty, a precautionary risk reduction approach has the greatest potential to protect health. Conceptual and technical advances will both be needed to achieve environmental justice.
9.	Campbell,MK, Hudson,MA, Resnicow,K, et al. Church-based health promotion interventions: Evidence and lessons learned. *Annu.Rev.Public Health;* 2007; 28:213-34.	Church-based health promotion (CBHP) interventions can reach broad populations and have great potential for reducing health disparities. From a socioecological perspective, churches and other religious organizations can influence members' behaviours at multiple levels of change. Formative research is essential to determine appropriate strategies and messages for diverse groups and denominations. Evidence indicates that CBHP programs have produced significant impacts on a variety of health behaviours. Key elements of CBHP are described with illustrations from the authors' research projects.
10.	Chan,M. Primary health care as a route to	n/a

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	health security. *Lancet;* 2009; 373(9675):1586-7.	
11.	Chassin,MR and Anderson,RM. Quality of care and racial health disparities: A strategic overview. *Mt.Sinai J.Med.;* 2008; 75(1):7-12.	This article discusses the utility of applying quality improvement principles to the development of interventions to eliminate underuse of effective treatments and reduce the disparities that may arise from this quality problem. The authors present a conceptual model of racial disparities in health and our underuse hypothesis. Parallels between our disparities research strategy and six sigma quality improvement methods are described. Finally, the article provides an example of how we have been able to successfully implement proven-effective health improvement programs in the Harlem community even after grant funding has ended.
12.	Chibber,KS, Kaplan,RL, Padian,NS, et al. A common pathway toward women's health. *Glob.Public.Health.;* 2008; 3(1):26-38.	This paper calls for an alternate approach to studying the aetiology of women's health conditions. Instead of the long-established disease-specific, compartmentalized approach, it recommends focusing on risk exposures that allows for the identification of multiple disease conditions that stem from the same risk factors. The review demonstrates how women's health cannot be viewed independently from the larger social, economic, and political context in which women are situated. Promoting women's health necessitates more comprehensive approaches, such as gender-sensitization of other family members, and the development of more creative and flexible mechanisms of healthcare delivery, that acknowledge the gender inequity-related constraints that women face in their daily lives.
13.	Chu,C and Selwyn,PA. Current health disparities in HIV/AIDS. *AIDS Read.;* 2008; 18(3):144,6, 152-8, C3.	The CDC and other public health organizations have identified numerous disparities in the incidence and outcomes of HIV disease among different population groups. Women and minorities, especially those in South and rural areas, have recently been identified as underserved populations at high risk for increased morbidity and mortality from HIV/AIDS. This article reviews current epidemiological trends in HIV/AIDS outcomes, key contributors to observed and emerging health disparities, and strategies that are being employed to overcome important modifiable disparities.
14.	Cosgrove,S. Poverty, health and participation. *Ir.Med.J.;* 2007; 100(8):suppl 73-5.	Poverty is an important influence on health and despite continuing economic growth, poverty and health inequalities persist. Current public policy aims to reduce the inequalities in the health, by focussing on the social factors influencing health, improving access to health and personal social services for those who are poor or socially excluded and by improving the information and research base in respect of the health status and service access for the poor and socially excluded groups. A number of projects throughout the country aim to address health inequalities using community development.
15.	Davis,AM, Vinci,LM, Okwuosa,TM, et al. Cardiovascular health disparities: A systematic review of health care interventions. *Med.Care Res.Rev.;* 2007; 64(5 Suppl):29S-100S.	Racial and ethnic disparities in cardiovascular health care are well documented. Promising approaches to disparity reduction are increasingly described in literature published since 1995, but reports are fragmented by risk, condition, population, and setting. The authors conducted a systematic review of clinically oriented studies in communities of color that addressed hypertension, hyperlipidemia, physical inactivity, tobacco, and two major cardiovascular conditions, coronary artery disease and heart failure. Interventions addressing care transitions, using telephonic outreach, and promoting medication access and adherence merit further exploration.
16.	DeHaven,MJ and Gimpel,NE. Reaching out to those in need: The case for community health science. *J.Am.Board Fam.Med.;* 2007;	The present health care delivery model in the United States perpetuates unequal access to care, favours treatment over prevention, and contributes to persistent health disparities and lack of

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	20(6):527-32.	insurance. The vast majority of those who suffer from preventable diseases and health disparities, and who are at greatest risk of not having insurance, are minorities and those of lower socioeconomic status. Family medicine leaders have an opportunity to integrate community health science into their academic departments and throughout the specialty in a way that might improve health care for the underserved. More emphasis on community health science is consistent with family medicine's roots in social reform, and its historical and philosophical commitment to the principle of uninhibited access to medical care for the underserved.
17.	Esperat,MC, Feng,D, Zhang,Y, et al. Transformation for health: A framework for conceptualizing health behaviors in vulnerable populations. *Nurs.Clin.North Am.;* 2008; 43(3):381,95, viii-ix.	Shedding light on the factors and circumstances that operate to bring about marginalization of groups can facilitate appropriate responses to the issue of health disparities among vulnerable groups in society. This is showing to be a seemingly intractable problem; however, it may well be that the approaches currently used to respond to the issues are not appropriate because we overlook the "realties" that really matter: those emanating from the people being visited by these circumstances themselves. Under normal conditions, human behaviour can only be controlled by the individual. Facilitating an environment in which an individual can comprehend his or her internal and external realities is the first step toward transformative behaviour.
18.	Fiscella,K. Achieving the healthy people 2010 goal of elimination of health disparities: What will it take? *Adv.Health Econ.Health Serv.Res.;* 2008; 19:25-41.	The second national goal for Healthy People 2010 is the elimination of health disparities related to social disadvantage in the United States. Unfortunately, progress to date has been limited. Key criteria are needed to begin to prioritize areas for federal investment to achieve this goal. These include the impact of the targeted condition on disparities, evidence base for the intervention, potential impact of the policy on disparities, economic impact, and federal politics. Two "big ideas" offer promise including federal investment in early child education and enhanced primary care within federally qualified community health centers. The proposed criteria are applied to each proposed policy.
19.	Fiscella,K and Kitzman,H. Disparities in academic achievement and health: The intersection of child education and health policy. *Pediatrics;* 2009; 123(3):1073-80.	In this special article, we review health disparities and contributors to child achievement gaps. We review changes in achievement gaps over time and potential contributors to the limited success of the No Child Left Behind Act of 2001, including its unfunded mandates and unfounded assumptions. We conclude with key reforms, which include addressing gaps in child school readiness through adequate investment in child health and early education and reductions in child poverty; closing the gap in child achievement by ensuring equity in school accountability standards; and, importantly, ensuring equity in school funding so that resources are allocated on the basis of the needs of the students. This will ensure that schools, particularly those serving large numbers of poor and minority children, have the resources necessary to promote optimal learning.
20.	Fisher,TL, Burnet,DL, Huang,ES, et al. Cultural leverage: Interventions using culture to narrow racial disparities in health care. *Med.Care Res.Rev.;* 2007; 64(5 Suppl):243S-82S.	The authors reviewed interventions using cultural leverage to narrow racial disparities in health care. Thirty-eight interventions of three types were identified: interventions that modified the health behaviours of individual patients of color, that increased the access of communities of color to the existing health care system, and that modified the health care system to better serve patients of color and their communities. Interventions using cultural leverage show tremendous promise in reducing health disparities, but more research is needed to understand their health effects in combination with other interventions.

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21.	Glazier,RH. Balancing equity issues in health systems: Perspectives of primary healthcare. *Healthc.Pap.;* 2007; 8 Spec No:35-45.	n/a
22.	Hanefeld,J. How have global health initiatives impacted on health equity? *Promot.Educ.;* 2008; 15(1):19-23.	This review examines the impact of Global Health Initiatives (GHIs) on health equity, focusing on low- and middle-income countries. An analysis of these Initiatives finds that they have a significant impact on health equity, including gender equity, through their processes of programme formulation and implementation, and through the activities they fund and implement, including through their impact on health systems and human resources. However, GHIs have so far paid insufficient attention to health inequities. Key recommendations include a call for equity-sensitive targets, the collection of gender-disaggregated data, the use of policy-making processes for empowerment, programmes that explicitly address causes of health inequity and impact assessments of interventions' effect on social inequities.
23.	Hansen-Turton,T. The nurse-managed health center safety net: A policy solution to reducing health disparities. *Nurs.Clin.North Am.;* 2005; 40(4):729,38, xi.	Nurse-managed health centers are critical safety net providers. Increasing support of these centers is a promising strategy for the federal government to reduce health disparities. To continue as safety net providers, nurse-managed health centers need to receive equal compensation as other federally funded providers. Ultimately, the long-term sustainability of nurse-managed centers rests on prospective payments or similar federally mandated funding mechanisms.
24.	Hillemeier,MM, Lynch,J, Harper,S, et al. Measuring contextual characteristics for community health. *Health Serv.Res.;* 2003; 38(6 Pt 2):1645-717.	This study's objective was to conceptualize and measure community contextual influences on population health and health disparities. An extensive geocoded library of data indicators relating to each dimension and subcomponent for metropolitan areas in the United States was assembled. The authors describe the development of community contextual health profiles, present the rationale supporting each of the profile dimensions, and provide examples of relevant data sources. The authors conclude that their conceptual framework for community contextual characteristics, including a specified set of dimensions and components, can provide practical ways to monitor health-related aspects of the economic, social, and physical environments in which people live. They suggest several guiding principles useful for understanding how aspects of contextual characteristics can affect health and health disparities.
25.	King,RK, Green,AR, Tan-McGrory,A, et al. A plan for action: Key perspectives from the racial/ethnic disparities strategy forum. *Milbank Q.;* 2008; 86(2):241-72.	In 2006, the Disparities Solutions Center convened a one-and-a-half-day Strategy Forum composed of twenty experts from the fields of racial/ethnic disparities in health care, quality improvement, implementation research, and organizational excellence, with the goal of deciding on innovative action items and adoption strategies to address disparities. The forum's participants concluded that to identify and effectively address racial/ethnic disparities in health care, health care organizations should: (1) collect race and ethnicity data on patients or enrolees in a routine and standardized fashion; (2) implement tools to measure and monitor for disparities in care; (3) develop quality improvement strategies to address disparities; (4) secure the support of leadership; (5) use incentives to address disparities; and (6) create a message and communication strategy for these efforts. This article also discusses these recommendations in the context of both current efforts to address racial and ethnic disparities in health care and barriers to progress.
26.	Lynam,MJ. Health as a socially mediated process: Theoretical and practice imperatives	Population-based studies on health disparities provide compelling evidence that inequities in health status over the life course accrue

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	emerging from research on health inequalities. *ANS Adv.Nurs.Sci.;* 2005; 28(1):25-37.	from social conditions. Our knowledge of how such conditions exert their effect on health, however, is limited. An examination of explanations for health disparities shows that a theoretical perspective that enables the exploration of the links between broader social processes (macro) and experience (micro) would offer valuable insights for practice. This article introduces a theoretical perspective informed by Bourdieu and Smith that has been used to undertake such an analysis and that opens up possibilities for new practice forums and foci.
27.	Mackereth,C and Appleton,J. Social networks and health inequalities: Evidence for working with disadvantaged groups. *Community Pract.;* 2008; 81(8):23-6.	This paper examines the growing body of research that identifies links between poverty and ill health, and the evidence that social factors do affect health. Epidemiological studies clearly demonstrate links between inequality, poor social networks and ill health. This paper critically examines these core public health concepts and provides a way for practitioners to demonstrate to managers and commissioners that community work which aims to build social networks and address health inequalities should be properly funded. Epidemiological evidence can be used by community practitioners to identify public health work at a local level and to demonstrate the worth of existing local projects.
28.	Meade,CD, Menard,J, Martinez,D, et al. Impacting health disparities through community outreach: Utilizing the CLEAN look (culture, literacy, education, assessment, and networking). *Cancer Control;* 2007; 14(1):70-7.	Community outreach programs are important vehicles for reducing the discovery-delivery disconnect by bringing cancer education and screening services directly to community members. This article reviews the important tenets of culture and literacy when developing community outreach programs for medically underserved populations, examines a health education empowerment model for community program planning, and describes the use of the CLEAN Look Checklist (in which CLEAN is an easy-to-remember mnemonic of culture, literacy, education, assessment, and networking) for identifying cues and strategies to achieve relevant outreach. Meeting the challenge of a strong health disparities agenda requires integration of cultural and literacy considerations in outreach program, message, and intervention development.
29.	Montegut,AJ. To achieve "health for all" we must shift the world's paradigm to "primary care access for all". *J.Am.Board Fam.Med.;* 2007; 20(6):514-7.	The World Health Organization and other organizations have not focused on the horizontal role of primary care. The expectations created by these programs have not been met. Evidence demonstrates that the advent of health care through a base of primary care improves health better than through the traditional vertical disease-oriented health programs used around the globe. The global "family" of family medicine must advocate for a shift from the current solutions to one in which the family doctor is part of a well-trained health care team that can function in networks that incorporate the vertical programs into a broad horizontal approach for better access to primary care. Perhaps in this way "health for all" can be achieved.
30.	Netherwood,M. Will health trainers reduce inequalities in health? *Br.J.Community Nurs.;* 2007; 12(10):463-8.	The Health Trainer initiative was a public policy initiative designed to tackle health inequalities. Despite considerable improvements in the health of the population in the United Kingdom, there continues to be a gap between the rich and the poor in terms of deaths from cancer, stroke and coronary heart disease. This paper uses Whitehead's framework to examine the decision to implement health trainers as a stated aim of tackling health inequalities. The four purposes of health policy as identified by Whitehead (1995) and the categories of healthy living initiatives (Visram and Drinkwater 2005) are examined and applied to the health trainer initiative and its potential for reducing health inequality.
31.	Niederdeppe,J, Bu,QL, Borah,P, et al.	This article reviews three message strategies that could be used to

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	Message design strategies to raise public awareness of social determinants of health and population health disparities. *Milbank Q.;* 2008; 86(3):481-513.	raise awareness of social determinants of health (SDH) and health disparities: message framing, narratives, and visual imagery. Evidence suggests that population health advocates should frame messages to acknowledge a role for individual decisions about behaviour but emphasize SDH. The authors conclude that the field of communication science offers valuable insights into ways that population health advocates and researchers might develop better messages to shape public opinion and debate about the social conditions that shape the health and well-being of populations. This article offers a broad framework for these efforts and concludes with an agenda for future research to refine message strategies to raise awareness of SDH and health disparities.
32.	Obrist,B, Iteba,N, Lengeler,C, et al. Access to health care in contexts of livelihood insecurity: A framework for analysis and action. *PLoS Med.;* 2007; 4(10):1584-8.	n/a
33.	Olshansky,E, Sacco,D, Braxter,B, et al. Participatory action research to understand and reduce health disparities. *Nurs.Outlook;* 2005; 53(3):121-6.	This article describes the method of PAR, supports the appropriateness of PAR to learn about and reduce health disparities, and then presents some specific examples of research projects that have employed or are planning to employ PAR.
34.	Politzer,RM, Yoon,J, Shi,L, et al. Inequality in america: The contribution of health centers in reducing and eliminating disparities in access to care. *Med.Care Res.Rev.;* 2001; 58(2):234-48.	This article reviews the literature that demonstrates a relationship between access to appropriate health care and reductions in health status disparities. Using comprehensive site-level data, patient surveys, and medical record reviews, the authors present an evaluation of the ability of health centers to provide such access. Evidence suggests that health centers are successful in reducing and eliminating health access disparities by establishing themselves as their patients' usual and regular source of care. This relationship portends well for reducing and eliminating health status disparities.
35.	Rainham,D. Do differences in health make a difference? A review for health policymakers. *Health Policy;* 2007; 84(2-3):123-32.	While many societies have made remarkable progress in population health improvements, health inequalities remain as a central concern to health policy. There is substantial evidence to show that differences in health achievements and access to health care are increasing both within and among societies. Understanding the fundamental causes underlying the existence of health inequalities is useful for guiding health policy as it provides a direction to guide resource allocation and the targeting of policy interventions. The purpose of this paper is to review current perspectives and methods in the assessment of health inequalities with particular relevance to public health policymakers and practitioners.
36.	Rew,L, Hoke,MM, Horner,SD, et al. Development of a dynamic model to guide health disparities research. *Nurs.Outlook;* 2009; 57(3):132-42.	The purpose of this article is to describe the evolution of a conceptual model for the study of health disparities. The model, based on a review of literature, was developed to guide 19 pilot studies funded by the Texas-New Mexico P20 Southwest Partnership Center for Nursing Research on Health Disparities. Reflection on these studies, their respective methodologies, and findings resulted in a revised model to guide further studies of communities experiencing health disparities.
37.	Ruger,JP. Rethinking equal access: Agency, quality, and norms. *Glob.Public.Health.;* 2007; 2(1):78-96.	At the philosophical level, few have sought to understand why differences in healthcare quality are morally so troubling. This paper argues for rethinking equal access in terms of an alternative ethical aim: to ensure the social conditions in which all individuals have the capability to be healthy. This perspective requires that we examine injustices not just by the level of healthcare resources, but by the: (1) quality of those resources and their capacity to enable effective health functioning; (2) extent to which society supports health agency so

