



Winnipeg Regional
Health Authority

Office régional de la
santé de Winnipeg

WRHA COMMUNITY HEALTH ASSESSMENT 2009:

Purpose, Objectives, Philosophy and Approach

Concept Paper

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EXECUTIVE SUMMARY

- The purpose of this paper is to propose and clarify the objectives, philosophy and approach of the Community Health Assessment (CHA) for the Winnipeg Regional Health Authority (WRHA).
- The primary aim of the Community Health Assessment is to identify community health assets and issues, set health objectives, and monitor progress towards those objectives.
- The primary “deliverable” of the CHA is to develop evidence regarding the health of the population - providing information and analyses to a) assist the WRHA Board and Senior Management in setting priorities and allocating resources, and b) assist in program development and planning c) assist communities in addressing priority issues.
- The analysis of indicators from administrative data should be balanced with community input.
- The CHA process should build internal capacity, among planners and decision makers to help support community participation.
- The CHA process will assist communities in identifying and focusing attention on specific high-priority issues.

Recommendations:

- Increase the focus on health status since the evaluation of health services can best be assessed through other mechanisms,
- Increase the information obtained through community input to develop a better understanding of community issues,
- Broaden from a strictly descriptive to an analytical approach (atlas to analysis),
- Reduce the number of indicators to a “core” set with demonstrated validity and usefulness (approximately 60),
- Increase the discussion of temporal trends in health status,
- Focus, each year, on one or two specific topics and/or populations. In 2006/07 we recommend focusing on chronic disease and recent immigrants,
- Engage the community and health providers in a discussion of analytical results and employ population-specific messengers so as to maximize the use of the CHA in planning programs and interventions,
- Ensure that CHA reporting is aligned with WRHA planning and budgeting processes.
- Adopt the Byrne *et al.* (2002) framework for organizing the CHA (see page 9)

PURPOSE OF CONCEPT PAPER

A community health assessment can be an invaluable process for improving the health of the population. **The purpose of this paper is to propose, and clarify the objectives, philosophy and approach of the Community Health Assessment (CHA) for the Winnipeg Regional Health Authority (WRHA).** It is based on discussions at the WRHA Community Health Assessment Committeeⁱ, and by a comprehensive national and international review of the literature regarding population health and community health assessment.

This process of review and clarification is timely for a number of reasons:

- 1) ***Preparation for the next comprehensive CHA.*** The last comprehensive CHA took place in 2004, with the next one due in 2009. It is appropriate that we take this opportunity to reflect on the strengths of the 2004 CHA, what we would like a CHA to accomplish for the WRHA, and any changes that must be implemented to achieve these objectives.
- 2) ***WRHA role with CHAN.*** The Manitoba Community Health Assessment Network (CHAN) is a group comprised of representatives from all regional health authorities (RHAs), Manitoba Health MCHP, and Cancer Care Manitoba. CHAN is currently reviewing their proposed indicators, and planning for the 2009 comprehensive assessment. This network has in the past looked to the WRHA for leadership, making it important that we articulate a clear organizational vision.
- 3) ***Sharing within the organization, planning undertaken to date.*** One of the objectives of the CHA Committee is to provide a mechanism for organizational input into the CHA process. This committee has come to a consensus on a number of aspects of a proposed process. It is therefore timely that Senior Management reviews the recommendations developed by this committee and this vision be shared more broadly within the organization.

WHY IS COMMUNITY HEALTH ASSESSMENT VALUABLE?

The ultimate goals of the community health assessment are to maintain and improve the health status of the entire population, and to reduce inequities in health status between population

ⁱ Terms of Reference of this committee can be found at: <http://home.wrha.mb.ca/research/files/MCHPWRHACollaborationandCHA OversightCommitteeTerms ofReference.pdf> Note that the name of the committee changed to CHA Committee, effective November 28, 2006.

groups.¹ In this paper we propose that the focus of the CHA, methods used, and intended audience should be honed in order to be faithful to the principles of a population health approach and to maximize the utility of the CHA process.

