

MODULE
2

Information Management

A System We Can Count On

Assessing Need

The Health Planner's Toolkit

Health System Intelligence Project – 2006

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The Health System Intelligence Project (HSIP)

The *Health Planning Toolkit* is produced by the Health System Intelligence Project. HSIP consists of a team of health system experts retained by the Ministry of Health and Long-Term Care's Health Results Team for Information Management (HRT-IM) to provide the Local Health Integration Networks (LHINs) with:

- sophisticated data analysis
- interpretation of results
- orientation of new staff to health system data analysis issues
- training on new techniques and technologies pertaining to health system analysis.

The Health Results Team for Information Management created the Health System Intelligence Project to complement and augment the existing analytical capacity within the Ministry of Health and Long-Term Care. The project team is working in concert with Ministry analysts to ensure that LHINs are provided with the analytic supports they need for their local health system planning activities.

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The Planner's Challenge

Yasmin, a LHIN planner, has been given responsibility for planning and carrying out an assessment of the needs of people living with mental illness in a small city within the LHIN's area. When Yasmin began discussing the preliminaries of the assessment with colleagues within and beyond the LHIN, she discovered that:

- nobody seems to agree on what a “need” is
- nobody seems to agree on the scope of “mental health”
- nobody seems to agree on who should be involved in the needs assessment
- nobody seems to agree on the specific steps involved in the assessment.

Despite conflicting advice, Yasmin knows that assessment of needs must go ahead. It is the precursor to other planning steps necessary to ensure people living with mental health problems are well served in the community.

Yasmin believes that each person who offered her advice has a grain of truth in their advice. So what does she do?

This module is meant to help Yasmin and other readers who are involved in, or effected by, assessment of health needs. The module does not give Yasmin all the right answers (because sometimes there are no right answers). Instead, this module is meant to help Yasmin and others to ask the right questions.

“The opposite of a correct statement is a false statement. But the opposite of a profound truth may well be another profound truth.”

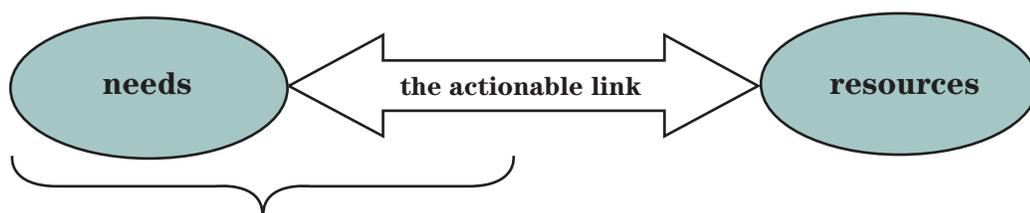
– Niels Bohr

Module's Purpose and Summary

This module provides an overview of health needs assessment (HNA) and helps readers understand the choices involved in defining and identifying health needs. It outlines practical methods used in needs-based resource allocation, while also identifying complex issues that underlie these methods – issues that relate to the most critical of questions: “who gets what”.

Module 1 (**The Planning Process**) defined the primary accountability of an effective health planning process as “*an actionable link between needs and resources*”. Module 2 will help planners deal with an initial and crucial part of this process, as illustrated in Figure 1.

Figure 1: Needs Assessment and the Actionable Link

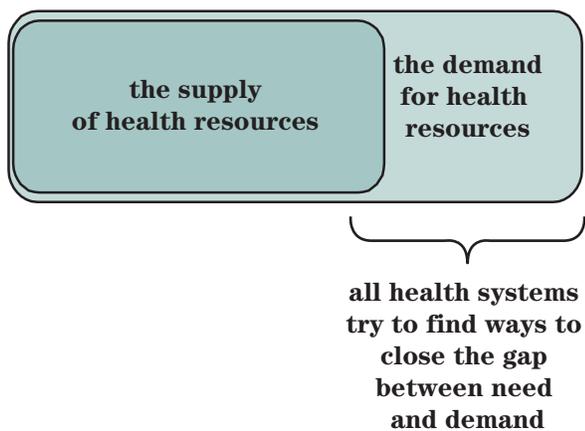


needs assessment helps a planning process to define needs, and helps to create the actionable link with resources

The Context: Private and Public Visions

The resources available for health – services, providers, products, finances – are limited compared with demand. All health systems find ways to ration or allocate these limited health resources. The challenge can be shown in simple terms:

Figure 2: The Demand-Supply Challenge



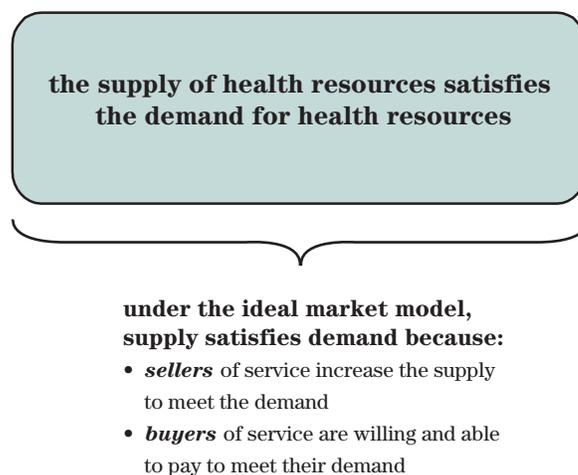
The Market Model and the Social Model

One common way by which to ration resources is through consumer markets:

- People who want a health service will express their want through demand (willingness-to-pay for the service).
- Under ideal market conditions, providers will supply the service for a price.

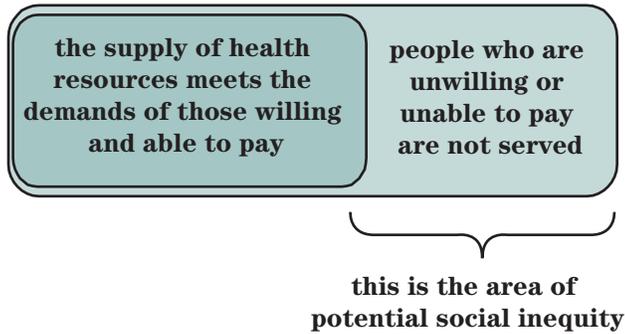
There are both ideal and actual versions of this market model:

Figure 3: The Ideal Market Model



The price is the means by which services will be rationed: consumers able and/or willing to pay will be the ones who receive the service. But a number of well-recognised features of health inhibit the development of an ideal market. These factors produce the actual market model, which may have social inequities built into it.

Figure 4: The Actual Market Model



Social inequity may result, but does not inevitably result, from the market model's emphasis on ability to pay. For instance:

- Under the market model, an athlete might want surgery to extend her toes so she can get more quickly out of the starter's block at the beginning of races. She may not be able to pay for the surgery, but few would consider it a social inequity that she is unable to get the surgery done: her "need" for surgery has a low social value.

- Also under the market model, a child may need major surgery to correct a heart defect. Failure to correct the problem will lead to the child's death, but the child's family cannot afford the surgery. Most of us would consider it a social inequity if the child cannot get the surgery done: her "need" for surgery has a high social value.

As a result of market imperfections, including the possibility of inequitable results, societies intervene to varying degrees to ensure that health resources are not solely rationed by the ability of individuals to pay for them:

- Societies near the "market model" end of the spectrum often make provision for those who cannot afford to pay for socially high value services.

But most societies also allow the market model to exist.

- Societies near the "social model" end of the spectrum still make provision for the market model to prevail for services that have a low social priority (toe enhancement for instance).

What is Health Needs Assessment?

The rest of this module focuses on assessing need within a social model that has features of the market model as well. This is the mixed model (but weighted toward the social model) that exists in Canada.

If health resources are not going to be allocated by markets, other means of allocation must be used. Public health systems have several potential approaches for resource allocation. These include:

1. approaches based on the concept of meeting the needs of the population
2. economic approaches that identify the most efficient allocation of resources to maximise health benefits or other social benefits
3. approaches that ration health care by age
4. approaches that resolve allocation disputes through debate and bargaining.¹

Underlying most approaches to allocation of resources in public health systems is the idea that health care should be allocated equitably based on the needs of the