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		that individuals can convert healthcare resources into health functioning; and (3) nature of health norms, which affect individuals' efforts to achieve functioning.
38.	Rust,G and Cooper,LA. How can practice-based research contribute to the elimination of health disparities? *J.Am.Board Fam.Med.;* 2007; 20(2):105-14.	Racial, ethnic, and socioeconomic disparities in health care and health outcomes are well documented. Unfortunately, few studies to date have demonstrated substantial reductions in health outcomes disparities. In this article, we review 12 promising strategies that could substantially increase the impact of research on eliminating health disparities in America.
39.	Shoultz,J, Fongwa,M, Tanner,B, et al. Reducing health disparities by improving quality of care: Lessons learned from culturally diverse women. *J.Nurs.Care Qual.;* 2006; 21(1):86-92.	Disparities in health care for culturally diverse populations in the United States lead to poorer health outcomes. This article focuses on decreasing health disparities by improving the quality of care for culturally diverse women. Findings from 3 pilot studies are organized using Fongwa's Quality of Care Model, which demonstrate specific modifications suggested by culturally diverse women that can potentially improve health care services for these women.
40.	Siegel,S, Moy,E and Burstin,H. Assessing the nation's progress toward elimination of disparities in health care. *J.Gen.Intern.Med.;* 2004; 19(2):195-200.	The Agency for Healthcare Research and Quality submitted the first annual National Healthcare Disparities Report to Congress in December, 2003. This first report will provide a snapshot of the state of racial, ethnic, and socioeconomic disparities in access and quality of care in America. It examines disparities in the general population and within the Agency's priority populations. While focused on extant data, the first report will form the foundation for future versions, which examines causes of disparities and shape solutions to the problem.
41.	Stone,J. Race and healthcare disparities: Overcoming vulnerablity. *Theor.Med.Bioeth.;* 2002; 23(6):499-518.	The paper summarizes recently published data and recommendations about healthcare disparities experienced by African Americans who have Medicare or other healthcare coverage. The paper argues that vulnerable populations like African Americans need fair representation in bodies deciding what to do about such disparities and that fairness requires proportional representation at all levels of decisions that affect healthcare--a radical change. The paper shows that in deliberation, fair representation requires not only having a voice in decisions, but a fair hearing of those voices. Conclusions are that achieving such goals will take a sea change in how healthcare institutions and providers do their business, and that social activism at every level will be needed to effect these changes.
42.	Themessl-Huber,M, Lazenbatt,A and Taylor,J. Overcoming health inequalities: A participative evaluation framework fit for the task. *J.R.Soc.Promot.Health.;* 2008; 128(3):117-22.	Healthcare providers are confronted with the claim that the distribution of health and healthcare provision is inherently unfair. In this paper a participative evaluation framework was constructed by drawing on six common success characteristics extrapolated from the published literature and policies on health inequalities. The framework provides healthcare professionals with an evidence-based tool for evaluating projects or programmes targeting health inequalities in ways that are responsive to local contexts and stakeholders. This participative evaluation framework supports the identification of meaningful psychosocial and contextual indicators for assessing the diverse health and social needs of service users.
43.	Walker,LO, Sterling,BS, Hoke,MM, et al. Applying the concept of positive deviance to public health data: A tool for reducing health disparities. *Public Health Nurs.;* 2007; 24(6):571-6.	The concept of positive deviance (PD), which highlights uncommon practices that reduce risk in low-resource communities, has been effective in community mobilization and programming to improve health outcomes. The authors present a protocol for extending the concept to analysis of existing public health data. Analyzing existing datasets from a PD perspective may aid public health nurses in efforts to reduce health disparities. The effectiveness of our protocol will be clarified in future research.

#	Reference	Brief Notes
44.	Wise,M and Sainsbury,P. Democracy: The forgotten determinant of mental health. *Health.Promot.J.Austr;* 2007; 18(3):177-83.	This paper aims to stimulate interest and debate on the role of democracy, a mechanism for allocating political power, as a determinant of health and of mental health in particular. Drawing principally on the political science literature, the authors briefly describe the development of democracy in some of its commoner current forms and relate this to the spread of political power and participation in collective decision making and improvements in public health over the past 200 years. The authors suggest mechanisms that might account for this. Historical, theoretical and empirical evidence suggests that democracy is a (frequently forgotten) determinant of health.

Integrated Chronic Disease Prevention: Annotated Inventory of Reviews

#	Reference	Brief Notes
1.	Abegunde,DO, Mathers,CD, Adam,T, et al. The burden and costs of chronic diseases in low-income and middle-income countries. *Lancet;* 2007; 370(9603):1929-38.	This paper estimates the disease burden and loss of economic output associated with chronic diseases-mainly cardiovascular diseases, cancer, chronic respiratory diseases, and diabetes-in 23 selected countries which account for around 80% of the total burden of chronic disease mortality in developing countries. If nothing is done to reduce the risk of chronic diseases, an estimated US$84 billion of economic production will be lost from heart disease, stroke, and diabetes alone in these 23 countries between 2006 and 2015. Achievement of a global goal for chronic disease prevention and control-an additional 2% yearly reduction in chronic disease death rates over the next 10 years-would avert 24 million deaths in these countries, and would save an estimated $8 billion, which is almost 10% of the projected loss in national income over the next 10 years.
2.	Asaria,P, Chisholm,D, Mathers,C, et al. Chronic disease prevention: Health effects and financial costs of strategies to reduce salt intake and control tobacco use. *Lancet;* 2007; 370(9604):2044-53.	In 2005, WHO set a global goal to reduce rates of death from chronic (non-communicable) disease by an additional 2% every year. To this end, we investigated how many deaths could potentially be averted over 10 years by implementation of selected population-based interventions, and calculated the financial costs of their implementation. The authors show that, over 10 years (2006-2015), 13.8 million deaths could be averted by implementation of these interventions, at a cost of less than US$0.40 per person per year in low-income and lower middle-income countries, and US$0.50-1.00 per person per year in upper middle-income countries (as of 2005). These two population-based intervention strategies could therefore substantially reduce mortality from chronic diseases, and make a major (and affordable) contribution towards achievement of the global goal to prevent and control chronic diseases.
3.	Bowman,BA, Gregg,EW, Williams,DE, et al. Translating the science of primary, secondary, and tertiary prevention to inform the public health response to diabetes. *J.Public Health Manag.Pract.;* 2003; Suppl:S8-14.	This article summarizes key scientific studies of primary, secondary, and tertiary prevention that provide evidence that diabetes complications can be prevented and controlled. The authors also discuss how findings from large-scale randomized clinical trials support the critical need for complementary public health approaches to address and eliminate persistent health disparities, using health systems, health communications, and community intervention research and practice.
4.	Bull,FC, Bellew,B, Schoppe,S, et al. Developments in national physical activity policy: An international review and recommendations towards better practice.	This paper provides a summary of the literature on policy development and defines what a policy on physical activity (PA) may usefully comprise. The results of an international review of national level PA policies, using a defined set of criteria, are reported. The

#	Reference	Brief Notes
	J.Sci.Med.Sport; 2004; 7(1 Suppl):93-104.	need for action across the lifespan is recognised, as is the need for multiple strategies across a variety of settings. Recommendations towards better practice in policy making are made with particular reference to developing a clearly defined integrated national PA policy in the Australian context.
5.	Centers for Disease Control, National Center for Chronic Disease Prevention and Health Promotion. Physical activity and good nutrition: Essential elements to prevent chronic diseases and obesity 2003. *Nutr.Clin.Care.;* 2003; 6(3):135-8.	The article assesses the benefits of physical activity and good nutrition on chronic disease.
6.	Chaudhary,N and Kreiger,N. Nutrition and physical activity interventions for low-income populations. *Can.J.Diet.Pract.Res.;* 2007; 68(4):201-6.	A systematic review was conducted of community-based nutrition and physical activity strategies for chronic disease prevention targeting low-income populations. The results suggest that nutrition and physical activity interventions aimed at low-income audiences tend to be delivered in an interactive visual format, to be culturally appropriate, to be administered in accessible primary care settings, and to provide incentives.
7.	Choi,BC, Hunter,DJ, Tsou,W, et al. Diseases of comfort: Primary cause of death in the 22nd century. *J.Epidemiol.Community Health;* 2005; 59(12):1030-4.	This study's objective is to describe the concept, causes, and prevention and control strategies of diseases of comfort. Diseases of comfort have emerged as a price of living in a modern society. Modern technology must be combined with education, legislation, intersectoral action, and community involvement to create built and social environments that encourage, and make easy, walking, physical activity, and nutritious food choices, to reduce the health damaging effects of modern society for all citizens and not only the few. Public health needs to be more passionate about the health issues caused by human progress and adopt a health promotion stance, challenging the assumptions behind the notion of social "progress" that is giving rise to the burden of chronic disease and developing the skills to create more health promoting societies in which individual health thrives.
8.	Damlo,S. Practice guideline briefs. AHA releases statement on physical activity interventions. *Am.Fam.Physician;* 2007; 76(2):297-8.	n/a
9.	Dietz,W, Lee,J, Wechsler,H, et al. Health plans' role in preventing overweight in children and adolescents. *Health.Aff.(Millwood);* 2007; 26(2):430-40.	This paper examines how U.S. health plans can promote evidence-based behavioural-change strategies by directly intervening in medical settings and by supporting efforts to modify the environments in which young people live, study, and play. We describe a variety of innovative initiatives launched in recent years by health plans to address overweight among children and adolescents. Despite gaps in the evidence base, enough is now known to support aggressive steps to control this important public health problem.
10.	Ebrahim,S, Beswick,A, Burke,M, et al. Multiple risk factor interventions for primary prevention of coronary heart disease. *Cochrane Database of Systematic Reviews*, 2006; (4): Art. No.: CD001561. DOI: 10.1002/14651858.CD001561.pub2.	It is widely believed that multiple risk factor intervention using counselling and educational methods is efficacious and cost-effective and should be expanded. Recent trials examining risk factor changes have cast considerable doubt on the effectiveness of these multiple risk factor interventions. This study's objective was to assess the effects of multiple risk factor intervention for reducing cardiovascular risk factors, total mortality, and mortality from CHD among adults without clinical evidence of established cardiovascular disease. The authors conclude that the pooled effects suggest multiple risk factor intervention has no effect on mortality. However, a small, but potentially important, benefit of treatment (about a 10% reduction in CHD mortality) may have been missed. Overall, the evidence suggests that many interventions have limited utility in the general

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		population.
11.	Elliott,SJ, O'Loughlin,J, Robinson,K, et al. Conceptualizing dissemination research and activity: The case of the Canadian Heart Health Initiative. *Health.Educ.Behav;* 2003; 30(3):267,82.	This article presents conceptual and analytic frameworks that integrate several approaches to understanding and studying dissemination processes within public health systems. This work is based on the Canadian Heart Health Dissemination Project, a research program examining a national heart health dissemination initiative. The primary focus is the development of a systematic protocol for measuring levels of capacity and dissemination, and determining successful conditions for, and barriers to, capacity and dissemination, as well as the nature of the relationship between these key concepts.
12.	Flynn,MA, McNeil,DA, Maloff,B, et al. Reducing obesity and related chronic disease risk in children and youth: A synthesis of evidence with 'best practice' recommendations. *Obes.Rev.;* 2006; 7 Suppl 1:7-66.	The goal of this synthesis research study was to develop best practice recommendations based on a systematic approach to finding, selecting and critically appraising programmes addressing prevention and treatment of childhood obesity and related risk of chronic diseases. The findings of this synthesis review identify areas for action, opportunities for programme development and research priorities to inform the development of best practice recommendations that will reduce obesity and chronic disease risk in children and youth. Further research is required to understand the merits of the various forms in which interventions (singly and in combination) are delivered and in which circumstances they are effective. There is a critical need for the development of consistent indicators to ensure that comparisons of programme outcomes can be made to better inform best practice.
13.	Gaziano,TA, Galea,G and Reddy,KS. Scaling up interventions for chronic disease prevention: The evidence. *Lancet;* 2007; 370(9603):1939-46.	The authors review the cost-effectiveness estimates on policy interventions (both population-based and personal) that are likely to lead to substantial reductions in chronic diseases--in particular, cardiovascular disease, diabetes, cancer, and chronic respiratory disease. The results confirm that the cost-effectiveness evidence for tobacco control measures, salt reduction, and the use of multidrug regimens for patients with high-risk cardiovascular disease strongly supports the feasibility of the scale-up of these interventions. The authors review evidence for policy implementation in areas of strong causality or highly probable benefit--e.g., changes in personal interventions for diabetes reduction, restructuring of health systems, and wider policy decisions.
14.	Hanson,C, Novilla,L, Barnes,M, et al. Using family health history for chronic disease prevention in the age of genomics: Translation to health education practice. *Am.J.Health.Educ;* 2007; 38(4):219,29.	Advances in the field of human genomics have important implications for the prevention of chronic disease. In response to these advancements, public health professionals-including health educators-must become competent in the principles underlying the interface between genomics and the use of family health history. The purpose of this article is to review family health history research as an important tool for assessing chronic disease risk; to provide information regarding its use in health education practice as a potential preventive tool; and to discuss the ethical, legal, and social implications of such use.
15.	Harris,JE. The need for a concerted effort to address global obesity. *Top.Clin.Nutr;* 2008; 23(3):216,28.	This article addresses the scope, consequences, and etiology of the global obesity epidemic along with a comprehensive approach for combating this worldwide problem. In addition, ideas are given as to how dieticians, who have the training related to food and nutrition to be an asset in addressing global obesity, can become involved in combating this problem.