The primary “deliverable” of the CHA is to develop evidence to inform decision makers about the health of the population, providing information and analyses to a) assist the WRHA Board and Senior Management in setting priorities and allocating resources, and b) assist programs with health planning, program planning and program development, c) assist communities in addressing key issues. In this way, the CHA can help derive the most cost effective returns for changes in resource allocation in terms of overall population health. We expect the CHA to inform decisions regarding major initiatives such as wait times, length of stay, and disparities in health. One way in which the 2009 CHA will accomplish this is through an analysis of expenditures on health care services that could have been avoided given increased prevention, health promotion, and earlier intervention (i.e., “avoidable” morbidity and mortality). Understanding the sources of variation in health status will increase the likelihood that “upstream” investments in health will increase health status (and decrease utilization of health care services) – thereby affecting performance measures such as length of stay and wait times.

DEFINING COMMUNITY HEALTH ASSESSMENT

There are many, varied, definitions of Community Health Assessment². We propose a definition that amalgamates three definitions^{2,3,4} since they capture the ideas of monitoring health status, engaging the community, and directing action.

The Community Health Assessment is part of a strategic plan that describes the health and health needs of the community by collecting, analyzing and using quantitative and qualitative data to educate and mobilize communities, develop priorities, garner resources, and facilitate collaborative action planning with the aim of improving community health status and quality of life among multiple sectors of the population.

A Community health assessment is undertaken and completed within the context and principles of a *population health approach*. A population health approach recognizes that any analysis of the health of the population must extend beyond an assessment of health status indicators. A population health approach addresses a broad range of individual and collective factors that determine health, including community assets.⁵

BACKGROUND OF THE MANITOBA CHA PROCESS

In Manitoba, the requirement that all Regional Health Authorities (RHAs) undertake a Community Health Assessment is mandated in the “RHA Act”, although there is considerable scope for interpreting how the CHA should be done.ⁱⁱ The first CHA was undertaken in 1999 according to the 1997 guidelines promulgated by Manitoba Health.¹⁵ The second CHA was completed in 2004 and guided by a formal review of the process⁶ as well as the Alberta Health and Wellness needs assessment manual.⁷

The Manitoba Community Health Assessment Network (CHAN) was established in 1999 to provide a forum for discussing the process of health assessment and underlying factors of community health.⁸ This group has representatives from all RHAs, Manitoba health, the MCHP and Cancer Care Manitoba. CHAN has played a vital role in developing the CHA process and methods, encouraging RHA participation, and attracting funding. As a result, the 2004 CHA demonstrated many improvements over the 1999 CHA. The WRHA has traditionally been an active member of CHAN. Because of the size of the WRHA, as well as in-house expertise in

ⁱⁱ Under Part 4, Division 2, section 23(2), subsections (b) and (k) of *The Regional Health Authorities and Consequential Amendments Act* (S.M. 1996, c. 53), “a regional health authority shall . . . assess health needs in the health region on an ongoing basis” and “monitor and evaluate the delivery of health services and compliance with prescribed standards and provincial objectives and priorities, in accordance with guidelines provided or prescribed by the minister”.

data analysis, the WRHA Community Health Assessment Reports have included a comprehensive analysis of secondary data. At the same time, the CHA Committee wished to continue to build on these successes, and incorporate many of the suggestions and preferences it received into planning for the 2009 assessment. This following section of the report therefore focuses on areas where the CHA continues to evolve.