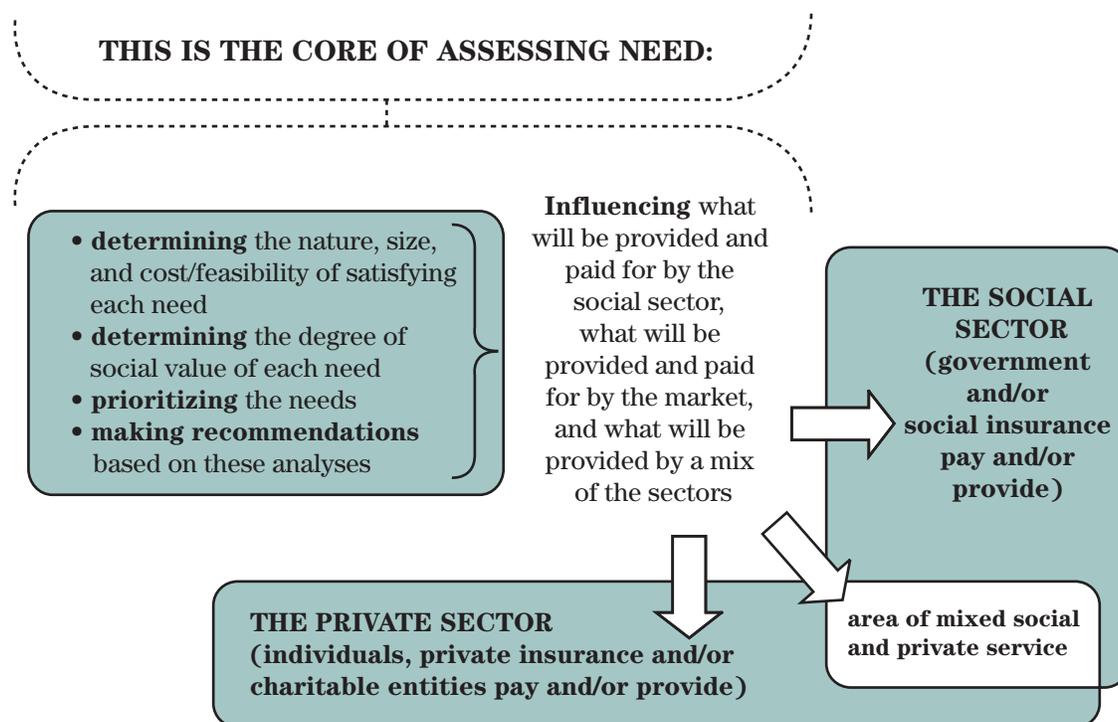
population. That health care allocated on the basis of need rather than on the ability to pay is fundamental to publicly insured health services in Canada.

Within the social model of publicly insured health services, needs assessment is crucial for two reasons:

- Public funds are used to underwrite much of the cost of the model. Citizens increasingly expect demonstrable value for money when the public purse pays for services, and health needs assessment tries to both discover and demonstrate value for money.
- Key features of the public model inevitably constrain some of the freedom found in the free market model: sellers cannot sell everything they want within the public arena, nor can buyers buy everything they want. Needs assessment, then, is a tool for helping ensure that people are free to provide and receive the most crucial services, and for helping the public sector to decide what is most important to fund.

Under this model, assessing needs looks like Figure 5.

Figure 5: The Nature and Effects of Assessing Needs



If consumer demand is not going to be the means by which health resources are distributed, then defining and identifying health needs will be essential for priority setting, resource allocation and policy development – particularly in the social model since, unlike the private model, it does not presuppose ever-expanding supply if unlimited demand occurs.

Much work has been conducted in health needs assessment (HNA), a systematic process for allocating resources on the basis of need. This process includes:

- describing the extent of health needs
- describing existing services to address the needs
- evaluating the evidence base for services and identifying best practices
- setting priorities among various needs
- recommending new programs and/or change in existing programs to address the priorities.

The concepts and practices of health needs assessment have been discussed for many years,^{2,3,4,5} even though health resource allocation continued to be based largely on patterns of past service provision and utilisation.⁴ As responsibility for managing the delivery of health

“A health needs assessment identifies and measures the health status of a population of a Regional Health Authority. It examines the way health services are used, what health services are needed, and the ability of the region to respond to those needs. It also measures the various environmental and behavioural influences on health and well-being in communities and the region as a whole. It is an ongoing process that incorporates a wide range of information and analysis that can be used for a variety of purposes”.

From: *Health Needs Assessment: A Guide for Regional Authorities*. Alberta Health and Wellness, 2000; p.8

services has devolved to regional authorities in Canada and elsewhere, health needs assessment has emerged as a way to help avoid the trap of merely projecting the past into the future. Nonetheless, despite the processes and tools that exist and the new prominence of health needs assessment, there are still choices to be made about the type of process, the scope, the concepts and

Figure 6: The Three Dimensions of Health Needs Assessment

Health Needs Assessment (HNA) is:

a technical act, because it uses analytical tools and technologies to generate and evaluate evidence

a social act, because it engages citizens and provider communities in the decision-making process

an ethical act, because it deals with issues of the worth of health and life, and issues of societal fairness

the indicators for each health needs assessment. The next sections of this module set out and discuss these choices. Detailed practical guidance for the needs assessment process can be found in workbooks created for various health planning authorities (see Appendix A).

As other sections of this module demonstrate, health needs assessment is not merely a technical act. Because it is conducted in the sphere of social activity and because it engages a number of people in the assessment process, it is also a social act. And because it must take into account ethical issues such as the worth of human life and health, and principles of fairness in distributing social goods, it is also an ethical act.

All three dimensions – ethical, social and technical – will be addressed throughout this module.

1.1 Skills and Techniques

The skills involved in health needs assessment are not a world apart from skills normally associated with planning (since, after all, assessing needs is one major component within the overall planning process).