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16.	Jetha,N, Robinson,K, Wilkerson,T, et al. Supporting knowledge into action: The Canadian Best Practices Initiative for Health Promotion and Chronic Disease Prevention. *Can.J.Public Health;* 2008; 99(5):I1-8.	Public health practitioners and policy-makers working to address the burden of chronic disease are increasingly seeking to use best practices given the need to make thoughtful program and policy choices with limited resources. While the evidence base in chronic disease prevention is growing through a number of different information sources, there is often a disconnect between the desire to use best practices and their implementation. This article presents an overview of the development of the Canadian Best Practices Portal and in particular how an evolution in thinking about best practice methodology and evidence will contribute to an enriched knowledge base for health promotion and chronic disease prevention policy, practice and research.
17.	Kennedy,ET. Evidence for nutritional benefits in prolonging wellness. *Am.J.Clin.Nutr.;* 2006; 83(2):410S-4S.	Nutrient deficiency diseases are giving way to energy imbalances, and links between diet and chronic disease are becoming clearer. The global demographic, epidemiologic, and nutrition transitions are dramatic and point to an urgent need to focus on preventive approaches in health care. Thus, nutrition research has shifted from focusing exclusively on alleviating nutrient deficiencies to also stressing chronic disease prevention. Ongoing initiatives to optimize long-term health and promote healthy aging are based on the concept of functional fitness, i.e., the ability to lead an active and healthy life. The Dietary Reference Intakes provide a framework for assessing nutrient adequacy at the population and individual levels. In addition, the Healthy Eating Index provides a single summary measure of diet quality. To effect changes in lifestyles to optimize health as we age, health care providers need to consider all the lifestyle and environmental factors contributing to suboptimal eating and lifestyle patterns.
18.	Kumanyika,S. Nutrition and chronic disease prevention: Priorities for US minority groups. *Nutr.Rev.;* 2006; 64(2 Pt 2):S9-14.	Persistent disparities affecting US racial/ethnic minorities present a continuing challenge within the larger picture of chronic disease prevention, in part because of the socio-political disadvantages that affect minority populations. Many of these disparities are nutrition related. Complementary approaches to identifying priorities for nutrition assessment and intervention in minority populations include: 1) a dietary perspective that considers eating patterns in relation to current dietary guidelines, and 2) a chronic disease perspective that considers dietary implications of population risk profiles. Integrating these perspectives requires additional considerations of feasibility and relative priority for the population in question.
19.	Kumanyika,S. Nutrition and chronic disease prevention: Priorities for US minority groups... prevention of nutrition-related chronic diseases: Scientific foundations and community interventions. Fifth Nestlé nutrition conference, Mexico City, Mexico, October 7-8, 2004.	n/a
20.	Matson-Koffman,DM, Brownstein,JN, Neiner,JA, et al. A site-specific literature review of policy and environmental interventions that promote physical activity and nutrition for cardiovascular health: What works? *Am.J.Health Promot.;* 2005; 19(3):167-93.	This study's objective was to review the literature to determine whether policy and environmental interventions can increase people's physical activity or improve their nutrition. The results of the review suggest that policy and environmental strategies may promote physical activity and good nutrition. Further research is needed to determine the long-term effectiveness of different policy and environmental interventions with various populations and to identify the steps necessary to successfully implement these types of interventions.

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21.	McLaren,L, Ghali,LM, Lorenzetti,D, et al. Out of context? Translating evidence from the North Karelia project over place and time. *Health Educ.Res.;* 2007; 22(3):414-24.	In the present study, we examine the tendency to attempt replication of elements of the North Karelia project, without due consideration of the unique population and setting being targeted. The authors conclude that for many contemporary community-based interventions, concern with replicating the North Karelia project is accompanied by inadequate consideration or reporting of the details of the unique context (including people, place and time), and this may undermine the success of community-based health promotion.
22.	Mensah,GA and Dunbar,SB. A framework for addressing disparities in cardiovascular health. *J.Cardiovasc.Nurs.;* 2006; 21(6):451-6.	Examination of national surveys revealed disparities in all cardiovascular disease risk factors, hospitalizations for major cardiovascular disease, overall mortality, and quality of life. Eliminating these disparities is a major public health challenge in the United States. Their causes and underlying mechanisms, however, remain incompletely understood. The healthcare delivery system itself, access to care, quality of care received, communication barriers, individual behaviours, culture and lifestyles, and discrimination and bias all play a part. The pursuit of systems and policy changes to address these determinants remains crucial. The authors present a strategic framework for eliminating health disparities that takes these determinants into account.
23.	Mensah,GA, Goodman,RA, Zaza,S, et al. Law as a tool for preventing chronic diseases: Expanding the spectrum of effective public health strategies. *Prev.Chronic Dis.;* 2004; 1(2):A11.	n/a
24.	Michels,KB. Early life predictors of chronic disease. *J.Womens Health.(Larchmt);* 2003; 12(2):157-61.	Many chronic diseases may have their seeds early in life. Observations from the Dutch famine have taught us that the intrauterine environment is an important determinant of adult health. Birth weight has been related to cardiovascular disease (CVD), hypertension, diabetes, and cancer. Critical phases for adult obesity development include time periods between conception and adolescence. A life course approach to chronic disease prevention includes the study of maternal diet during pregnancy, intrauterine exposures, postnatal growth, and the adolescent period.
25.	Neiner,JA, Howze,EH and Greaney,ML. Using scenario planning in public health: Anticipating alternative futures. *Health.Promot.Pract.;* 2004; 5(1):69-79.	In this article, scenario planning is applied to public health, specifically to illustrate the four steps in scenario planning for public health using a health department's desire to address chronic disease prevention and control. An unhealthy diet and physical inactivity are considered to be key risk factors. The scenarios are presented in table format and are for illustration purposes only. Many other plausible scenarios could be constructed. Scenario planning allows stake-holders to define a desired, shared vision of the future, but more important, they can better prepare public health professionals to be successful in a constantly changing environment.
26.	Oberg,E. Physical activity prescription: Our best medicine. *Integr.Med.Clin.J;* 2007; 6(5):18,22.	This article summarizes the state of the science on physical activity for the overall prevention and treatment of common chronic diseases, as well as for treating cancer, improving diabetes management, preventing or reversing osteoporosis, ameliorating cardiovascular disease, and achieving weight loss.
27.	Prentice,RL, Willett,WC, Greenwald,P, et al. Nutrition and physical activity and chronic disease prevention: Research strategies and recommendations. *J.Natl.Cancer Inst.;* 2004; 96(17):1276-87.	A shortage of credible information exists on practical dietary and physical activity patterns that have potential to reverse the national obesity epidemic and reduce the risk of major cancers and other chronic diseases. Securing such information is a challenging task, and there is considerable diversity of opinion concerning related research designs and priorities. In this article, the authors put forward some perspectives on useful methodology and infrastructure developments

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		for progress in this important area, and list high-priority research topics in the areas of 1) assessment of nutrient intake and energy expenditure; 2) development of intermediate outcome biomarkers; 3) enhancement of cohort and cross-cultural studies; and 4) criteria for and development of full-scale nutrition and physical activity intervention trials.
28.	Reeve,CA, De La Rue,S, McBain,KE, et al. Indigenous lifescripts - a tool for modifying lifestyle risk factors for chronic disease. *Aust.Fam.Physician;* 2008; 37(9):750,1, 753-4.	This study's objective is to provide an overview of the role of the recently developed indigenous Lifescripts resources as a tool for health checks and chronic disease prevention and management. Effective indigenous health promotion requires appropriate tools for behavioural modification and community engagement. This involves a greater emphasis on the social determinants of health to reduce the barriers to healthy behaviours. The indigenous Lifescripts provide a flexible tool for health care providers in the indigenous health sector to deliver lifestyle related brief interventions that accommodate local community resources and support structures. However, to maximise their potential, a systematic approach to incorporating these tools into practice must be adopted.
29.	Robles,SC. A public health framework for chronic disease prevention and control. *Food Nutr.Bull.;* 2004; 25(2):194-9.	Chronic non-communicable diseases are leading causes of death and disability in many developing countries. Several low-income countries lack mortality and morbidity data and do not yet know their burden of non-communicable diseases. Evidence shows that to have an impact on the burden of chronic diseases, action must occur at three levels: population-wide policies, community activities, and health services. The latter includes both preventive services and appropriate care for persons with chronic conditions. A public health approach embodies a systems perspective, containing the continuum of prevention and control, from determinants to care. In this framework it is critical to identify and address interactions and interventions that connect between and among the three levels of action.
30.	Stanner,S and Denny,A. Healthy ageing: The role of nutrition and lifestyle -- a new british nutrition foundation task force report. *Nutr.Bull.;* 2009; 34(1):58,63.	Life expectancy is increasing around the world, and this is likely to have profound effects on many aspects of society, particularly if these extra years are to be associated with ill health. Ageing is an integral, natural part of life but the way in which we grow old, our health and functional ability all depend not only on our genetic make-up, but also on the lifestyle choices we have made over our lifetime. This article discusses the effect of diet and lifestyle on common chronic diseases in later life, namely cardiovascular disease, osteoporosis and arthritis, and on promoting healthy mental ageing and oral health.
31.	Stein,MJ. Community gardens for health promotion and disease prevention. *Int.J.Hum.Caring;* 12(3):47.	People with limited socioeconomic resources have increased incidence of chronic diseases and fewer means of promoting health of body, mind, and spirit. There is evidence of an inverse relationship between access to resources and chronic disease; thus, healthcare providers in communities with few resources have unique challenges in health promotion. Community gardens provide an opportunity to participate in holistic health-promoting behaviour. This article presents support for the belief that healthcare that promotes development of and participation in community gardens can improve the health of at-risk populations through better nutrition, physical activity, and connection to the natural world.
32.	Uauy,R, Kain,J, Mericq,V, et al. Nutrition, child growth, and chronic disease prevention. *Ann.Med.;* 2008; 40(1):11-20.	Countries undergoing the nutrition transition are experiencing a progressive increase in obesity and nutrition-related chronic diseases (NRCDs). The causal web for obesity and NRCDs is complex and multifaceted; changes in diet and physical activity of the population are likely the main concurrent determinant factors. However, recent evidence suggests that specific patterns of prenatal and postnatal

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		growth are also potential contributors. Evidence indicates that intervention strategies to prevent malnutrition should emphasize improvements in linear growth in the first 2-3 years of life rather than aim at gaining weight. Avoiding excessive weight gain relative to height gain (BMI) is especially relevant after the first 2 years of life. Routine assessment of child growth based on the new World Health Organization (WHO) standard, defining energy needs based on the recent Food and Agricultural Organization (FAO)/WHO norms, and providing critical micronutrients to support lean mass growth are critical to prevent obesity and NRCDs starting early in the life course. These actions should contribute in the prevention and control of obesity in childhood and thus help prevent NRCDs in future generations of adults.

Injury Prevention: Annotated Inventory of Reviews

#	Reference	Brief Notes
1.	Betz,M and Li,G. Injury prevention and control. *Emerg.Med.Clin.North Am.;* 2007; 25(3):901,14, xi.	Injuries remain the leading cause of death of Americans ages 1 to 44 years, and prevention is an essential companion to injury treatment. Emergency physicians can help to reach national goals for injury prevention, as outlined in Healthy People 2010, through patient education, surveillance system enhancement, and ongoing research in treatment and outcomes. Interventions for certain injury problems, including violence, falls, traffic injuries, and alcohol abuse, can be implemented in emergency departments. Although great progress has occurred in injury prevention in the United States, physicians have an integral role in ongoing efforts, through patient education, use of social resources, design of intervention programs, research, and policy development.
2.	Campbell,AJ and Robertson,MC. Rethinking individual and community fall prevention strategies: A meta-regression comparing single and multifactorial interventions. *Age Ageing;* 2007; 36(6):656-62.	In this study, the authors aimed to determine if randomised controlled trial evidence supports interventions with multiple components over single strategies in community based fall prevention. Meta-regression showed that single interventions were as effective in reducing falls as interventions with multiple components The authors conclude that multifactorial fall prevention interventions are effective for individual patients. However, for community programmes for populations at risk, targeted single interventions are as effective as multifactorial interventions, may be more acceptable and cost effective.
3.	Chang,JT, Morton,SC, Rubenstein,LZ, et al. Interventions for the prevention of falls in older adults: Systematic review and meta-analysis of randomised clinical trials. *BMJ;* 2004; 328(7441):680.	This study's objective was to assess the relative effectiveness of interventions to prevent falls in older adults to either a usual care group or control group. The authors used a systematic review and meta-analyses design. The authors conclude that interventions to prevent falls in older adults are effective in reducing both the risk of falling and the monthly rate of falling. The most effective intervention was a multifactorial falls risk assessment and management programme. Exercise programmes were also effective in reducing the risk of falling.
4.	Cohen,L, Miller,T, Sheppard,MA, et al. Bridging the gap: Bringing together intentional and unintentional injury prevention efforts to improve health and well being. *J.Safety Res.;* 2003; 34(5):473-83.	Intentional and unintentional injury prevention efforts have traditionally been independent and non-integrated. Fostering collaboration between the sub-fields would enhance work within both sub-fields and advance injury prevention work as a whole. A systematic assessment of similarities and differences between the sub-fields was performed, including an examination of relevant definitions

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		and norms, research methods and findings, key risk and resiliency factors, and prevention strategies that would promote collaboration and better advance current prevention efforts. Several areas exist in which injury prevention efforts could be coordinated or ideas and practices could be cross-applied, including training of practitioners, data collection and analysis, application of tools and methodologies, examination of risk and resiliency factors, and identification of funding sources and partners.
5.	Collins,JW, Wolf,L, Bell,J, et al. An evaluation of a "best practices" musculoskeletal injury prevention program in nursing homes. Injury Prevention. 2004; 10(4):206-211.	A "best practices" musculoskeletal injury prevention programme was evaluated in nursing homes. The programme comprised mechanical equipment to lift physically dependent residents, training in the proper use of the lifts, a medical management programme, and a zero lift policy. The effectiveness analysis showed that the implementation of the "best practices" musculoskeletal injury prevention programme in nursing homes was effective in reducing the rate of back injuries among nursing personnel. (notes excerpted from Cochrane Library abstract)
6.	Currie,LM. Fall and injury prevention. *Annu.Rev.Nurs.Res.;* 2006; 24:39-74.	The purpose of this review is to summarize the current research related to fall and injury prevention. The chapter is organized presenting research in (1) the community and (2) acute and long-term care settings. For each setting, the research that addresses risk factors, risk assessment instruments, and fall and injury prevention efforts are reviewed. There is a large body of research that investigates fall and injury prevention across the care continuum. However, further research needs to explore staffing ratios, automated methods of assessing and communicating fall risk, improved methods and timing of risk evaluation and methods by which existing and new evidence might be translated into practice.
7.	Cusimano,MD, Kwok,J and Spadafora,K. Effectiveness of multifaceted fall-prevention programs for the elderly in residential care. *Inj.Prev.;* 2008; 14(2):113-22.	This study's objective was to evaluate the effectiveness of multifaceted intervention programs in reducing the number of falls, fallers, recurrent fallers, and injurious falls among older people living in residential care facilities. Eligible studies for this review were those that had randomized, controlled trials with adequate follow-up study components in their design. The authors conclude that multifaceted programs that encompass a wide range of intervention strategies have shown some evidence of efficacy. However, more well-designed research is required that assesses effects on injurious falls, quality of life, cost-effectiveness, and sustainability.
8.	Degutis,LC and Greve,M. Injury prevention. *Emerg.Med.Clin.North Am.;* 2006; 24(4):871-88.	Emergency medicine plays a significant role in injury prevention through the use of public health models that link injury data to prevention programming, research, and advocacy. The day-to-day experiences in the emergency department provide a picture of the injury problem in a given community and give the emergency practitioner a real-world basis for injury prevention efforts. This article covers the basics or injury prevention, including defining the problem, discussing data and conceptual aspects of injury prevention, and systematically identifying successful approach to reducing the burden of injuries.
9.	Doll,L, Bartenfeld,T and Binder,S. Evaluation of interventions designed to prevent and control injuries. *Epidemiol.Rev.;* 2003; 25:51-9.	n/a
10.	Hanson,D, Hanson,J, Vardon,P, et al. The injury iceberg: An ecological approach to planning sustainable community safety interventions. *Health.Promot.J.Austr;* 2005;	A systematic ecological framework in which to design sustainable, community-based, safety promotion interventions is presented. Injury prevention is a biomedical construct, in which injury is perceived to be a physical event resulting from the sudden release of