STRENGTHS AND LIMITATIONS OF CHA PROCESS TO DATE

Reliance on traditional indicators

The WRHA CHA has, to date, relied almost exclusively on the analysis of indicators derived from secondary data. Over the past several years much of the attention of CHAN has focused on identifying indicators for the CHA. Considerable time and resources, within the WRHA and other regions, has gone into reporting these indicators. Providing profiles of “core” or key indicators assists communities in understanding their community make-up and supports community development. However, as in many other regions, the availability of secondary data has dominated the analysis with limited attention given to direct quantitative measures and, more importantly, qualitative information obtained through ongoing community engagement. It should be noted that “ongoing engagement” is quite different from using “community consultation,” and involves a more collaborative approach with shared ownership of process and results between groups. In addition, many lifestyle and behavioural factors cannot be readily assessed by the analysis of secondary data.⁹ Moreover, many indicators have not been sufficiently validated (i.e., the extent to which indicators actually measure the intended dimension of health is unknown). Despite these shortcomings, the number of proposed indicators for the 2009 assessment is increasing in an attempt to be more comprehensive. However, more indicators may in fact negatively impact the value of the CHA with respect to prioritizing needs. Also, the analysis of a

large number of indicators (e.g., 180 in 2004; 225 in 2006) for a health region such as the WRHA is highly resource intensive.

Selection of Performance Measurement Framework for CHA

The Community Health Assessment Network (CHAN) adopted the Performance Measurement Framework (PMF) in 2002 with the objective of providing a comprehensive and representative set of indicators.¹⁰ The PMF organizes data according to (1) health status and determinants, (2) health system performance, (3) health system infrastructure, and (4) community and health system characteristics. While the PMF has led to the development of a comprehensive set of indicators, it has focused the CHA in an important way.

Describing and analyzing population health in a *performance measurement framework* implies that the health care system has much control over population health. In fact, while the Canadian Institute for Health Information (CIHI) uses a similar framework, the PMF approach has its roots in industrial performance assessment where the aim is to establish a clear line of cause and effect between a policy, project or other initiative and a set of outcomes.⁷ “A performance measurement framework provides the ability to define and make a case for results which the program leaders can reasonably be held accountable, particularly when many stakeholders and socio-economic factors influence outcomes”.¹¹ However, a broad range of factors that cannot be managed through the health care system affects population health.¹² Also, the population health approach is not yet a model that identifies the specific causes of good health, nor does it enable the effects of specific social and economic conditions on health to be predicted.¹³ Thus, while the PMF is appropriate for understanding the effectiveness of a specific intervention or program, it is not the best fit for population health assessment.

The Purpose of CHA

When conducted within a population health framework, the primary aim of the Community Health Assessment is to identify community health assets and problems, set health objectives, and monitor progress towards those objectives.¹⁴ We suggest that community health assessments should *not* attempt to be a comprehensive survey of all aspects of community health and well being, but should target areas that help a community identify and focus attention on *specific* high-priority issues.² Because the CHA is not limited to specific programs and initiatives, the primary purpose of the CHA should be (as it was originally) to assess: population health status, health determinants (exogenous to services), healthy behaviours, and health care need. That is, the CHA should focus on identifying health issues, examining contributing factors, identifying opportunities for action and facilitating community development. Armed with this information, the WRHA and its community partners can implement policies and programs whose effectiveness can then be assessed within a PMF or health impact assessment.

The importance of community engagement

A second purpose of the CHA should be to engage WHR staff, planners and the community to provide ongoing input, by creating feedback loops between the community and people conducting the CHA. Although community consultation and feedback loops were incorporated into the 1999 WRHA CHA, the guidelines from Manitoba Health describe community consultation as a “reality check”¹⁵ where community members are consulted after