The skills and techniques needed to conduct a health needs assessment include:

- **Project management:** To ensure that the assessment of needs is carried out thoroughly but efficiently and on time. Other steps in the planning process will depend on the needs assessment meeting its time and quality targets.
- **Information collection and analysis:** Module 3 (**Evidence Based Planning**) contains useful information on information collection and analysis.
- **Community engagement:** Because community insight and concurrence are important for identifying and understanding need. Module 5 (**Community Engagement and Communication**) provides suggestions on engaging communities.

1.2 The Nine Core Steps

A health needs assessment comprises nine core steps that may differ in their particulars but that all contribute to identifying need:

1. **Step One:** Decide what information you need
2. **Step Two:** Review existing health information
3. **Step Three:** Collect the data
4. **Step Four:** Analyse the data to identify community health needs
5. **Step Five:** Assess needs and possible solutions
6. **Step Six:** Select priorities among the needs identified
7. **Step Seven:** “Reality check” with community members
8. **Step Eight:** Integrate into the regional health plan
9. **Step Nine:** Plan for ongoing monitoring and assessment and evaluation

1.3 The Five Start-up Activities

The steps are nested within five start-up activities that shape how the steps will be applied:

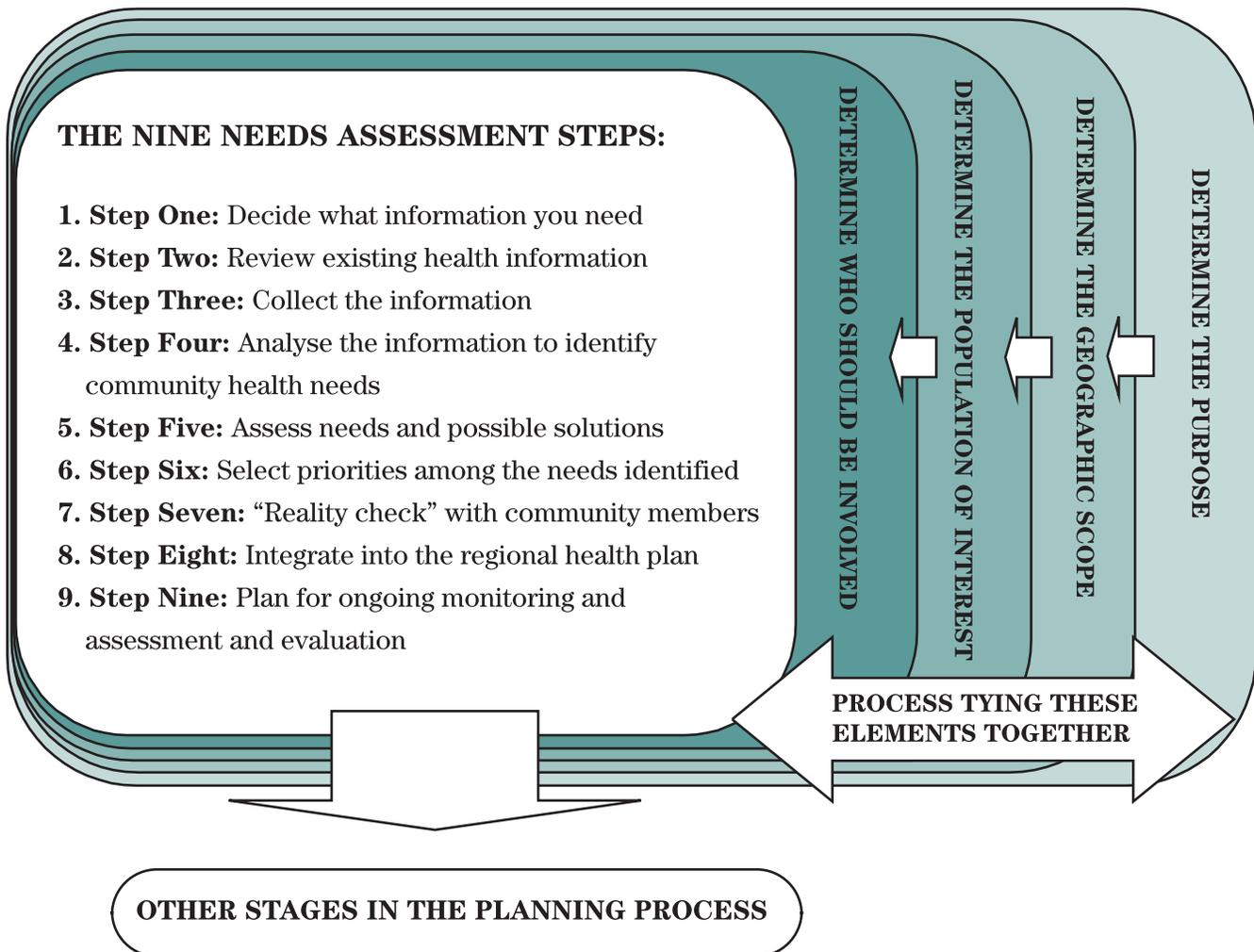
1. **Determining the purpose** of the health needs assessment
2. **Determining the geography** to be covered by the assessment
3. **Determining the population of interest** to be covered by the assessment
4. **Determining the stakeholders** who should be involved in the assessment
5. **Establishing a process** to connect and manage these four other activities and the nine core steps.