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	16(1):5-10.	environmental energy producing tissue damage in an individual. This reductionist perspective overlooks the importance of psychological and sociological determinants of injury. Safety has physical, psychological and sociological dimensions. It is inherently an ecological concept. Interventions aiming to achieve long-term improvements in community safety must seek to develop sustainable safety promoting characteristics within the target community.
11.	Hunt,A. Musculoskeletal fitness: The keystone in overall well-being and injury prevention. *Clin.Orthop.Relat.Res.;* 2003; (409)(409):96-105.	Musculoskeletal fitness is an important and inadequately appreciated component of overall health and well-being. It has been shown to influence the prevalence and possibly the prevention of many musculoskeletal disorders such as muscle sprains, low back pain, osteoarthritis, osteoporosis, shoulder instability, and knee stability and pain. The current author summarizes the most recent recommendations for achievement and maintenance of musculoskeletal fitness for children and adults.
12.	Hyder,AA, Meddings,D and Bachani,AM. MENTOR-VIP: Piloting a global mentoring program for injury and violence prevention. *Acad.Med.;* 2009; 84(6):793-6.	Injuries occur as the result of a confluence of factors: environmental, social, biological, economic, and behavioural. To effectively address the burden of injuries, especially in low- and middle-income countries, a focus is needed on developing the human resource capacity for injury prevention. MENTOR-VIP is a global mentoring program that the authors developed with this need in mind. MENTOR-VIP approaches developing human resources in injury prevention by providing mentoring opportunities for junior professionals involved in its practice, research, and/or programs. This article highlights the importance of capacity building in the injury prevention field and situates MENTOR-VIP within the larger context of capacity building for global public health.
13.	Kannus,P, Uusi-Rasi,K, Palvanen,M, et al. Non-pharmacological means to prevent fractures among older adults. *Ann.Med.;* 2005; 37(4):303-10.	Bone fractures affecting elderly people are a true public health burden, because they represent one of the most important causes of long-standing pain, functional impairment, disability, and death among this population. Prevention of elderly people's fractures consists of prevention of osteoporosis and of falling, and prevention of fractures using injury-site protection.
14.	Kelly,A and Dowling,M. Reducing the likelihood of falls in older people. *Nurs.Stand.;* 2004; 18(49):33-40.	Falls are a serious health concern for older people and an important issue for nurses. Many factors contribute to the causes of falls. Various combinations of these factors have been incorporated in the fall assessment tools developed so far, but no single tool has been adopted universally. Institutions tend to develop their own assessment tools, which are investigated in these institutions only, and thus have not been independently evaluated for validity and reliability. A thorough patient assessment is a vital measure in fall prevention. Fall prevention strategies have the potential to improve the quality of life for at-risk older patients and their families, as well as provide economic benefits to society.
15.	Kendrick,D, Watson,MC, Mulvaney,CA, et al. Preventing childhood falls at home: Meta-analysis and meta-regression. *Am.J.Prev.Med.;* 2008; 35(4):370-9.	The authors completed a systematic review of literature and concluded that home-safety education and the provision of safety equipment improved some fall-prevention practices, but the impact on fall-injury rates is unclear. There was some evidence that the effect of home-safety interventions varied by social group.
16.	Kendrick,D, Coupland,C, Mulvaney,C, et al. Home safety education and provision of safety equipment for injury prevention. *Cochrane Database of Systematic Reviews*; 2007; (1) Art. No.: CD005014. DOI: 10.1002/14651858.CD005014.pub2.	The majority of injuries in pre-school children occur at home, but there is little meta-analytic evidence that child home safety interventions improve a range of safety practices or reduce injury rates and little evidence on their effect by social group. In this study, the authors evaluated the effectiveness of home safety education, with or without the provision of low cost, discounted or free equipment in increasing home safety practices or reducing child injury

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		rates and whether the effect varied by social group. The authors conclude that home safety education provided most commonly as one-to-one, face-to-face education, in a clinical setting or at home, especially with the provision of safety equipment is effective in increasing a range of safety practices. There is a lack of evidence regarding its impact on child injury rates.
17.	Krug,EG. World health assembly resolutions on violence and injury prevention: New opportunities for national action. *Inj.Control.Saf.Promot.;* 2004; 11(4):259-63.	n/a
18.	Licence,K. Promoting and protecting the health of children and young people. *Child Care Health Dev.;* 2004; 30(6):623-35.	This paper is based on a selective review of evidence relating to health promotion in childhood. In many areas, the quality of primary research into health promotion interventions aimed at children and young people is poor. The authors conclude there are effective interventions to promote and protect the health of children and young people that require action across the five areas described in the Ottawa Charter. Further research is needed using larger study populations, and closely defined interventions, both targeted and universal, in order to fill some of the current gaps in the evidence base for health promotion in children and young people.
19.	Lyons,SS. Evidence-based protocol: Fall prevention for older adults. *J.Gerontol.Nurs.;* 2005; 31(11):9-14.	n/a
20.	MacCulloch,PA, Gardner,T and Bonner,A. Comprehensive fall prevention programs across settings: A review of the literature. *Geriatr.Nurs.;* 2007; 28(5):306-11.	The prevention and management of falls across health care and community settings continues to be one of the greatest challenges in geriatric nursing. This article reviews the literature on fall prevention and management and provides information on national programs and resources, as well as public policy related to falls in the elderly.
21.	McClure,R, Nixon,J, Spinks,A, et al. Community-based programmes to prevent falls in children: A systematic review. *J.Paediatr.Child Health;* 2005; 41(9-10):465-70.	The authors systematically reviewed the literature to examine the evidence for the effectiveness of community-based interventions to reduce fall-related injury in children aged 0-16 years. Only six studies fitting the inclusion criteria were identified in the search and only two of these used a trial design with a contemporary community control. There is a paucity of research studies from which evidence regarding the effectiveness of community-based intervention programmes for the prevention of fall-related injury in children could be based.
22.	McClure,R, Turner,C, Peel,N, et al. Population-based interventions for the prevention of fall-related injuries in older people. *Cochrane Database Syst.Rev.;* 2005; (1)(1):CD004441.	This study's objective was to assess the effectiveness of population-based interventions, defined as coordinated, community-wide, multi-strategy initiatives, for reducing fall-related injuries among older people. Out of 23 identified studies, five met the criteria for inclusion in the study's review. The authors conclude that the consistency of reported reductions in fall-related injuries across all programmes support the preliminary claim that the population-based approach to the prevention of fall-related injury is effective and can form the basis of public health practice. Randomised, multiple community trials of population-based interventions are indicated to increase the level of evidence in support of the population-based approach. Research is also required to elucidate the barriers and facilitators in population-based interventions that influence the extent to which population programmes are effective.
23.	McInnes,E and Askie,L. Evidence review on older people's views and experiences of falls prevention strategies. *Worldviews Evid Based.Nurs.;* 2004; 1(1):20-37.	This systematic review examined the literature on the views, preferences, and experiences of older people in relation to falls prevention strategies. Several important findings emerged. These included preferences for falls prevention strategies not involving behaviour change among some groups, the need to promote the social value of falls prevention programs, and the importance of

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		identifying and addressing factors associated with activity avoidance. Although trials of multifactorial falls prevention packages have reported beneficial results, in clinical practice it is important to consult with individual potential participants and find out what characteristics they are willing to modify, and what changes they are prepared to make to reduce their risk of falling. Otherwise, there is the risk that expensive programs are not properly targeted or fail to achieve maximum participation rates. Further work on the most robust and pragmatic methods of synthesizing disparate studies on patients' views and preferences to inform evidence-based guideline recommendations is needed.
24.	Meier,C, Stahli,R and Szucs,T. Cost and benefit analysis of population-based disease and accident prevention and health promotion (brief record). 2006; 11(3):168-175.	n/a
25.	Mercy,JA, Sleet,DA and Doll,LS. Applying a developmental approach to injury prevention. *Am.J.Health.Educ);* 2003; 34(5):Supplement: S,6-S-12.	The purpose of this article is to describe injury risk and prevention strategies across the developmental stages of childhood and adolescence and associated social contexts. Viewing injury prevention from this perspective suggests that developmentally appropriate interventions conducted over several stages may be more likely to motivate and sustain injury prevention behaviour change across a lifetime than a single intervention or a single policy change.
26.	Mock,C and Cherian,MN. The global burden of musculoskeletal injuries: Challenges and solutions. *Clin.Orthop.Relat.Res.;* 2008; 466(10):2306-16.	This article summarizes the global burden of musculoskeletal injuries and provides several examples of successful programs that have improved care of injuries in health facilities in low- and middle-income countries. It discusses WHO efforts to build on the country experiences and to make progress in lowering the burden of musculoskeletal injuries globally.
27.	Mock,C, Joshipura,M, Quansah,R, et al. Advancing injury prevention and trauma care in north america and globally. *Surg.Clin.North Am.;* 2007; 87(1):1,19, v.	This article reviews ways in which the toll from injury can be lowered through the spectrum of injury control, including surveillance, prevention, and trauma care. There is room for improvement in the application of scientifically based, proved interventions at all points in the spectrum in all countries. The greatest attention is needed in low- and middle-income countries, however, where most of the world's people live, where injury rates are higher, and where few injury control activities have yet been undertaken.
28.	Mock,C, Quansah,R, Krishnan,R, et al. Strengthening the prevention and care of injuries worldwide. *Lancet;* 2004; 363(9427):2172-9.	The authors review measures that would strengthen existing efforts to prevent and treat injuries worldwide. There is a need to strengthen the capacity of national institutions to do research on injury control; to design and implement countermeasures that address injury risk factors and deficiencies in injury treatment; and to assess the effectiveness of such countermeasures. Although much work remains to be done in high-income countries, even greater attention is needed in less-developed countries, where injury rates are higher, few injury control activities have been undertaken, and where most of the world's population lives. In almost all areas, injury rates are especially high in the most vulnerable sections of the community, including those of low socioeconomic status.
29.	Nilsen,P. What makes community based injury prevention work? in search of evidence of effectiveness. *Inj.Prev.;* 2004; 10(5):268-74.	This study's objective was to gain a better understanding of the community based model for injury prevention. The study was performed as a structured review of existing evaluations of injury prevention programs that employed multiple strategies to target different age groups, environments, and situations. The results of this study suggested that there are complex relationships between the outcome and the context, structure, and process of community-wide

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		injury prevention programs. The evaluations of multifaceted community oriented injury prevention programs were found to have many shortcomings.
30.	Nilsen,P and Yorkston,E. Uncovering evidence on community-based injury prevention: A review of programme effectiveness and factors influencing effectiveness. *Int.J.Inj.Contr Saf.Promot.;* 2007; 14(4):241-50.	This study examines systematic reviews of community-based injury prevention programmes to obtain an overview of the evidence base on the effectiveness of these programmes and to analyse how effectiveness is measured and the extent to which factors contributing to achieving programme effectiveness are examined in these reviews. Thirteen systematic reviews were found, encompassing a total of 121 programmes. The results reinforced the well-documented point that the evidence regarding the effectiveness of community-based injury prevention programmes is inconsistent. To advance the field, researchers and systematic reviews need to include evidence on factors that may explain how the effects were achieved.
31.	Peel,NM, Bartlett,HP and McClure,RJ. Healthy aging as an intervention to minimize injury from falls among older people. *Ann.N.Y.Acad.Sci.;* 2007; 1114:162-9.	To examine the protective effect of healthy aging on the risk of fall-related hip fractures, a case-control study was conducted with 387 participants. Persons aged 65 and over, hospitalized with a fall-related hip fracture were matched with community-based controls recruited via electoral roll sampling. This study identified a range of modifiable lifestyle factors associated with fall-related hip fracture, suggesting that the "healthy aging" paradigm offers a comprehensive approach to falls injury prevention, and thus supports the adoption of healthy aging policies to extend years of quality life among older persons.
32.	Rahim,Y. Safe community in different settings. *Int.J.Inj.Contr Saf.Promot.;* 2005; 12(2):105-12.	This paper describes the Safe Community concept and how communities aspired to safety through a structured, collaborative approach rather than a community that is already perfectly safe. The movement recognizes that it is the people who not only live, learn, work and play in a community but also best understand their community's specific problems, needs, assets and capacities. Their involvement and commitment are critical factors in identifying and mobilizing resources so as to create an effective, comprehensive and coordinated community-based action on unintentional and intentional injuries.
33.	Razzak,JA, Sasser,SM and Kellermann,AL. Injury prevention and other international public health initiatives. *Emerg.Med.Clin.North Am.;* 2005; 23(1):85-98.	The burden of injury is greatest in low-and middle-income countries and among individuals of low socioeconomic status living in high-income countries. Most of these injuries are prevent-able. Emergency physicians can play an important role in reducing the global burden of injuries by providing expert care and by identifying, implementing, and evaluating population-based countermeasures to prevent and control injuries. The strategy used in a particular country depends in large part on the nature of the local problem, the concerns of the population, the availability of resources, and competing demands. Even simple countermeasures may have a big impact in reducing the global burden of death and disability due to injury.
34.	Roen,K, Arai,L, Roberts,H, et al. Extending systematic reviews to include evidence on implementation: Methodological work on a review of community-based initiatives to prevent injuries. *Soc.Sci.Med.;* 2006; 63(4):1060-71.	While evidence about the effectiveness of interventions in reducing injuries is accumulating, reviews of this evidence frequently fail to include details of implementation processes. Existing systematic reviews of the effectiveness of interventions aiming to reduce unintentional injuries in children and young people formed the starting point for the work reported here. In summary, many of the published papers we identified contained little information on implementation processes and, even when these were discussed, the extent to which authors' claims were based on research evidence was unclear. On the basis of the studies we reviewed implementation data were insufficiently strong to provide a sound evidence base for practitioners and policymakers. This work has implications in three