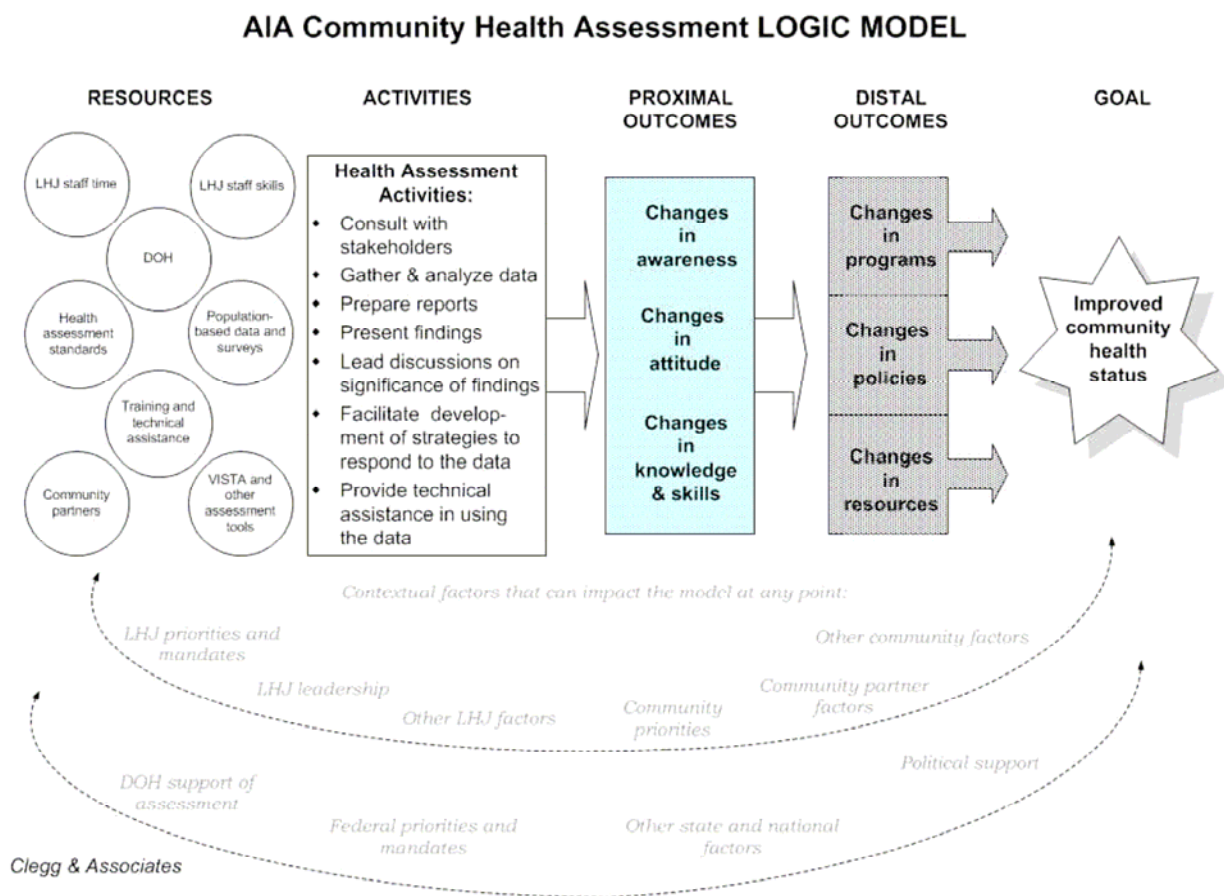
priorities have been identified. We propose that the CHA be an inclusive process where real issues regarding health and health care are identified by community members at the *beginning (planning and developmental phases)* of the assessment.¹⁶ Involving the community from the beginning increases the likelihood that the CHA will be relevant to the consumers of the information and that these users will trust – and use - findings that arise from the assessment. In this way, the CHA can be used to further the WRHA commitment to community development as identified in the WRHA’s *Community Development and Public Participation Framework*.¹⁹ To this end, the CHA process should build internal capacity among WHR planners and decision makers to help support community engagement.