The connections among these components can be shown graphically (see Figure 7).

Health needs assessors should work closely with partners in the larger planning process to ensure the identified health needs are monitored and to evaluate progress in meeting those needs. A common reason for lack of success in health needs assessments has been the failure to integrate the results with planning and funding to ensure change: *“Needs assessments that do not include sufficient attention to implementation will become little more than academic or public relations exercises.”*⁶

As well, evaluation of the activities, products and outcomes of the health needs assessment itself allows participants to identify strengths and areas for improvement and measures the level of internal and external stakeholder satisfaction with its processes and outcomes.

Figure 7: Steps and Activities in Health Needs Assessment



1.3.1 Start-Up: Establishing the Process

Any health needs assessment must establish a process to ensure the assessment is conducted within available time and resources. Determining the basics of a process is necessary near the beginning of an assessment, but will likely require adjustment as the assessment unfolds and as choices about purpose, geographic scope, population of interest, stakeholder involvement, information-gathering scope, and information-gathering tools are made.

As indicated in section 1.3.5, a multi-stakeholder team may be useful in defining the assessment's purpose. If created at the project's start, this team may also be useful in helping to develop, or commenting on, the assessment process.

1.3.2 Start-Up: Determining the Purpose

The purpose of the health needs assessment should be clear and accompanied by a statement of objectives.

When framing the purpose, choices will have to be made about the theories and concepts of health to be used during the assessment and about a range of practical, ethical and political issues that may be controversial. Accordingly, it is useful if a multi-stakeholder team oversees development of the purpose, to allow differing perspectives to be aired and reconciled. This group can then become the body that:

- oversees the entire assessment;
- and/or is convened at key points during the assessment to review progress and findings.

1.3.3 Start-Up: Choosing Geographic Boundaries

Health needs assessments can be carried out at various levels: international; national; provincial; regional; by institution or service; neighbourhood; and individual.⁷

An initial choice, then, is to decide the geographic scope and boundaries of the assessment.

There are two dimensions to geographic scope:

1. The level of geography whose standards and policies will be used in carrying out the assessment. For instance, national standards rather than provincial ones may be chosen as the focus.
2. The geographical boundaries of the actual assessment. For instance, a large city or a rural and small town area might be chosen.

It is not a paradox, then, for a choice to be made to apply national standards to a much smaller area than the whole nation.

Most basic is the question of what geographic area “makes sense” for health planning. The geographic boundaries appropriate for planning community-based primary care will differ from those for tertiary care, yet will influence, for example, questions of service integration: what should be the relationship between services that serve the immediate geographic area with those with national or even international scope? At the local level, readily available sets of boundaries such as aggregations of census tracts may misrepresent socially relevant communities formed around focal points of residence and service provision. Studies of neighbourhood influences on health, for example, have been criticised for using arbitrary geostatistical units (for example, Census Tracts or Postal Code Districts) rather than “naturally” defined neighbourhoods.⁸

Commonly the boundaries of a planning area and the geographic boundaries within which health data are collected do not match. There are also issues of who should define the geographic area, ranging from:

- a bottom-up approach involving consumers and community groups
- to a top-down approach driven at the regional or provincial level by senior managers.^{9, 10}

For regional health planning, boundaries may already have been established by the province, but that makes them no less important for the practicalities of assessing health needs.

Examples of Geographic Scope

International: By the World Health Organization.

National: A number of countries have developed and implemented health goals since the late 1980s, including the United States, the United Kingdom, Sweden and the Netherlands.¹¹ Healthy People 2010 in the United States, for example, addresses what are considered the most significant preventable threats to health and establishes national goals to reduce these threats.¹²

In 2005, Canada initiated a health goals process, intended to provide a framework that enables all levels of government to align their individual and collective efforts on public health.¹³ However, the actual application of the goals through needs assessment will ultimately be at a more local level.

But not everything is local. Provincial or regional health needs assessments could identify priorities in the context of the overarching national health goals. For example, the United Kingdom's government has set as a national priority the reduction of health inequalities within the population, and regional as well as local health needs assessments are considered vital tools to meet this objective.¹⁴

Provincial: At the provincial level, for example, Ontario has successfully addressed the need for advanced cardiac care through the Cardiac Care Network of Ontario.¹⁵ The provincial level may also be the most appropriate for addressing needs derived from the broader determinants of health. Many income support programs, for example, are provincial responsibilities, although need for such support has distinctly regional characteristics (northern compared to southern Ontario, for instance).