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		areas: (1) researchers with an interest in evidence-based public health could be encouraged to consider implementation issues in the design of intervention studies; (2) funding bodies could be encouraged to prioritise intervention studies using mixed methods that will enable researchers to consider effectiveness and implementation; (3) journal editors could work towards increasing the quality of reporting on implementation issues through the development of guidelines.
35.	Rose,DJ, Alkema,GE, Choi,IH, et al. Building an infrastructure to prevent falls in older Californians: The fall prevention center of excellence. *Ann.N.Y.Acad.Sci.;* 2007; 1114:170-9.	The Fall Prevention Center of Excellence (Center), a consortium of federal, state, and private organizations, was established in 2005 to guide the implementation of a state-wide initiative to prevent falls among older Californians. The Center is currently engaged in developing and disseminating fall prevention tools and informational resources directed at the needs of both consumer and professional audiences; linking organizations involved in fall prevention while increasing awareness of fall prevention as an important public health issue; and helping communities build their capacity to effectively address falls in older adults through the delivery of integrated fall prevention services and "best practice" programs.
36.	Rubenstein,LZ. Falls in older people: Epidemiology, risk factors and strategies for prevention. *Age Ageing;* 2006; 35 Suppl 2:ii37-41.	Considerable evidence now documents that the most effective (and cost-effective) fall reduction programmes have involved systematic fall risk assessment and targeted interventions, exercise programmes and environmental-inspection and hazard-reduction programmes. These findings have been substantiated by careful meta-analysis of large numbers of controlled clinical trials and by consensus panels of experts who have developed evidence-based practice guidelines for fall prevention and management. Medical assessment of fall risks and provision of appropriate interventions are challenging because of the complex nature of falls. Optimal approaches involve interdisciplinary collaboration in assessment and interventions, particularly exercise, attention to co-existing medical conditions and environmental inspection and hazard abatement.
37.	Runyan,CW, Villaveces,A and Stephens-Stidham,S. Improving infrastructure for injury control: A call for policy action. *Inj.Prev.;* 2008; 14(4):272-3.	n/a
38.	Segui-Gomez,M and Miller,M. Injury prevention and control: Reflections on the state and the direction of the field. *Salud Publica Mex.;* 2008; 50 Suppl 1:S101-11.	This study's objective was to provide an assessment of the contours of the injury field today and to raise questions about our future direction. The authors conclude that the responsibilities of injury prevention professionals will increase not only because of the projected increase in the global burden of injury but also because of these professionals' expanded conceptualization of what the scope of injury prevention should be. The lack of clarity professionals project about the substantive areas of their expertise and the incommensurate funding for efforts represent challenges to the field's coherence and ultimate effectiveness.
39.	Shanley,C. Falls and injury reduction in residential aged care: Translating research into practice. *Contemp.Nurse;* 2003; 15(1-2):81-93.	Falls and falls-related injuries are a major problem in residential aged care. While there are many factors contributing to falls in this group, there are also a number of strategies that can help reduce falls and associated injuries. While programs to prevent falls must be multifactorial and multidisciplinary, nurses in residential aged care will play a central role in setting up and coordinating such programs. This paper reviews a broad range of nursing, medical and allied health literature. It then synthesizes the research findings to outline a comprehensive series of recommendations that nurses can use to improve clinical practice in this area.
40.	Skelton,DA, Todd,CJ and ProFaNE Group.	ProFaNE (Prevention of Falls Network Europe) is a four-year

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	Prevention of falls network europe: A thematic network aimed at introducing good practice in effective falls prevention across europe. four years on. *J.Musculoskelet.Neuronal Interact.;* 2007; 7(3):273-8.	thematic network. There are four main themes (taxonomy and co-ordination of trials; clinical assessment and management of falls; assessment of balance function; psychological aspects of falling). The work of ProFaNE is practical, in terms of developing the evidence base for implementation of effective interventions, standardising the health processes for people with a history of falls and encouraging best practice across Europe. The success of the networking and relationship building in these four years has meant that many countries have adopted new national strategies to prevent falls and injuries.
41.	Spinks,A, Turner,C, McClure,R, et al. Community based prevention programs targeting all injuries for children. *Inj.Prev.;* 2004; 10(3):180-5.	Community based models for injury prevention have become an accepted part of the overall injury control strategy. This systematic review of the scientific literature examines the evidence for their effectiveness in reducing all-cause injury in children 0-14 years of age. The authors conclude that there is a paucity of research from which evidence regarding the effectiveness of community based childhood injury prevention programs can be obtained and hence a clear need to increase the effort on developing this evidence base.
42.	Spinks,A, Turner,C, Nixon,J, et al. The 'WHO safe communities' model for the prevention of injury in whole populations. *Cochrane Database Syst.Rev.;* 2005; (2)(2):CD004445.	The objective of this study was to determine the effectiveness of the Safe Communities model to prevent injury in whole populations, or targeted sub-groups of populations. Evidence suggests the WHO Safe Communities model is effective in reducing injuries in whole populations. However, important methodological limitations exist in all studies from which evidence can be obtained. There is a need for more high-quality, methodologically strong evaluations of the model in a range of diverse communities and detailed reporting of implementation processes.
43.	Towner,E. Injury and inequalities: Bridging the gap. *Int.J.Inj.Contr Saf.Promot.;* 2005; 12(2):79-84.	This paper concentrates on social and economic factors and their relationship with injuries in higher income countries. Particular attention is paid to childhood injuries. The paper addresses the question of how it is possible to bridge the gap related to disadvantage and injury, through the examination of descriptive, explanatory and intervention studies and policy initiatives. Progress on addressing the gap is still in its early stages, with many research gaps related to explanatory and intervention studies and few examples of policy initiatives.
44.	Trifiletti,LB, Gielen,AC, Sleet,DA, et al. Behavioral and social sciences theories and models: Are they used in unintentional injury prevention research? *Health Educ.Res.;* 2005; 20(3):298-307.	The authors reviewed the published literature on behavioural and social science theory applications to unintentional injury problems to enumerate and categorize the ways different theories and models are used in injury prevention research. Among the articles identified, the PRECEDE PROCEED Model was cited most frequently, followed by the Theory of Reasoned Action/Theory of Planned Behaviour and Health Belief Model. Results suggest that the use of behavioural and social sciences theories and models in unintentional injury prevention research is only marginally represented in the mainstream, peer-reviewed literature. Both the fields of injury prevention and behavioural and social sciences could benefit from collaborative research to enhance behavioural approaches to injury control.
45.	Turner,C, McClure,R and Pirozzo,S. Injury and risk-taking behavior-a systematic review. *Accid.Anal.Prev.;* 2004; 36(1):93-101.	This review was conducted to critically assess the empirical evidence supporting the association between injury and risk-taking behaviour. The review found six case-control studies and one retrospective cohort study, which met all the inclusion criteria. Overall the review found that risk-taking behaviour, however it is measured, is associated with an increased chance of sustaining an injury except in the case of high skilled, risk-taking sports where the effect may be in the other direction. Drawing specific conclusions from the research presented

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		in this review is difficult without an agreed conceptual framework for examining risk-taking behaviour and injury. Considerable work needs to be done to provide a convincing evidence base on which to build public health interventions around risk behaviour. However, sufficient evidence exists to suggest that effort in this area may be beneficial for the health of the community.
46.	Woods,AJ. The role of health professionals in childhood injury prevention: A systematic review of the literature. *Patient Educ.Couns.;* 2006; 64(1-3):35-42.	This study's objective was to systematically review the literature to explore health professionals' knowledge, attitudes and practices and their role in childhood injury prevention. Twenty-five primary studies were retrieved, the majority of which were surveys. The authors conclude that there continues to be a need for high quality research specifically looking at how to change practice. Nevertheless, although training may be effective at increasing health professionals' knowledge and changing their attitudes, legislative and engineering measures may ultimately more effective at reducing the burden of childhood injuries.
47.	Wright,S, Goldman,B and Beresin,N. Three essentials for successful fall management: Communication, policies and procedures, and teamwork. *J.Gerontol.Nurs.;* 2007; 33(8):42-8.	Falls among older adults, especially within the nursing home setting, can be challenging for health care providers. Attention to the basic processes of communication, policy and procedure, and teamwork proved to be necessary steps to facilitate successful fall management within this pilot program. This article provides an overview of the specified areas, along with examples of techniques developed to address identified needs in each of the three areas. A focused examination of these three essentials could prove instructive to any facility working to improve its fall management process.
48.	Zaloshnja,E, Miller,TR, Galbraith,MS, et al. Reducing injuries among native americans: Five cost-outcome analyses (structured abstract). 2003; 35(5):631-639.	n/a

Chronic Disease Management: Annotated Inventory of Reviews

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1.	Adams,SG, Smith,PK, Allan,PF, et al. Systematic review of the chronic care model in chronic obstructive pulmonary disease prevention and management. *Arch.Intern.Med.;* 2007; 167(6):551-61.	Implementation of the chronic care model (CCM) has been shown to be an effective preventative strategy to improve outcomes in diabetes mellitus, depression, and congestive heart failure. Limited published data exist evaluating the efficacy of CCM components in chronic obstructive pulmonary disease management. However, pooled data demonstrated that patients with chronic obstructive pulmonary disease who received interventions with 2 or more CCM components had lower rates of hospitalizations and emergency/unscheduled visits and a shorter length of stay compared with control groups. The results of this review highlight the need for well-designed trials in this population.
2.	Astin,F, Closs,SJ and Lascelles,M. A 21st century approach to chronic disease management in the united kingdom: Implications for nurse education. *Contemp.Nurse;* 2005; 20(2):201,11.	The new 'National Health Service (NHS) and Social Care Long Term Conditions Model' represents a cultural shift as patient and carer are scripted as central in managing their chronic disease, supported rather than directed by a health and social care team. The patient as a passive recipient of care is no longer viable in this approach to care delivery. It has been acknowledged that cultural shift within the NHS is required for these initiatives to be successful. Nurse educators have the potential to play a key role in supporting nurses to fully engage in the modernised chronic disease management initiative. This paper outlines the main features of the contemporary approach to chronic

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		disease management, together with relevant UK policy changes. The implications of these changes for nurse education are considered.
3.	Badamgarav,E, Weingarten,SR, Henning,JM, et al. Effectiveness of disease management programs in depression: A systematic review. *Am.J.Psychiatry;* 2003; 160(12):2080-90.	The authors systematically evaluated the published evidence to assess the effectiveness of disease management programs in depression. Pooled results for disease management program effects on symptoms of depression showed statistically significant improvements. Programs also had statistically significant effects on patients' satisfaction with treatment, patients' compliance with the recommended treatment regimen, and adequacy of prescribed treatment. Disease management programs increased health care utilization, treatment costs, and hospitalization. The authors conclude that disease management appears to improve the detection and care of patients with depression. Further research is needed to assess the cost-effectiveness of disease management in depression, and consideration should be given to more widespread implementation of these programs.
4.	Bindler,RC and Ball,JW. The Bindler-Ball healthcare model: A new paradigm for health promotion. *Pediatr.Nurs.;* 2007; 33(2):121-6.	A new healthcare model is applied to child health nursing within all healthcare contexts, from acute care settings to chronic care services to well child focused care. Health promotion and health maintenance are defined and explored, along with application of these concepts in major types of care along the healthcare continuum. The influences of family, culture, and community are viewed as integral to health promotion strategies. The nurse plans for health promotion and health maintenance activities during all acute, chronic, and end-of-life care for youth. The healthcare model is a new and creative method in which to frame healthcare for children.
5.	Blakely,TJ and Dziadosz,GM. The chronic care model for behavioral health care. *Popul.Health.Manag.;* 2008; 11(6):341-6.	This paper describes the successful application of the Chronic Care Model (CCM) at Touchstone Innovare, a large mental health agency serving a population of persons with a serious psychiatric condition. Based on the authors' experience with the CCM, it is proposed that it could be applied in behavioural health care in the same manner as it is in physical health care.
6.	Cherrington,A, Ayala,GX, Amick,H, et al. Applying the community health worker model to diabetes management: Using mixed methods to assess implementation and effectiveness. *J.Health Care Poor Underserved;* 2008; 19(4):1044-59.	The community health worker (CHW) model is a popular method for reaching vulnerable populations with diabetes. This study assessed implementation and effectiveness of the model within diabetes programs. Five CHW roles were identified: educator, case manager, role model, program facilitator, and advocate. Roles, responsibilities and training varied greatly across programs. Selected outcomes also varied, ranging from physiologic measures, to health behaviours, to measures of health care utilization and cost. Research regarding application of the community health worker model in diabetes management is limited and consensus regarding the scope of the CHW's role is lacking. Future studies should rigorously examine how best to integrate this promising model into chronic disease management.
7.	Cooley,WC. Redefining primary pediatric care for children with special health care needs: The primary care medical home. *Curr.Opin.Pediatr.;* 2004; 16(6):689-92.	As considerations of the quality of health care have matured, the role of pediatric primary care providers and models for the delivery of primary care have received growing attention. Particularly for children with chronic conditions, the need for proactive, planned, and coordinated care delivered in partnership with consumers has become more apparent. The pediatric primary care medical home provides a care model for both well children and those with special health care needs that expands primary care services beyond those provided in the examination room by individual providers to include systemic services such as patient registries, explicit care planning and care coordination, planned co-management with specialists, patient

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		advocacy, and patient education. There is an immediate need for large-scale, practice-based studies of the outcomes for children and youth, providers, and the health care system when such improvements in primary care are implemented.
8.	Dijkstra,A. The validity of the stages of change model in the adoption of the self-management approach in chronic pain. *Clin.J.Pain;* 2005; 21(1):27,37; discussion 69-72.	In attempts to decrease chronic pain and the negative impact of chronic pain on broader functioning, patients can be stimulated to adopt self-management skills. However, not all patients are motivated to do so. The stages of change construct is a psychologic construct that maps the process of behaviour change. The present article reviews the 8 available publications in which the stages of change construct is studied in patients with chronic pain. The results show that the theory of the stages of change needs more articulation, that the operationalization should be more directly derived from the theory, and that the results from more appropriate tests of the theory should be used to change the theory when necessary to develop it. Recommendations are made with regard to the theory, the operationalizations, and the tests to be conducted to develop the theory and assess its validity.
9.	Dyer,CB, Hyer,K, Feldt,KS, et al. Frail older patient care by interdisciplinary teams: A primer for generalists. *Gerontol.Geriatr.Educ.;* 2003; 24(2):51-62.	Frail older patients-unlike younger persons in the health care system or even well elders-require complex care. Most frail older patients have multiple chronic illnesses. Optimum care cannot be achieved by following the paradigm of ongoing traditional health care, which emphasizes disease and cure. Because no one health care professional can possibly have all of the specialized skills required to implement such a model of health care delivery, interdisciplinary team care has evolved. This paper describes the roles of the participating team members in the context of interdisciplinary care for frail older adults. In addition, the challenges that occur when Geriatric Interdisciplinary (ID) Teams involved in providing care to frail older patients are identified and discussed.
10.	Erickson,CD, Splett,PL, Mullett,SS, et al. The healthy learner model for student chronic condition management-part I. *Allen Press));* 2006; 22(6):310,8.	A significant number of children have chronic health conditions that interfere with normal activities, including school attendance and active participation in the learning process. Management of students' chronic conditions is complex and requires an integrated system. Models to improve chronic disease management have been developed for the medical system and public health. Programs that address specific chronic disease management or coordinate school health services have been implemented in schools. Lacking is a comprehensive, integrated model that links schools, students, parents, health care, and other community providers. The Healthy Learner Model for chronic condition management identifies seven elements for creating, implementing, and sustaining an efficient and effective, comprehensive community-based system for improving the management of chronic conditions for school children. It has provided the framework for successful chronic condition management in an urban school district and is proposed for replication in other districts and communities.
11.	Fisher,L. Research on the family and chronic disease among adults: Major trends and directions. *Fam.Syst.Health);* 2006; 24(4):373,80.	This report addresses the recent trends in family and couple clinical research programs for adults with chronic disease, and makes suggestions for the direction of the next generation of studies. A review of the literature over the last five to eight years suggests two general trends: the documentation of family and couple characteristics that are linked to chronic disease management and clinical outcomes, and the completion of several "true family" studies with these populations. Two recommendations are proposed for the next generation of studies: a focus on trials that are highly specific, easily