Alternative instruments for performance analysis

When the CHA was introduced, there were a limited number of mechanisms for evaluating the effectiveness of programs and services. This may have contributed to the attempt, through the CHA, to also attempt to gather information on system effectiveness. However, there are now more effective mechanisms in place that can measure some of the factors included in this framework. Examples include the Manitoba Health Performance Deliverables. Additionally, the WRHA now participates in the CCHSA regional sequential accreditation process, which focus on how an organization is actually performing. These processes are conducted from both a program (inter-site) and site (inter-program) perspective. The process includes a self-assessment as well as a peer evaluation of services against nationally accepted standards of quality. We therefore propose that it is not an effective use of resources to try to accomplish the objective of health system performance, using the CHA, but rather that the CHA be focused on assessing population health.

Finding a better framework.

Alternatives to performance measurement are provided in the CHA literature. Two models in the literature are particularly relevant. Byrne et al. (2002)¹⁷ provide a framework based in public health that includes five sections: populations at risk, local health services capacity, problems and issues in the community, local health priorities, and opportunities for action. Clegg



Source: Clegg & Associates, 2003, *Assessment in Action*.

Table 1. Adapted from Byrne et al. (2002) Community Health Assessment Framework

Section	Content
Local health priorities	<ul style="list-style-type: none"> Describe new issue areas identified as a priority by collaborative efforts Profile unmet need for services

Community problems and issues	<ul style="list-style-type: none"> • Profile community-specific issues and/or need • Describe the local health environment and associated risks
Populations at risk	• Describe and explain health status by geodemographic group
	• Identify and justify population-specific issues and/or risks
	• Describe and explain access to health care
	• Describe and explain behavioural and contextual risk factors
Community area capacity profile	<ul style="list-style-type: none"> • Profile community area assets • Profile health system resources available for public health activities
Opportunities for action	<ul style="list-style-type: none"> • Identify opportunities to alleviate public health problems • Identify opportunities to facilitate community development

and Associates (2003)¹⁵ have also developed a logic model for CHA that links resources, activities, proximal outcomes, distal outcomes and goals.

Guided by the logic model, the five sections suggested by Byrne et al. (2002) are proposed because (1) attention is focused on high priority populations/issues of relevance to local stakeholders and (2) thorough consideration is given to how these issues might be ameliorated. We are therefore proposing that the usefulness of the Byrne et al. (2002) framework be further explored, in conjunction with CHAN.

PROPOSED METHODOLOGICAL CHANGES FOR WRHA CHA

Expanding Data Sources

The 2004 CHA focused on data from secondary sources (such as discharge abstracts, national surveys, and census data). In addition to these sources, we propose that data for the 2009 CHA should also include local surveys and in-depth interviews/focus groups with community members/groups. Tracking indicators allows the WRHA to identify potential problems or improvements in population health, and identifies differences between Community Areas and NCS. Qualitative data obtained from the community is necessary to contextualize and understand the trends in indicators. Effectiveness in community health assessment requires going beyond the

traditional public health indicators to find indicators that engage the public and elected officials.¹⁸ For example, while it may be observed that teenage pregnancy is increasing in certain community areas, actually talking to people living in these areas or to those providing health care will allow policy makers to understand *why* this trend has been observed. To this end, we propose that the amount of stakeholder participation in the CHA should be significantly increased. This is a model that has been successfully adopted in other RHAs. Our recommendation is that such consultation be focused by topic, or by population, rather than undertaking general or open-ended community assessment.

Focusing on Core Indicators

Data obtained from secondary sources (i.e. traditional indicators) should be reported judiciously. In June of 2006, the Community Health Assessment Indicators Review Committee (CHAIRC – a subgroup of CHAN members who deliberate over indicators) recommended reporting two hundred and twenty-five (225) indicators in four areas from the PMF. Of these 225 indicators 103 (45.7%) involve health system performance and health system infrastructure attributes. Only 48 indicators (21.3%) are well recognized as being valid (measure what they intend) and reliable (reproducible over time) proxies for measuring population health. While there is a tendency to include even more indicators so as to increase comprehensiveness, many indicators are redundant because they measure the same dimension of population health (e.g., amenable conditions, ambulatory sensitive hospitalizations, avoidable hospitalizations all measure encounters that could be avoided with earlier intervention or preventative care).¹⁹ Judicious reporting involves reporting one indicator rather than three since there is no benefit to replicating information or reporting unreliable, non-validated measures.