Regional health authority or board level: Ontario's Local Health Integration Networks (LHINs), like regional authorities in other provinces, are designed to plan, integrate and fund health services including hospitals, community care access centres, home care, long-term care, and addictions and mental health services, within a specific geographic area. LHINs will determine the health care priorities and services required in their communities. They will begin by engaging community and health care providers in identifying needs, setting priorities and planning health services in their area. LHINs will then support local service coordination and systems integration, and eventually provide funding and allocate resources.¹⁶ While the ultimate source of funding to address area needs may be the province, the responsibility for assessing local area needs will lie with LHINs.

Organizational: Health service organisations may conduct needs assessments in the context of their own planning processes. Their geographic catchment areas may overlap with other community or service boundaries.

Service/population specific: A single piece of needs assessment work may be worthwhile in the context of a larger organizational needs assessment or when a service (or service cluster) is relatively prominent in an area of particular need. In the context of a broader needs assessment conducted by a community health centre (CHC), it may be found that a more focused assessment of need is required for specific sub-groups in the CHC's community, such as youth, seniors or new immigrants. Or, for example, in a disadvantaged area where mental health and addiction services already make up much of the total service array, a separate and distinct mental health/addictions needs assessment may be warranted in order to tailor the services most appropriately.

Small neighbourhood: Some health services have a group of patients who live in a well-defined area. Such an area can be targeted for needs assessment and may be an appropriate scale for service delivery.

Individual: Patient needs assessments are used daily in consultations by health care practitioners.

In general, higher level assessments provide context for more local assessments. Even international perspectives are increasingly relevant for local assessments because health needs in some localities may have their origins in other countries. Certainly health resource allocation decisions at higher levels will frame and constrain those at lower levels, restricting the range of needs that can be served and requiring that priorities be set.¹⁷

Conflicts may arise among needs and priorities identified at different levels, however:

- In Canada, the relationship between national and more local priorities is complicated by federal/provincial jurisdictional responsibilities.
- The most common complaints presented by patients, such as stress, arthritis, and dyspepsia, may not be identified as national priorities.
- Neighbourhood activists with a determinants of health perspective may identify broader social and economic needs as the root causes of health care needs and may advocate that priority be given to root causes rather than “band-aid” health care solutions.
- Clinically oriented stakeholders on the other hand may argue that priority be given to immediate health care needs.
- Specific services will vie for attention within a larger institution, sometimes on the basis of historical patterns of utilisation rather than on anticipated needs.
- The traditionally individualistic focus of health care practitioners may be difficult to reconcile with the broader priorities of decision makers who must attend to the health needs of the whole population of a given area.

The choices and tensions in health needs assessment become real in the relationships among levels of needs assessment, definitions of needs at different levels, competing priorities among them, and consequent resource allocation.

1.3.4 Start-Up: Identifying the Population of Interest

The population for a health needs assessment might be identified as people sharing:

- a **geographic location** – living in a region, neighbourhood or catchment area
- a **setting** – school, workplace, prison or hospital
- a **social experience** – age, ethnicity, homelessness; or
- a **health condition** – a disease, a mental illness, a physical or developmental disability, or a risk factor.

Health needs assessments often define populations through a combination of main and sub-categories, such as “older people living in a deprived neighbourhood and recovering from a stroke”.¹⁸ LHIN area health needs assessments might examine health needs for the general population in their area, but in that context they may also include sub-populations such as new immigrants and their families in specific urban neighbourhoods.

1.3.5 Start-Up: Examining who Should be Involved

Two dimensions of involvement are important for health needs assessments:

1. Deciding who needs to be involved in design, management and oversight of the assessment.
2. Determining who needs to be involved as stakeholders to provide knowledge, opinions and insights as raw material for the assessment. This group will likely be larger and more varied than those involved in design, management and oversight.

Resolving disagreements over “needs” requires a deliberative process that incorporates the public as well as experts and health practitioners. Health needs assessment is a form of “procedural rationality” for decision-making under conditions in which there may be:

- multiple demands
- but no obviously right answer.

Consistent with procedural rationality, health needs assessors should have the most representative and pertinent expertise relevant to their assessments.^{19, 20} Participation of members of the broader community, such as consumer or advocacy groups, may be recommended. Roy Romanow's Commission on the Future of Health Care in Canada, for example, consulted with health professionals, experts, and the public to identify Canadians' values and priorities. Strengthened community involvement in decision-making, and improved partnership, are reported as outcomes of community participation in health needs assessments.¹⁸

Choices and processes for community engagement and participatory decision-making are discussed in Module 5 (**Community Engagement and Communication**).