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		operational and clinically relevant; and, to justify a family/couple approach within the highly stressed, cost conscious world of health care, studies that document concomitant health risks to family members that are associated when a chronic disease, like diabetes, occurs in the family.
12.	Foster,G, Taylor,SJ, Eldridge,SE, et al. Self-management education programmes by lay leaders for people with chronic conditions. *Cochrane Database Syst.Rev.;* 2007; (4)(4):CD005108.	This study's objective was to assess systematically the effectiveness of lay-led self-management programmes for people with chronic conditions. Lay-led self-management education programmes may lead to small, short-term improvements in participants' self-efficacy, self-rated health, cognitive symptom management, and frequency of aerobic exercise. There is currently no evidence to suggest that such programmes improve psychological health, symptoms or health-related quality of life, or that they significantly alter healthcare use. Future research on such interventions should explore longer term outcomes, their effect on clinical measures of disease and their potential role in children and adolescents.
13.	Greenberg,H, Raymond,SU and Leeder,SR. Global health assistance for chronic illness: A look at the practical. *Prog.Cardiovasc.Dis.;* 2008; 51(1):89-96.	The changing pattern of disease in the developing world calls for a change in the structure, goals, and personnel of global health assistance. Chronic diseases are now the dominant threat to health and are becoming a challenge to economic advancement in developing economies. One model for this change is a 3-legged stool or platform upon which an assault on chronic disease can be built. The 3 legs are (1) an effective primary health care delivery system, (2) effective health promotion, and (3) a macroeconomic repositioning of health within the government bureaucracy and the world of commerce. To construct each of these legs requires changes in the structure and roles of global health assistance organizations.
14.	Hendrix,CC and Wojciechowski,CW. Chronic care management for the elderly: An opportunity for gerontological nurse practitioners. *J.Am.Acad.Nurse Pract.;* 2005; 17(7):263-7.	This study's purpose was to discuss the role that gerontological nurse practitioners (GNPs) may play in providing chronic care management for the elderly. A review of recent literature was conducted on chronic care management, personal experience of the authors in caring for older adults under the chronic care management model, and a case study. The authors conclude that GNPs are the most appropriate practitioners to provide and coordinate chronic care management to the population that needs it most--the elderly. Chronic care management may alleviate older adults' chronic health problems, reduce expenditures for their health care, and promote their satisfaction and quality of life.
15.	Hill-Briggs,F. Problem solving in diabetes self-management: A model of chronic illness self-management behavior. *Ann.Behav.Med.;* 2003; 25(3):182-93.	Effective self-management of chronic illnesses such as diabetes requires not only technical skill to perform regimen behaviours but also problem-solving skills to manage daily barriers to regimen adherence and to make appropriate adjustments to the self-care regimen. A review of the empirical literature on the relation between problem solving and disease self-management in diabetes, a chronic illness exemplar, illuminates methodological limitations that indicate a need for a theoretical framework for problem solving applied to chronic disease self-management. A problem-solving model of chronic disease self-management is proposed, derived from theories of problem solving in cognitive psychology, educational/learning theory, and social problem solving. The model has utility in driving testable hypotheses regarding the relation of disease-specific problem solving to chronic illness management, in developing problem-solving assessment instruments relevant to disease self-management, and in guiding disease self-management training and interventions.
16.	Jokinen,P. The family life-path theory: A tool for nurses working in partnership with	The purpose of this article is to describe the family life-path theory. The theory may offer nurses an alternative model for use in working

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	families. *J.Child Health Care;* 2004; 8(2):124-33.	in partnership with the family of a child with a long-term illness. The better nurses know the family and the context in which it lives, the more individual advice and coping strategies that they are able to find in partnership with a family, and thus to support the family in achieving a good quality of life. The theory describes the life of a family of a child with asthma as a life path. The dimensions of the family's life-path are environment, the child's becoming ill, the family's view of health, their attitude towards illness, everyday routines and social network. The unpredictability of asthma, optimism about the future and normalization of life are factors that guide families towards achievement of a good quality of life for their child.
17.	Kimura,J, DaSilva,K and Marshall,R. Population management, systems-based practice, and planned chronic illness care: Integrating disease management competencies into primary care to improve composite diabetes quality measures. *Dis.Manag.;* 2008; 11(1):13-22.	The increasing prevalence of chronic illnesses in the United States requires a fundamental redesign of the primary care delivery system's structure and processes in order to meet the changing needs and expectations of patients. Population management, systems-based practice, and planned chronic illness care are 3 potential processes that can be integrated into primary care and are compatible with the Chronic Care Model. This study illustrates how 1 delivery system integrated these disease management functions into the front lines of primary care and the positive impact of those changes on overall diabetes quality of care.
18.	Kreindler,SA. Lifting the burden of chronic disease: What has worked? what hasn't? what's next? *Healthc.Q.;* 12(2):30.	There is emerging consensus that the growing problem of chronic disease demands major health system changes, as envisioned in the Chronic Care Model (original and expanded). Yet implementation research has documented the pitfalls of trying to implement the whole model at once; it is more effective to focus on one highly important change at a time. This article responds to decision-makers' need to set priorities by comparing the strength of evidence for different interventions. It synthesizes a broad range of literature, including numerous systematic reviews and meta-analyses, into practical guidance on optimal system design for chronic disease management and prevention.
19.	Kristofco,RE and Lorenzi,NM. How quality improvement interventions can address disparities in depression. *J.Contin.Educ.Health Prof.;* 2007; 27 Suppl 1:S33-9.	The quality of depression care, especially care received by minorities, needs improvement. Several interventions have been developed for the purpose of improving the quality of depression management in primary care, including quality improvement strategies employing disease management approaches, the chronic care model, and the Breakthrough Collaborative Series developed by the Institute for Healthcare Improvement. This article reviews these interventions and examines their potential to contribute to the improvement of depression care.
20.	Lameire,N, Stevens,P, Raptis,S, et al. Individualized risk management in diabetics: How to implement best practice guidelines--design and concept of the IRIDIEM studies. *Kidney Blood Press.Res.;* 2004; 27(3):127-33.	The prevalence of type 2 diabetes mellitus is rising rapidly in all developed countries, particularly in the growing population of persons >50 years of age. As a dangerous consequence, this is accompanied by a proportionate increase in the incidence of chronic renal disease. Best practice guidelines support early intervention and aggressive treatment of hypertension, hyperglycaemia, proteinuria, hypercholesterolemia, and anaemia. To date, guideline-based management has been proven to be difficult. This article describes the concept of the IRIDIEM studies. The objective of these studies is to endorse and facilitate the use of current best practice guidelines for the management of frequent comorbid diseases and established risk factors in the treatment of type 2 diabetes associated with chronic kidney disease. Additionally, IRIDIEM will assess the impact of this improved disease management model on the progression of chronic

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		kidney disease that can result from electronically prompting clinicians with evidence-based treatment advice.
21.	Lewanczuk,R. Hypertension as a chronic disease: What can be done at a regional level? *Can.J.Cardiol.;* 2008; 24(6):483-4.	Historically, management of chronic diseases such as hypertension has tended to be reactive, with patients being passive recipients of care. In recent years, the chronic care model has been developed and implemented in many jurisdictions to ensure optimal, proactive care of people with chronic conditions. The model and its principles address the infrastructure and support that is necessary to enable this high-quality care. The role of the patient, primary care team, system and community are all addressed in this model. Experience suggests that application of chronic disease management principles to hypertension can result in significant benefits to all concerned.
22.	Lewis,A. How to measure the outcomes of chronic disease management. *Popul.Health.Manage);* 2009; 12(1):47,54 (7 ref).	The fastest-growing methodology for disease management outcomes measurement is valid, transparent, easy to apply, and freely available in the public domain and this article. It measures the actual goal of disease management, which is to reduce the rate of adverse events associated with the disease(s) being managed. Changes in this rate can be translated into a return on investment using some explicit assumptions about comorbidities and episode costs. Outcomes measured in this way show that in the health plan community as a whole, disease management in the broadest sense is working, as measured by the relative stability in the rate of adverse medical events closely associated with common chronic disease during this decade of increasing prevalence of most of the common chronic conditions.
23.	Lindau,ST, Laumann,EO, Levinson,W, et al. Synthesis of scientific disciplines in pursuit of health: The interactive biopsychosocial model. *Perspect.Biol.Med.;* 2003; 46(3 Suppl):S74-86.	We present the Interactive Biopsychosocial Model (IBM). The IBM argues for a reorientation in biomedicine where research, education, and clinical practice: (1) address health in addition to illness; (2) aim to decipher interrelated biophysical, psychocognitive, and social processes in health and disease, rather than seek a single root cause; and (3) take into account the social networks of the individual to achieve, maintain, and maximize health and well-being for individuals, their significant others, and society. The model provides a dynamic, dyadic, framework for building scientific hypotheses about the etiologies and consequences of health, well-being, and disease throughout the life course.
24.	Lynch,M, Hernandez,M and Estes,C. PACE: Has it changed the chronic care paradigm? *Soc.Work.Public.Health.;* 2008; 23(4):3-24.	The Program of All-inclusive Care for the Elderly (PACE) grew out of a small community organization in San Francisco and has been replicated by non-profit organizations in a number of other communities across the country. The authors review the successes of PACE as reported in the literature and discuss reasons for its limited growth as well as its significant influence on state and federal long term care policy.
25.	McAndrew,LM, Musumeci-Szabo,TJ, Mora,PA, et al. Using the common sense model to design interventions for the prevention and management of chronic illness threats: From description to process. *Br.J.Health.Psychol.;* 2008; 13(Pt 2):195-204.	In this article, the author's discuss how one might use the common sense model of self-regulation (CSM) for developing interventions for improving chronic illness management. They describe two separate, ongoing interventions with patients with diabetes and asthma to demonstrate the adaptability of the CSM. They also discuss three additional factors that need to be addressed before planning and implementing interventions: (1) the use of top-down versus bottom-up intervention strategies; (2) health care interventions involving multidisciplinary teams; and (3) fidelity of implementation for tailored interventions.
26.	McEvoy,P and Barnes,P. Using the chronic care model to tackle depression among older adults who have long-term physical conditions. *J.Psychiatr.Ment.Health Nurs.;*	Effective psychological and pharmacological treatments are available, but for depressed older adults with long-term physical conditions, the outcome of routine care is generally poor. This paper introduces the chronic care model, a systemic approach to quality improvement and

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	2007; 14(3):233-8.	service redesign, which was developed by Ed Wagner and colleagues. Three influential programmes, the Improving Mood Promoting Access to Collaborative Treatment programme, the Prevention of Suicide in Primary Care Elderly Collaborative Trial, and the Program to Encourage Active, and Rewarding Lives for Seniors, have shown that when the model is adopted, significant improvements in outcomes can be achieved. Radical changes in working practices may be required, to implement the model in practice. However, a leading researcher in the field of depression care has suggested that there is already sufficient evidence to justify a shift in emphasis from research towards dissemination and implementation.
27.	McEvoy,P and Laxade,S. Patient registries: A central component of the chronic care model. *Br.J.Community Nurs.;* 2008; 13(3):127,8, 130-3.	Patient registries are a central component of the Chronic Care Model and research suggests that their use is associated with improved outcomes for patients with a range of chronic diseases. This article begins by outlining the case for using patient registries and it identifies some of the issues that need to be considered when setting up a registry. The second part of the article describes how a patient registry was used to support a newly established active case management service. The case study teases out some of the practical constraints and contextual factors that affected the development and implementation of patient registry. However it also highlights that the patient registry was highly valued by front line clinicians who used it, as it was an effective caseload and performance management tool.
28.	Montague,TJ, Gogovor,A and Krelenbaum,M. Time for chronic disease care and management. *Can.J.Cardiol.;* 2007; 23(12):971-5.	To manage the future costs and quality of care, a health strategy must move beyond the individual, acute care model and address the care of older people with chronic, and often multiple, diseases. This strategy must address the issue of care gaps, i.e., the differences between best care and usual care. It should also embrace broad partnerships in which providers may be a cross-disciplinary team of nurses, physicians and pharmacists; the patient partners may include all patients in the community with a disease or group of diseases; and the system managers should work with all to seek improved long-term care and share the governance of interventions and resources. There is a clear and immediate opportunity to evaluate such care models as part of a health strategy for effective chronic care in our aging society.
29.	Oeseburg,B, Wynia,K, Middel,B, et al. Effects of case management for frail older people or those with chronic illness: A systematic review. *Nurs.Res.;* 2009; 58(3):201-10.	Financial constraints and quality requirements demand that interventions selected are most effective. The objective of this study was to conduct a literature review to evaluate the effects of patient advocacy case management on service use and healthcare costs for impaired older people or adults with a chronic somatic disease living in the community. The literature review revealed that patient advocacy case management does not increase service use and costs and was effective in decreasing service use and costs in two studies. These conclusions are an indication for quality improvement through the combination of its organizational benefits.
30.	Orrell-Valente,JK and Cabana,MD. 'The apple doesn't fall far from the tree': The role of parents in chronic disease self-management. *Curr.Opin.Pediatr.;* 2008; 20(6):703-4.	Medical non adherence has been termed the "Achilles' heel of modern healthcare." In considering the need to improve medical adherence among chronically ill children, it is necessary to understand parent adherence. Through communication of their beliefs, the behaviour they model, and direct training, parents exert a powerful influence on the development of children's beliefs and behaviour. Given this perspective, it is important for clinicians to emphasize the need for parental adherence to a child's treatment regimen.
31.	Peytremann-Bridevaux,I, Gex,G, Bridevaux,P, et al. Chronic disease management programs for adults with	n/a

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	asthma. 2009; (3)	
32.	Renders,CM, Valk,GD, Griffin,SJ, et al. Interventions to improve the management of diabetes in primary care, outpatient, and community settings: A systematic review (brief record). 2001; 24(10):1821-1833.	n/a
33.	Schaefer,J and Davis,C. Case management and the chronic care model: A multidisciplinary role. *Lippincotts Case Manag.;* 2004; 9(2):96-103.	The core functions of case management, assessment, planning, linking, monitoring, advocacy, and outreach assume a new perspective in the context of systems that have adopted the Chronic Care Model. This article considers case management through the experience of three systems that have implemented the Chronic Care Model. A movement toward condition neutral case management, focused on care that is more wholly patient centric, is also examined.
34.	Scott,IA. Chronic disease management: A primer for physicians.	n/a
35.	Smith Susan,M, Allwright,S and O'Dowd,T. Effectiveness of shared care across the interface between primary and specialty care in chronic disease management. 2007; (3)	n/a
36.	Smith,SM, Allwright,S, O''Dowd, et al. Does sharing care across the primary-specialty interface improve outcomes in chronic disease? A systematic review (brief record). 2008; 14(4):213-24.	n/a
37.	Stafford,RS and Berra,K. Critical factors in case management: Practical lessons from a cardiac case management program. *Dis.Manag.;* 2007; 10(4):197-207.	Case management (CM) is an important strategy for chronic disease care. By utilizing non-physician providers for conditions requiring ongoing care and follow-up, CM can facilitate guideline-concordant care, patient empowerment, and improvement in quality of life. The authors' findings suggest that successful CM implementation relies on choosing appropriate case managers and investing in training, integrating CM into existing care systems, delineating the scope and appropriate levels of clinical decision making, using information systems, and monitoring outcomes and costs. The authors' note that CM has great potential to improve the process and outcomes of chronic disease care.
38.	Stille,CJ and Antonelli,RC. Coordination of care for children with special health care needs. *Curr.Opin.Pediatr.;* 2004; 16(6):700-5.	Coordination of care is an essential function of pediatric primary care, needed most by children with special health care needs (CSHCN). Coordination is highly dependent on effective communication within the health care system and between the health care system and the larger community. While coordination may best be undertaken at the level of the physician practice, a team approach involving nonphysician staff and families as primary participants may be the best option in many cases. The value of coordination of care as an essential part of medical care for children with special health care needs is becoming widely recognized. Methods to implement it within pediatric primary care practices are being developed, although more data demonstrating its value are needed to inform policy changes.
39.	Stuart,M and Weinrich,M. Integrated health system for chronic disease management: Lessons learned from france. *Chest;* 2004; 125(2):695,703.	Rated number one in overall health system performance by the World Health Organization, the French spend less than half the amount on annual health care per capita that the United States spends. One contributing factor may be the attention given to chronic care. Lessons from France can inform the development of cost-effective chronic care models in the United States.
40.	Suter,P, Hennessey,B, Harrison,G, et al. Home-based chronic care. An expanded integrative model for home health	The Chronic Care Model (CCM) is an influential and accepted guide for the care of patients with chronic disease. This article posits that the role of chronic care coordination assistance and disease