Indicators must also be used carefully because utilization bias can obfuscate rather than clarify patterns. For example, residents of Winnipeg have much lower rates of acute hospitalization (healthier) but make many more visits to physicians each year (a potential indicator of being less healthy) than residents outside Winnipeg.⁹ Further, it becomes difficult to determine if some residents are healthier than others as the number of indicators is increased as different indicators often point in different directions.⁵ Finally, including a plethora of indicators decreases the readability of the document – making it more difficult for clinicians, policy makers, researchers, people in the community and other WRHA partners to use. Experience with social indicators suggests that a community health profile should include a set of indicators that is limited in number so that the story is not lost in the details and that each indicator must be individually significant so as to keep the reader’s attention.² For these reasons, we propose that the number of indicators in the 2009 CHA focus on the approximately 4-5 dozen “core” indicators which are supported by population health theory and/or empirical evidence.

Methods Beyond the numbers....making the links

The 2004 CHA placed much emphasis on similarities and differences among CAs and NCs. While the document provides an excellent description of geographic variation, there is relatively little reported on the *implications* of these similarities/differences. In the next CHA, we propose that more emphasis be placed on what the observed patterns imply for health care service delivery and other opportunities for action. Again, an emphasis on trying to understand why patterns of health occur will increase the relevance and utility of the CHA for health care providers and policy makers.

A broader definition of community

We also propose that the patterns reported in the 2009 CHA should go beyond those defined by geography to include other definitions of “community” (e.g., demographic groups, users of service²⁰). While health status varies by neighbourhood, much of this spatial variation actually measures differences in poverty and other socio-demographic characteristics. Reporting health status by geography alone neglects, for example, the young, the elderly, recent immigrants, Aboriginal peoples, and people with chronic disease. Individuals identifying with these communities have shared experiences and needs that should be monitored in order to deliver the best health care possible.

While the 2004 CHA included sections discussing Children and Youth, Seniors, Immigrants, Aboriginal people, and Persons with Disabilities, much of this material was descriptive in nature. For example, the profile of Aboriginal People was limited to the review and synthesis of major reports rather than reporting any new information. Similarly, the discussion of Children and Youth reported census data and a description of hospital utilization. It was acknowledged that immigrant children, “may have special challenges”²¹ but there was no description of what these challenges might be or how the special needs of this subpopulation might be addressed. We therefore propose that the 2009 CHA include detailed analysis of special populations at risk in a way that provides useful guidance as to how these communities may be best served by the health care system.

Promoting the CHA as an ongoing process.

Because the CHA should be an ongoing process, the MCHP/CHA Oversight committee has recommended that every year the WRHA focus on one population, and one health topic of interest. This data would allow for more in-depth exploration, and would be “rolled up” into the comprehensive CHA. Such an approach will allow health status to be monitored more closely and more completely since there will be continuous input and feedback from communities over the five-year period. Not only will this produce a deeper understanding of health issues but it will allow the WRHA to develop relationships of trust and reciprocity that wouldn’t be possible with interactions that occurred once every five years. The recommendation from the committee for the coming year is that the population focus should be on Immigrants and Refugees, and the topic of Chronic Disease.

Finally, the 2009 CHA should emphasize change in health status and health issues in order to better monitor progress towards population health goals. Past CHAs in the WRHA only provide static snapshots of health status. Highlighting trends over time is a recommendation following from systematic reviews of the utility of CHAs elsewhere.