These choices – process, purpose, stakeholders, geographic scope, population of interest, and who to involve as participants – interact and help to define each other. Any of these choices will set parameters that influence available choices in the other areas. A narrower geographic scope may have a more homogenous population of interest, for example, requiring fewer stakeholders. On the other hand, choosing to include a wide range of stakeholders may bring a similarly wide range of views to the decision table, resulting in multiple perspectives on relevant populations, geographic scope and needs.

Health Needs Assessment Choices: Concepts and Their Values

While difficult process decisions must be made (regarding who should be involved in the needs assessment for instance), conceptual and value choices must also be made in the substance of the health needs assessment.

Early steps in the health needs assessment process will decide its scope and purpose and the type of information desired. The outcomes of these steps will be determined by theoretical perspectives as well as practical information availability. Choices must be made regarding the definition of health need to be used, the theory of health to follow and the indicators by which health needs will be measured.

“Photography implies that we know all about the world if we accept it as the camera records it. But this is the opposite of understanding, which starts from not accepting the world as it looks.”

Susan Sontag, On Photography, 1973

2.1 What is “Need”?

If health resources are to be distributed according to need, a way of defining “health need” must be found. But “need” is an ambiguous concept, defined in many ways. The following types of need have been proposed²¹:

Felt need is the subjective experience of need, a need seen as important by the person concerned. Felt need is the basis of, but may or may not translate into, expressed need.

Expressed need is vocalised needs or how people use services, often referred to as demand for (or utilisation of) service.

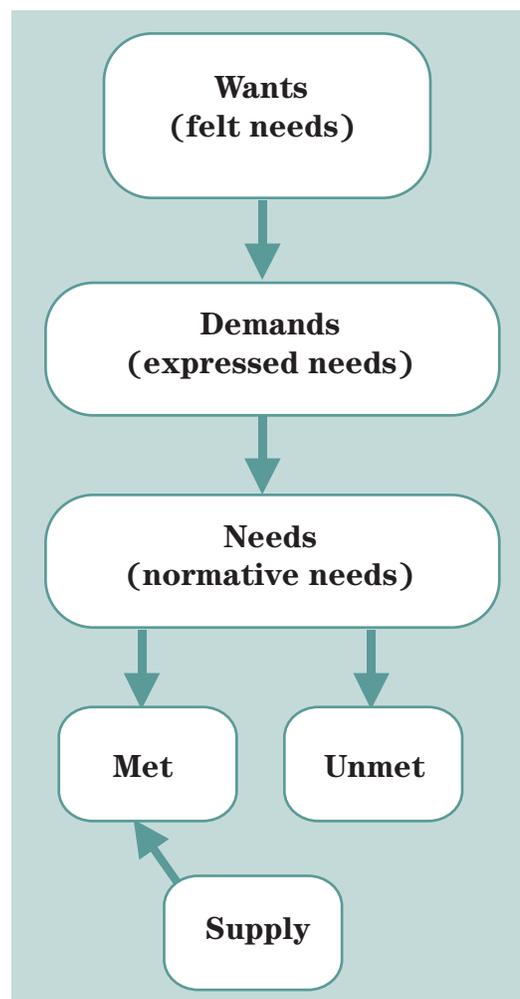
Normative need is typically defined by experts and professionals. Regarding health, this is usually

expressed in terms of acceptable minimum and maximum population health status and/or levels of service provision.

Met and unmet need: Needs thus can be met or unmet in various ways: felt needs may or may not be expressed; demand may or may not be satisfied.

The norms of need may or may not be similar across populations or regions. A community might define its own notion of health need, then assess its resource requirements on that basis, but comparative need often substitutes as a gauge of unmet need in the absence of an absolute standard.

Figure 8: Wants and Needs



Comparative need is determined by comparing populations based on certain indicators; it is underpinned by the concept of equal allocation of resources. If nothing else is known about the optimum level of health (and therefore need in relation to that level), there is at least reason for investigation if levels differ markedly among different populations. Similarly, with respect to the services received by the population in one area compared to those received in other areas, if nothing else is known about the optimum service to be provided, there is at least reason for investigation if the level of service differs markedly from that provided elsewhere.²²

Supply is the health resources provided. Their size and range depend on the definition of need and the interests of health professionals, the priorities of government and communities, and the amount of money available.

While felt or subjective need may be legitimate grounds for personal motivation, it is not the basis for allocating health resources. People's subjective experience of need will be the origin of their expressed need, but the subjective expression of need can become endless. Subjective needs may also be "irrational" or socially unacceptable. Especially with respect to public services, a society could never reasonably expect to meet all possible needs, least of all irrational or unacceptable ones.⁴

Some economists argue that the concept of demand (expressed need) does all the theoretical work of the idea of "need", that any notion of "real" need more fundamental than demand is superfluous. The advantage of the economic model in health planning is that it considers both the population and the provider perspective. The demand can be thought of as the health need of the population, while the supply is the provision of health resources. In theory, economic markets balance demand with supply. Under an ideal market system, expressed need or demand would be a sufficient basis on which to provide or distribute health resources.