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	professionals. *Home Healthc.Nurse;* 2008; 26(4):222-9.	management fits within the purview of home healthcare and should be central to home health chronic care delivery. An expanded Home-Based Chronic Care Model (HBCCM) is described that builds on Wagner's model and integrates salient theories from fields beyond medicine. The expanded model maximizes the potential for disease self-management success and is intended to provide a foundation for home health's integral role in chronic disease management.
41.	Taylor,SJ, Candy,B, Bryar,RM, et al. Effectiveness of innovations in nurse led chronic disease management for patients with chronic obstructive pulmonary disease: Systematic review of evidence. *BMJ;* 2005; 331(7515):485.	This study's objective was to determine the effectiveness of innovations in management of chronic disease involving nurses for patients with chronic obstructive pulmonary disease The authors' conclude that there is little evidence to date to support the widespread implementation of nurse led management interventions for COPD, but the data are too sparse to exclude any clinically relevant benefit or harm arising from such interventions.
42.	Tsai,AC, Morton,SC, Mangione,CM, et al. A meta-analysis of interventions to improve care for chronic illnesses. *Am.J.Manag.Care;* 2005; 11(8):478-88.	This study examined the following questions: (1) Do interventions that incorporate at least 1 element of the Chronic Care Model (CCM) result in improved outcomes for specific chronic illnesses? (2) Are any elements essential for improved outcomes? The authors' conclude that interventions that contain at least 1 CCM element improve clinical outcomes and processes of care--and to a lesser extent, quality of life--for patients with chronic illnesses.
43.	Wagner,EH, Bennett,SM, Austin,BT, et al. Finding common ground: Patient-centeredness and evidence-based chronic illness care. *J.Altern.Complement.Med.;* 2005; 11 Suppl 1:S7-15.	Health outcomes for patients with major chronic illnesses depend on the appropriate use of proven pharmaceuticals and other therapeutic technologies, and effective self-management by patients. Effective chronic illness care then bases clinical decisions on the best, rigorous scientific evidence, or evidence-based medicine. The Chronic Care Model is a compilation of those practice system changes shown to improve chronic care. This paper explores the concept of patient-centeredness and its relationship to the Chronic Care Model. We conclude that the Model is both evidence-based and patient-centered and that these can be properties of health systems, and not just of individual practitioners.
44.	Warm,EJ. Diabetes and the chronic care model: A review. *Curr.Diabetes Rev.;* 2007; 3(4):219-25.	There is a significant gap between evidence-based diabetes care and actual care delivery. The Chronic Care Model (CCM) was developed to bridge this gap and translate scientific knowledge directly to the care of patients. This review will describe the elements of the CCM Model and provide evidence for their use in improving diabetes care. Evidence for the CCM as a whole will also be presented.
45.	Waters,D and Sierpina,VS. Goal-directed health care and the chronic pain patient: A new vision of the healing encounter. *Pain Physician.;* 2006; 9(4):353-60.	The authors of this article introduce a new way to engage the patient with chronic pain, Goal-Directed Health Care (G-DHC). Identifying the patient's major life goals during the medical interview is the key element of this approach along with connecting these life goals to specific health-related goals. The authors anticipate such a model of patient-centered care will shift the dynamic of the medical encounter with the patient with chronic pain to one that is ultimately more productive and satisfying for both patient and physician. Illustrations of cases, questions to ask patients, and a detail of the process may allow the reader to adopt this method into their practice.
46.	Watkins,K, Pincus,HA, Tanielian,TL, et al. Using the chronic care model to improve treatment of alcohol use disorders in primary care settings. *J.Stud.Alcohol;* 2003; 64(2):209-18.	Alcohol use disorders (AUDs) are serious and often chronic medical conditions that present a significant public health concern. The authors describe the Chronic Care Model (CCM) and discuss ways it can be adapted in primary care settings to improve care for AUDs. Further work is needed on developing tools, self-management support resources and training strategies before the CCM can be evaluated in real world settings.
47.	Willison,KD, Williams,P and Andrews,GJ.	This paper highlights three selected issues and potential strategies

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	Enhancing chronic disease management: A review of key issues and strategies. *Complement.Ther.Clin.Pract);* 2007; 13(4):232,9	towards meeting chronic disease management needs. First, the orientation of the biomedical science model often gives insufficient attention to chronic health care needs. A second issue is that the use of complementary and alternative medicine (CAM) may offer for some an opportunity to enhance their chronic disease management efforts. A third issue is that our understanding of this potential is limited, as many who use CAM do not disclose such use. Overall, this review suggested some strategies and provides a springboard for further research and practice in CAM and the management of chronic diseases.
48.	Kennedy,A, Rogers,A and Bower,P. Support for self care for patients with chronic disease. *BMJ;* 2007; 335(7627):968-70.	n/a

Emphasizing Primary Health Care: Annotated Inventory of Reviews

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1.	Bilsker,D, Goldner,EM and Jones,W. Health service patterns indicate potential benefit of supported self-management for depression in primary care. *Can.J.Psychiatry;* 2007; 52(2):86-95.	This study's objective was to examine health service delivery in a Canadian province (British Columbia) to consider how Canadian health care services might be developed to best address the large number of individuals with mildly to moderately severe depressive illnesses. Supported self-management is identified as a promising intervention that could be integrated into primary health care within the context of the Canadian health care system. It constitutes a feasible and practical approach to enhance the role of family physicians in the delivery of services to individuals with milder forms of depression and promotes the active engagement of individuals in their recovery and in prevention of future episodes.
2.	Butler,M, Kane,RL, McAlpine,D, et al. Integration of mental health/substance abuse and primary care. *Evid Rep.Technol.Assess.(Full Rep);* 2008; (173)(173):1-362.	The objectives of this study were to describe models of integrated care used in the United States, assess how integration of mental health services into primary care settings or primary health care into specialty outpatient settings impacts patient outcomes and describe barriers to sustainable programs, use of health information technology (IT), and reimbursement structures of integrated care programs within the United States. The authors' conclude that in general, integrated care achieved positive outcomes. However, it is not possible to distinguish the effects of increased attention to mental health problems from the effects of specific strategies, evidenced by the lack of correlation between measures of integration or a systematic approach to care processes and the various outcomes. There is a reasonably strong body of evidence to encourage integrated care, at least for depression.
3.	Faulkner,A, Mills,N, Bainton,D, et al. A systematic review of the effect of primary care-based service innovations on quality and patterns of referral to specialist secondary care. 2003; 53:878-884.	n/a
4.	Hine,CE, Howell,HB and Yonkers,KA. Integration of medical and psychological treatment within the primary health care setting. *Soc.Work Health Care;* 2008; 47(2):122-34.	Research was collected to highlight the history, development, and implementation of integrated care within primary care facilities. The authors performed a comprehensive literature review of collaborative care and summarized the program design of the site where they work. It is hypothesized that integration will improve patient access to health care, increase the rate of evidence based practice, improve patient health and satisfaction, and reduce long-term costs.

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5.	Lee,A, Kiyu,A, Milman,HM, et al. Improving health and building human capital through an effective primary care system. *J.Urban Health;* 2007; 84(3 Suppl):i75-85.	In this paper, a review of studies conducted in different countries illustrates how a well-developed primary health care system would reduce all causes of mortalities, improve health status, reduce hospitalization, and be cost saving despite a disparity in socioeconomic conditions. The intervention strategy recommended in this paper is developing a model of comprehensive primary health care system by joining up different settings integrating the efforts of different parties within and outside the health sector. This synergistic effect would help to strengthen human and social capital development. The model can then combine the efforts of upstream, midstream, and downstream approaches to improve population health and reduce health inequity.
6.	Lewin,RJ. Cardiac rehabilitation and primary care. *Practitioner;* 2003; 247(1644):220,2, 224.	n/a
7.	Martin-Misener,R, McNab,J, Sketris,IS, et al. Collaborative practice in health systems change: The Nova Scotia experience with the strengthening primary care initiative. *Nurs.Leadersh.(Tor Ont);* 2004; 17(2):33-45.	Nova Scotia, like other provinces, is seeking ways to improve the healthcare that it provides within a financially constrained publicly funded system. The Strengthening Primary Care Initiative in Nova Scotia (SPCI) was a primary care demonstration project to evaluate specific goals related to primary care. The SPCI involved changes in four communities over a three-year period (2000-2002). These changes included the introduction of a primary healthcare nurse practitioner in collaborative practice with one or more family physicians; remuneration of the family physician(s) with methods other than a solely fee-for-service arrangement; and the introduction and utilization of a computerized patient medical record. The authors discuss their perspectives on the challenges related to interdisciplinary collaboration in health systems change that were encountered during the planning and implementation of the SPCI. This paper conveys the experience of one province and will be of interest to administrators, educators and practitioners elsewhere in Canada who are engaged in primary healthcare renewal.
8.	Miller,BF, Mendenhall,TJ and Malik,AD. Integrated primary care: An inclusive three-world view through process metrics and empirical discrimination. *J.Clin.Psychol.Med.Settings;* 2009; 16(1):21-30.	Integrating behavioural health services within the primary care setting drives higher levels of collaborative care, and is proving to be an essential part of the solution for our struggling American healthcare system. However, justification for implementing and sustaining integrated and collaborative care has shown to be a formidable task. Using a model that deconstructs process metrics into factors/barriers and generalizes behavioural health provider roles into major categories provides a framework to empirically discriminate between implementations across specific settings. This approach offers practical guidelines for care sites implementing integrated and collaborative care and defines a research framework to produce the evidence required for the aforementioned clinical, operational and financial worlds of this important movement.
9.	Montegut,AJ. To achieve "health for all" we must shift the world's paradigm to "primary care access for all". *J.Am.Board Fam.Med.;* 2007; 20(6):514-7.	The World Health Organization and other organizations have not focused on the horizontal role of primary care. Evidence demonstrates that the advent of health care through a base of primary care improves health better than through the traditional vertical disease-oriented health programs used around the globe. The global "family" of family medicine must advocate for a shift from the current solutions to one in which the family doctor is part of a well-trained health care team that can function in networks that incorporate the vertical programs into a broad horizontal approach for better access to primary care. Perhaps in this way "health for all" can be achieved.
10.	Neuwelt,P, Matheson,D, Arroll,B, et al.	The introduction of the Primary Health Care Strategy has offered

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	Putting population health into practice through primary health care. *N.Z.Med.J.;* 2009; 122(1290):98-104.	opportunities to take a population health approach to the planning and delivery of primary health care. This paper takes the position that the features of a population health approach (such as a concern for equity, community participation, teamwork and attention to the determinants of health) enhance general practice care rather than undermine it. We conclude that the contribution of the health sector towards population health goals can be achieved through collaboration between GPs, nurses, other primary health care workers, and communities, together with health promotion and public health practitioners. Finding common language and understanding is an important step towards improving that collaboration.
11.	Ploeg,J, Feightner,J, Hutchison,B, et al. Effectiveness of preventive primary care outreach interventions aimed at older people: Meta-analysis of randomized controlled trials. *Can.Fam.Phys.* 2005; 51:1244-1245.	Objective was to determine the effectiveness of preventive primary care outreach interventions aimed at older people. We included studies of preventive primary care interventions aimed at patients 65 years and older if the studies were randomized controlled trials and if any of the following outcomes was reported: mortality, living in the community, admission to acute care hospitals, and admission to long-term care. We defined preventive primary care outreach as proactive, provider-initiated care, which can be provided by nurses, physicians, other professionals, or volunteers, that is in addition to usual care and is provided in primary care settings. Such care can be provided through home visits, office visits, telephone contacts, or a combination of these methods. This review showed that studies of preventive primary care outreach interventions aimed at older people were associated with a 17% reduction of mortality and a 23% increased likelihood of continuing to live in the community.
12.	Starfield,B, Shi,L and Macinko,J. Contribution of primary care to health systems and health. *Milbank Q.;* 2005; 83(3):457-502.	Evidence of the health-promoting influence of primary care has been accumulating ever since researchers have been able to distinguish primary care from other aspects of the health services delivery system. This evidence shows that primary care helps prevent illness and death, regardless of whether the care is characterized by supply of primary care physicians, a relationship with a source of primary care, or the receipt of important features of primary care. The evidence also shows that primary care (in contrast to specialty care) is associated with a more equitable distribution of health in populations, a finding that holds in both cross-national and within-national studies. The means by which primary care improves health have been identified, thus suggesting ways to improve overall health and reduce differences in health across major population subgroups.
13.	Thielke,S, Vannoy,S and Unutzer,J. Integrating mental health and primary care. *Prim.Care;* 2007; 34(3):571,92, vii.	Mental health and primary care delivery systems have evolved to operate differently. For example, attention to multiple medical issues, health maintenance, and structured diagnostic procedures are standard elements of primary care rarely incorporated into mental health care. A multidisciplinary treatment approach, group care, and case management are common features of mental health treatment settings only rarely used in primary care practices. Effective integration of mental health care into primary care requires systematic and pragmatic change that builds on the strengths of both mental health and primary care.

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14.	Tonkin,AM and Chen,L. Where on the healthcare continuum should we invest? The case for primary care? *Heart Lung Circ.;* 2009; 18(2):108-13.	Cardiovascular diseases and particularly coronary heart disease are associated with the major personal and economic health burden in Australia. They are also the major cause of health inequalities. The associated economic burden is projected to increase markedly with ageing of the population and decrease in case-fatality rates with acute events such as myocardial infarction. It is logical that strategies to prevent CVD events should impact across the healthcare continuum. These should include population-wide measures to counter the epidemic of overweight, targeted cost-effective approaches to high-risk asymptomatic individuals, more effective management of acute events and systems of care to support implementation of evidence-based secondary prevention therapies. Recent cost-utility analyses support the proposition that the general practice environment should be a particular focus for CHD primary and secondary prevention approaches.

Recruitment and Retention of Health Human Resources: Annotated Inventory of Reviews

#	Reference	Brief Notes
1.	Arnold,E. Managing human resources to improve employee retention. *Health Care Manag.;* 2005; 24(2):132.	Managers face increased challenges as the demand for health care services increases while the supply of employees with the requisite skills continues to lag. Employee retention will become more important in the effort to service health care needs. Appropriate human resource management strategies and policies implemented effectively can significantly assist managers in dealing with the employee retention challenges ahead.
2.	Baumann,A and Blythe,J. Restructuring, reconsidering, reconstructing: Implications for health human resources. *International Journal of Public Administration;* 2003; 26(14):1561.	In the 1990s, many health care organizations adopted restructuring strategies that were inappropriate to an industry in which the effective use of workers' knowledge, skills and social relations was essential to productivity. Workforce cuts and the withdrawal of workplace supports, without sufficient consideration of human consequences led to a demoralized and short-staffed workforce rather than cost containment. This paper uses two neo-capitalist perspectives to illustrate the impact of restructuring initiatives on nursing, the most numerous health care profession. It describes how reconsideration of strategies adopted during restructuring has led to a search for new approaches to institutional change that make optimum use of human and social capital.
3.	Birch,S, Kephart,G, Tomblin-Murphy,G, et al. Human resources planning and the production of health: A needs-based analytical framework. *Canadian Public Policy;* 2007; 33:S1.	Traditional approaches to health resources planning emphasize the effects of demographic change on the needs for heath human resources. Planning requirements are largely based on the size and demographic mix of the population applied to simple population-provider or population-utilization ratios. We develop an extended analytical framework based on the production of health-care services and the multiple determinants of health human resource requirements. The requirements for human resources are shown to depend on four separate elements: demography, epidemiology, standards of care, and provider productivity. The application of the framework is illustrated using hypothetical scenarios for the population of the combined provinces of Atlantic Canada.