INCREASING PARTICIPATION

Dissemination and Knowledge Translation

Evidence suggests that there are seven key content areas that make a CHA document useful to a broad audience:

- the goals and purpose are clearly stated,
- the focus is on the most important aspects of the community’s health,
- comparisons are made to other communities or benchmarks,
- temporal comparisons are made,
- data is presented in meaningful subgroups,
- positive characteristics (e.g., community assets) are appropriately highlighted, and
- the process/methods are sufficiently documented.²

Other strengths of CHAs also include: use of a simple model, use of lay language, focusing on community assets rather than barriers, and focusing on specific health issues.²

Effective dissemination also requires a link between the information included in the CHA and the needs, beliefs, experiences, and skills of the intended audiences.¹⁵ Ideally the CHA should be a “circular” process – results of past CHAs should be actively disseminated for comment and interpretation. Both results and knowledge gaps should then drive organizational planning processes and ongoing community health assessment activities. These activities themselves inform future CHA research.

The 2009 CHA should include increased consultation with community members, program directors, clinicians, and patients as well as the six Community Health Advisory Councils (CHACs). Increasing community input and feedback will increase the likelihood that the CHA is relevant to all these stakeholders by analyzing issues that are important to them. It is hoped that the CHA process will assist communities in identifying and focusing attention on specific high priority issues. Further, in accordance with the logic model, discussions should be held with stakeholders *after* the primary and secondary data have been initially analyzed. These meetings will allow the WRHA to interpret and contextualize the findings as well as to communicate their significance more effectively.

Finally, many jurisdictions are now making their CHA data available through interactive web sites where interested individuals can request custom maps and data aggregations that are relevant to issues identified after publication of the main CHA document. Such an approach would increase the utility of the CHA, which was previously made available through paper copies and electronically in portable document format (.pdf).

CONCLUSION

Recent advances in the conceptualization and understanding of how community health assessment is most effectively conducted should be incorporated into the 2009 WRHA CHA. The aim of the CHA is to identify community health assets and issues, set health objectives, and monitor progress towards those objectives.

Following from the recent literature and WRHA experience with previous CHAs, there are several ways in which the CHA process could continue to be improved:

- Increase the focus on health status.
- Use community engagement strategies to develop a better understanding of community issues,
- Focus, each year, on one or two specific topics and/or populations. In 2006/07 we recommend focusing on chronic disease and recent immigrants,
- Reduce the number of “core” indicators to those with demonstrated usefulness (approximately 100),
- Increase the discussion of temporal trends in health status,
- Broaden from a strictly descriptive to an analytical approach,
- Engage the community and health providers in discussion of analytical results and employ population-specific messengers so as to maximize the use of the CHA in planning programs and interventions,
- Ensure that CHA reporting is aligned with WRHA planning and budgeting processes.
- Ensure that the CHA process builds internal capacity among WRH planners and decision makers to help support community engagement.

Conducting the 2009 CHA in a way that builds upon these recommendations will ensure that the process and document are useful for improving the health of people in the Winnipeg Region.

REFERENCES

- ¹ Population Health / Community Health Assessment. <http://home.wrha.mb.ca/research/pophealth.php>; accessed August 11, 2006.
- ² Irani P, Bohn C, Halasan C, Landen M, McCusker D. Community health assessment: driving the need for current, easily accessible population health data. *Journal of Public Health Management Practice* 2006;12(2):113-118.

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- ³ Myers SS, Stoto MA. Criteria for assessing the usefulness of community health assessments: a literature review. RAND Health. Technical Report 314. Available at: <http://www.health.state.ny.us/nysdoh/chac/usefulcha/index.htm>
- ⁴ Institute of Medicine. *The Future of Public Health*. National Academy Press, Washington, DC, 1988.
- ⁵ Health Canada, Population and Public Health Branch, Strategic Policy Directorate. *The Population Health Template: Key Elements and Actions that Define A Population Health Approach*. July 2001. Available at: http://www.phac-aspc.gc.ca/ph-sp/phdd/pdf/discussion_paper.pdf; accessed September 6, 2006.
- ⁶ Community Health Assessment Unit. *Community Health Assessment: Review of the Process*. September 1, 1998. Winnipeg: Manitoba Health.
- ⁷ Rumel D, Ceilin V, Miller B, Clark C, McGarva J, Buller L, Pall D, Tait J, Ludwig S. Health needs assessment: a guide for regional health authorities. Population Health Strategies Branch, Alberta Health and Wellness. Summer 2000. <http://www.health.gov.ab.ca/resources/publications/healthneeds.pdf>
- ⁸ Community Health Assessment Network. *Terms of Reference*. December 21, 2004. *CHA Orientation Resource Binder*. Manitoba Health. Prepared May 17, 2006
- ⁹ Cohen MM, MacWilliam L. Measuring the health of the population, *Medical Care*. 1995;33(12):DS21-DS42.
- ¹⁰ Sparling H, Dzogan S. *Community Health Assessment Indicator Working Group Terms of Reference*. January 10, 2002. Winnipeg: Manitoba Health.
- ¹¹ Strategic Management Branch, Comptrollership and Administration Sector, Industry Canada. *Performance measurement: a guide to building and using a performance measurement framework*. August 2005. page 3.
- ¹² Naylor CD, Iron K, Hand K. Measuring health system performance: problems and opportunities in the era of assessment and accountability in *Measuring Up: Improving health system performance in OECD Countries*, page 13-34. OECD, 2002. <http://kuuc.chair.ulaval.ca/url.php?I=977&f=Web&l=En>; accessed August 14, 2006.
- ¹³ Hayes MV, Dunn JR. *Population Health in Canada: A Systematic Review*. CPRN Study No. H|01|, document number 19187. Canadian Policy Research Networks Inc., 1998. <http://www.cprn.com/en/doc.cfm?doc=143#> ; accessed August 15, 2006.
- ¹⁴ Sosin DM, Thacker SB. Tools for public health assessment in the twenty-first century. *Journal of Public Health Management Practice* 2002;8(4):vi-vii.
- ¹⁵ Manitoba Health. *Community Health Needs Assessment Guidelines*. Manitoba Health Library Services. <http://www.gov.mb.ca/health/rha/chnag.pdf>; accessed August 14, 2006. Page 17.
- ¹⁶ Sharm, Ravi K. "Putting the Community Back in Community Health Assessment: A Process and Outcome Approach with a Review of Some Major Issues for Public Health Professionals". *Journal of Health and Social Policy* 2003;16(3):19-33.
- ¹⁷ Byrne C, Crucetti JB, Medvesky MG, Miller MD, Pirani SJ, Irani PR. The process to develop a meaningful community health assessment in New York State. *Journal of Public Health Management Practice* 2002;8(4):45-53.
- ¹⁸ Clegg & Associates, Inc. *Assessment in Action: Improving Community Health Assessment Practice*. Washington State Department of Health. July 2003. <http://www.doh.wa.gov/EHSPHL/AIA/chapeval.htm>; accessed August 15, 2006.

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- ¹⁹ Cohen MM, MacWilliam L. *Population health: health status indicators. Volume 1: key findings*. Manitoba Centre for Health Policy and Evaluation, Department of Community Health Sciences, Faculty of Medicine, University of Manitoba. January 1994.
- ²⁰ WRHA. *Community Development and Public Participation*. May 2004.
http://www.wrha.mb.ca/community/commdev/files/CommDev_Framework_04.pdf
- ²¹ Population Health & Health System Analysis, Winnipeg Regional Health Authority. *Community Health Assessment Report 2004. Volume II – Population Health Profiles, Children & Youth*. 2004. Winnipeg. Available at: <http://www.wrha.mb.ca/howcare/cha/files/Vol2/ChildrenYouth.pdf>; accessed August 21, 2006.