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4.	Collins,SK. Employee recruitment: Using behavioral assessments as an employee selection tool. *Health Care Manag.;* 2007; 26(3):213.	The labour shortage of skilled health care professionals continues to make employee recruitment and retention a challenge for health care managers. Greater accountability is being placed on health care managers to retain their employees. The urgency to retain health care professionals is largely an issue that should be considered during the initial recruitment of potential employees. Behavioural assessments can be used as a useful employee selection tool to assist managers in the appropriate placement and training of potential new employees. Although there are varying organizational concerns to address when using behavioural assessments as an employee selection tool, the potential return on investment is worth the effort.
5.	Cowin,L and Jacobsson,D. Addressing Australia's nursing shortage: Is the gap widening between workforce recommendations and the workplace? *Collegian;* 2003; 10(4):20,2, 23-4.	The escalating effect of the current shortage of registered nurses is being felt throughout health services from the quality of patient care through to the closure of beds and hospitals. The following discussion of retention in nursing centres on exploring the effects of the nursing shortage from the workplace through to the future of the nursing profession. While workplace reform issues such as raising nursing's image, improving career pathways, provision of quality mentor and preceptorship, and raising professional status remain unchanged, the pool of available nurses will continue to decrease.
6.	Epstein,R and Singh,G. Internet recruiting effectiveness: Evidence from a biomedical device firm. *International Journal of Human Resources Development and Management;* 2003; 3(3):216.	The internet has become a common source of recruiting, yet no study, to date, has examined its effectiveness. We created several 'ratios' and assessed the effectiveness of internet recruiting in a biomedical device firm in the USA. Our analysis shows the internet should not be considered as the end all to the recruiting process. In order to stay competitive, organisations need to stay abreast of recruiting trends and strategise their overall recruiting efforts. This study, in conclusion, is a valuable model for assessing internet recruiting.
7.	Fritsch,K. Situational assessment and strategies for strengthening nursing and midwifery in the Western Pacific region. *Japan J.Nurs.Sci);* 2006; 3(1):9,14.	n/a
8.	Grobler,L, Marais,BJ, Mabunda,SA, et al. Interventions for increasing the proportion of health professionals practising in rural and other underserved areas. *Cochrane Database Syst.Rev.;* 2009; (1)(1):CD005314.	The inequitable distribution of health professionals, within and between countries, poses an important obstacle to the achievement of optimal attainable health for all. This study's objective was to assess the effectiveness of interventions aimed at increasing the proportion of health professionals working in rural and other underserved areas. The authors concluded that there are no studies in which bias and confounding are minimised to support any of the interventions that have been implemented to address the inequitable distribution of health care professionals. Well-designed studies are needed to confirm or refute findings of various observational studies regarding educational, financial, regulatory and supportive interventions that may influence health care professionals' choice to practice in underserved areas.
9.	Jerdee,AL. Recruiting foreign registered nurses: Charting the course. *J.Nurs.Law);* 2004; 9(3):19,28.	United States health care providers are continuously challenged to recruit and retain registered nurses. Despite the many efforts aimed at addressing the nursing shortage, continued difficulty in recruiting and retaining registered nurses has led many health care providers to consider recruiting nurses from other countries. This article provides an overview of the legal, ethical, and other issues associated with recruiting a foreign registered nurse, including contracting, immigration, and licensure issues. This article concludes that the recruitment and employment of foreign registered nurses is a viable option to address the nursing shortage, as long as health care

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		providers and facilities have the willingness and resources available to properly address the many associated legal and ethical issues.
10.	Kearney,AJ. Facilitating interprofessional education and practice. *Can.Nurse;* 2008; 104(3):22-6.	Collaborative patient-centred care has the potential to address serious issues in the Canadian health-care system such as those related to increasing complexity of care; patient safety and access; and recruitment and retention of health human resources. The author presents the rationale for collaborative care and describes an interprofessional education project at Memorial University of Newfoundland that is preparing students and health professionals for this groundbreaking change in practice.
11.	Kingma,M. Nurses on the move: A global overview. *Health Serv.Res.;* 2007; 42(3p2):1281.	This paper looks at nurse migration flows in the light of national nursing workforce imbalances, examines factors that encourage or inhibit nurse mobility, and explores the potential benefits of circular migration. The dearth of data on which to develop international health human resource policy remains. There is growing recognition, however, that migration will continue and that temporary migration will be a focus of attention in the years to come. Injecting migrant nurses into dysfunctional health systems--ones that are not capable of attracting and retaining staff domestically--will not solve the nursing shortage.
12.	Lavieri,M and Puterman,M. Optimizing nursing human resource planning in british columbia. *Health Care Manag.Sci.;* 2009; 12(2):119.	This paper describes a linear programming hierarchical planning model that determines the optimal number of nurses to train, promote to management and recruit over a 20 year planning horizon to achieve specified workforce levels. Age dynamics and attrition rates of the nursing workforce are key model components. The model was developed to help policy makers plan a sustainable nursing workforce for British Columbia, Canada. An easy to use interface and considerable flexibility makes it ideal for scenario and "What-If?" analyses.
13.	Normand,C. Strengthening public health human resources in Europe: Meeting the training challenge. *Eur.J.Public Health;* 2004; 14(1):11.	n/a
14.	Pariyo George,W, Kiwanuka Suzanne,N, Rutebemberwa,E, et al. Effects of changes in the pre-licensure education of health workers on health-worker supply. *Cochrane Database of Systematic Reviews*; 2009; (2): Art. No.: CD007018. DOI: 10.1002/14651858.CD007018.pub2.	The current and projected crisis because of a shortage of health workers in low and middle-income countries (LMICs) requires that effective strategies for expanding the numbers of health workers are quickly identified in order to inform action by policymakers, educators, and health managers. This study's objective was to assess the effect of changes in the pre-licensure education of health professionals on health-worker supply. The authors' conclude that the evidence to estimate the likely effects of interventions in pre-licensure education to increase health-worker supply is generally insufficient or unavailable, particularly in LMICs. Further research could focus on determining the magnitude of student drop-out rates in health professional training institutions, identifying the students at risk of dropping out, and determining the applicability of western-based innovations in low and middle-income countries.
15.	Philipp,DL and Wright,DL. Recruiting healthcare professionals to rural areas. *Radiol.Manage.;* 2005; 27(6):44-50.	Maintaining an adequate number of healthcare providers for the nation's most underserved populations is increasingly difficult. Rural medical services have issues that often complicate recruitment and retention of qualified medical professionals. This review of literature examines some of the issues unique to rural areas. Consideration of these issues during recruitment strategies may lead to increased recruitment and retention of healthcare professionals to rural areas.

#	Reference	Brief Notes
16.	Sparacio,DC. Winged migration: International nurse recruitment -- friend or foe to the nursing crisis? *J.Nurs.Law);* 2005; 10(2):97,114.	Registered nurses represent the largest single health care profession in the United States and are an integral part of the health care workforce. This country is currently faced with a shortage of nurses. Even more frightening, evidence of a declining nurse workforce has become a global issue. The practice of importing nurses into the United States raises various concerns. The complexity of immigration and licensing, for example, emphasizes legal obstacles to this temporary solution. Further, critics of international recruitment point to ethical issues regarding the "brain drain" of talent from other nations. This paper examines international recruitment of registered nurses as a response to the nursing shortage, with particular focus on the Philippines.
17.	Tourigny,L and Pulich,M. Improving retention of older employees through training and development. *Health Care Manag.;* 2006; 25(1):43.	This article explores the needs and interests of older employees in training and development efforts which can result in higher retention rates. Managers may be reluctant to train workers close to retirement age for various reasons. Managers also use certain practices to avoid training older employees. When training is offered, accurate performance feedback is essential for desired training outcomes to occur. Finally, areas are proposed which are more appropriate to include in training and development endeavours for older employees versus younger ones.
18.	Turnbull,C, Grimmer-Somers,K, Kumar,S, et al. Allied, scientific and complementary health professionals: A new model for Australian allied health. *Australian Health Review;* 2009; 33(1):27.	This paper reviews existing definitions of allied health, and considers aspects of allied health services and service delivery in order to produce a new model of allied health that will be flexible in a changing health service delivery workforce. We propose a comprehensive model of allied, scientific and complementary (ASC) health professionals. This model recognises tasks, training, organisation, health sectors and professional regulation. It incorporates traditional and new services which are congruent with allied health foci, allegiances, responsibilities and directions. Use of this model will allow individual organisations to describe their ASC health workforce, and plan for recruitment, staff training and remuneration.
19.	van der Schoot,E. The influence of the curriculum, individual characteristics, recruitment policies and the labour market on graduate employability. *International Journal of Human Resources Development and Management;* 2003; 3(2):171.	Nowadays, graduates need to cope with an increasing diversity and complexity of care situations in healthcare organizations. For this reason it has been decided to broaden curricula. So far, research on the development and effects of broad curricula has been restricted. This is remarkable, given the fact that over the last 20 years significant investments have been made in developing curricula that supposedly fulfil the requirements of the labour market. This article describes an empirical study in which the main focus has been on the influence of the curriculum on the employability of nursing and healthcare graduates in the Netherlands.
20.	Waldman,JD and Arora,S. Measuring retention rather than turnover: A different and complementary HR calculus. *HR.Human Resource Planning;* 2004; 27(3):6.	Retention rate is not simply the inverse of turnover. Retention rate measures what is wanted rather than what is undesirable. In this article, retention in health care, an industry in which skilled practitioners are in short supply, is discussed. Retaining employees is crucial to sound clinical and financial outcomes. Moreover, the situation in health care generalizes to many fields requiring highly skilled and experienced people. Turnover results are compared to retention rate.
21.	Watkins,S. Migration of healthcare professionals: Practical and ethical considerations. *Clin.Med.;* 2005; 5(3):240-3.	Recruitment of healthcare professionals from developing countries to the U.K. is escalating rapidly, and is severely damaging the fragile healthcare systems of the countries involved. Steps are now urgently required to reverse this trend, in order to prevent the total collapse of some overseas health services. The Department of Health is planning

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		to implement the Code of Practice more rigorously, but while it remains voluntary it is unlikely to solve the problem, in view of the (relative) shortage of healthcare professionals in this country. Other measures, including promoting the retention of locally trained staff in the U.K., are urgently required.

Options for Expanding Continuing Care: Annotated Inventory of Reviews

#	Reference	Brief Notes
1.	Forbes,DA and Neufeld,A. Looming dementia care crisis: Canada needs an integrated model of continuing care now! *Can.J.Nurs.Res.;* 2008; 40(1):9-16.	n/a
2.	Kodner,DL. Whole-system approaches to health and social care partnerships for the frail elderly: An exploration of North American models and lessons. *Health.Soc.Care.Community;* 2006; 14(5):384-90.	Irrespective of cross-national differences in long-term care, countries confront broadly similar challenges, including fragmented services, disjointed care, less-than-optimal quality, system inefficiencies and difficult-to-control costs. Integrated or whole-system strategies are becoming increasingly important to address these shortcomings through the seamless provision of health and social care. This article summarises the structure, features and outcomes of the Program of All-Inclusive Care for Elderly People (PACE) programme in the United States, and the Systeme de soins Integres pour Personnes Agees (SIPA) and the Programme of Research to Integrate Services for the Maintenance of Autonomy (PRISMA) in Canada. It concludes with the identification of common characteristics which are thought to be associated with the successful impact of these partnership initiatives, as well as a call for further research to understand the relationships, if any, between whole-system models, services and outcomes in integrated care for elderly people.
3.	McKay,JR. Continuing care research: What we have learned and where we are going. *J.Subst.Abuse Treat.;* 2009; 36(2):131-45.	In the field of addiction treatment, the term continuing care has been used to indicate the stage of treatment that follows an initial episode of more intensive care. This article reviews controlled studies of continuing care conducted over the prior 20 years. The results indicate that continuing care interventions were more likely to produce positive treatment effects when they had a longer planned duration, made more active efforts to deliver treatment to patients, and were studied more recently. The use of alternative service delivery methods and care settings may also lead to greater engagement and retention in continuing care, particularly among the large numbers of individuals who do not want traditional, clinic-based specialty care.
4.	McKay,JR. Continuing care in the treatment of addictive disorders. *Curr.Psychiatry Rep.;* 2006; 8(5):355-62.	Newer models of continuing care in the addictions are designed to improve the long-term management of substance use disorders by engaging patients into flexible, or "adaptive," treatment algorithms that change in focus and intensity as symptoms wax and wane over time. This article describes some of these newer approaches to the management of substance use disorders and presents recent research on their effectiveness.
5.	Oldman,C. Deceiving, theorizing and self-justification: A critique of independent living. *Crit.Soc.Policy);* 2003; 23(1):44,62.	The article starts with an examination of some key paradigms of later life and then employs their insights to expose the powerful and deceptive discourse of 'independent living', which has recently been one of social policy's most persuasive mantras. The theoretical perspective that informs the whole article is that of postmodernism with a critical gerontology perspective. The critique of independent

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		living that the article offers is then applied within the overlapping area of housing and community care to a special case, that of physically impaired older people, in three separate but related instances: academic, policy and political. Taking a critique of independent living beyond theory into policy development may achieve a closer fit between what older people want their living environments to be and what they are currently presented with. Finally, rather more arguably, it may also result in a more cost-effective use of resources.
6.	Popovici,I, French,MT and McKay,JR. Economic evaluation of continuing care interventions in the treatment of substance abuse: Recommendations for future research. *Eval.Rev.;* 2008; 32(6):547-68.	The chronic and relapsing nature of substance abuse points to the need for continuing care after a primary phase of treatment. This article reviews the economic studies of continuing care, discusses research gaps, highlights some of the challenges of conducting rigorous economic evaluations of continuing care, and offers research guidelines and recommendations for future economic studies in this emerging field. The adoption of cost-effective continuing care services can reduce long-term consequences of addiction, thereby potentially increasing overall social welfare.
7.	Roberts,JEA, Browne,G, Gafni,A, et al. Specialized continuing care models for persons with dementia: A systematic review of the research literature. *Canadian Journal on Aging;* 2000; 19(1):106-26.	This systematic overview summarizes the published literature reflecting the effectiveness of services or models of care for persons with dementia living in their homes, in specialized institutional care or assisted living centres/congregate homes. First and foremost, more research is needed that examines the effectiveness of different programs for specific persons and their caregivers with different characteristics and the measurement of family expenditures as well as costs of programs.
8.	Robinson,KM and Reinhard,SC. Looking ahead in long-term care: The next 50 years. *Nurs.Clin.North Am.;* 2009; 44(2):253-62.	During the next 50 years, demographic aging-including graying of the baby boomers, increased longevity, and lower fertility rates-will change the needs for long-term care in the United States. These trends will have a great impact on the federal budget related to spending for Social Security, Medicare, and Medicaid. Future years will see a more diverse population with increased aggressive treatment of chronic illness. Consumers of health care and their family caregivers will take more active steps to manage and coordinate their own care. Housing trends that produce more senior-friendly communities will encourage independent living rather than seniors' having to move into institutions; increased incentives for use of home- and community community-based care will allow people to stay longer in their own homes in the community. Technological advances, such as the use of robots who serve as companions and assistants around the house, will also decrease the need for institutional living.

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