Health care markets, however, are characterised by "market failure": the conditions for the ideal market do not hold. People may have legitimate needs that they do not express as demands, for example. People may not have the money to satisfy their needs or they may not know what they need for the purposes of their health. As well, the economic definition of demand, as "*a desire for a good or service, accompanied by the means to pay for it*"²³ confuses the distinction drawn earlier that, for the purposes of equity, health resources should be available on the basis of need rather than ability to pay. Finally, even authors who advocate economic models to analyse and plan public services contrast "rational" and "irrational" demands, using "needs" as shorthand for rational demands in contrast to mere "wants" and/or irrational demands.²³

This presents a dilemma for needs-based health system planning:

- On the one hand, responding to public demand would increase both the scope of health resources – for example, alternative and complementary therapies would probably be included in the health system – and the total cost.
- On the other hand, a stricter definition of health needs could evoke hostile reactions from those whose demands are not being met.

International experience shows that demand (market) based health systems are more costly because demand for health care seems open-ended and market provision of health services is more expensive.²⁴ However, systems that are strictly and rationally "needs-based" but unresponsive to public demands are unlikely to enjoy continued public support. In practice, a balance is sought: each of the types of need listed above has been taken into consideration when planning for resource allocation; that is, a population's expressed and/or felt needs, along with its comparative needs, are often taken into account when normative assessments are made.

2.2 Distinguishing “Real” Needs

Taking into consideration these ideas about need when assessing health need does not resolve the problem of how to balance them. If health need is to determine the distribution of health resources, rational and responsive health planning still requires a definition of legitimate or real need to guide resource distribution.

To distinguish “real needs” from felt needs or “wants”, philosophers appeal to fundamental concepts. At its roots, need is defined instrumentally, i.e. as a need *for something*. Needs are defined in relation to some goal. The urgency and/or moral status of the needs flow from the urgency and/or moral status of the goals. A “want”, therefore, does not have the same weight as a “need” because the want is not as ethically compelling as the need. Need in this sense is used when talking about basic human needs: these are needs that people require in order to avoid serious harm, serious harm entailing the inability to flourish as a human being, whatever this might mean culturally for any individual.¹⁹ Harm will befall a person if his or her needs are not met. Health itself, simply in terms of survival and physical health, is considered the first basic human need, without which no other valued human ends can be achieved.^{25, 26} Specific health needs then are ancillary to the basic human health need. They are therefore subject to ethical claims: more specific health needs must be met in order that the basic human need of health be met.

But in practice there can be fundamental disagreements about what are health needs and which ones are more imperative than others. Need is both relative and graduated since health is also relative and graduated. Health is variable in terms of functioning, experience of pain, longevity and quality, and is at least in part culturally determined.²⁷

While the notion of health as a basic human need implies that it is an objective condition, and thus that health needs themselves will be objectively defined, health needs, and the ethical claims they support, are open to interpretation, partly because there are differing scientific and cultural theories of health and what is needed to promote it:

- To what kind of health do people have a right? Physical health? Mental health? Social health?
- What health needs must therefore ethically be met? Biomedical health needs? Social health needs?

Different notions of health will have different implications for the definition of health needs and for the ethical obligations of planners/providers. The possible range of interpretation suggests that explicit decisions will have to be made about which definition of real health needs will guide health planning.

2.3 What is a Health Need?

If health resources are to be distributed on the basis of need, then defining “health need” is essential.

The previous discussion presented definitions of need in general, pointing out the challenge of attaining a balance among them. For health planning, however, general definitions of need must be translated into specific definitions of health need. Familiarity with different ways by which health need has been defined will help planners and decision-makers to clarify their health planning goals, anticipate conflicts among them and make informed choices.

The rest of this section explores four major ways of defining health need and analyses each of the four ways.

2.3.1 Health Need as Medical Necessity

The *Canada Health Act* sets the terms that provinces must meet in order to receive funding for hospital and doctor’s services. The Act uses the term “medically necessary” to identify services that must be funded by the provincial health insurance plans. The Act says that to receive federal funding for health care, provinces must pay for all hospital services that are “medically necessary” as well as doctor’s services that are “medically required.” When a service provided to a patient is medically necessary it is fully funded by public health insurance and delivered based on the patient’s need, not on the patient’s ability to pay. If a service is deemed unnecessary, however, patients must pay for it directly. The idea is to have need, not want or

“demand”, determine what the health care system provides. Although medical need is the main criterion by which medical services are publicly funded, and thereby a possible guide to deciding about health care needs more generally, it is not defined in the Act.²⁸

In the absence of an explicit definition of medical necessity in the Act, a common implicit definition has become “what physicians and hospitals do”.²⁹

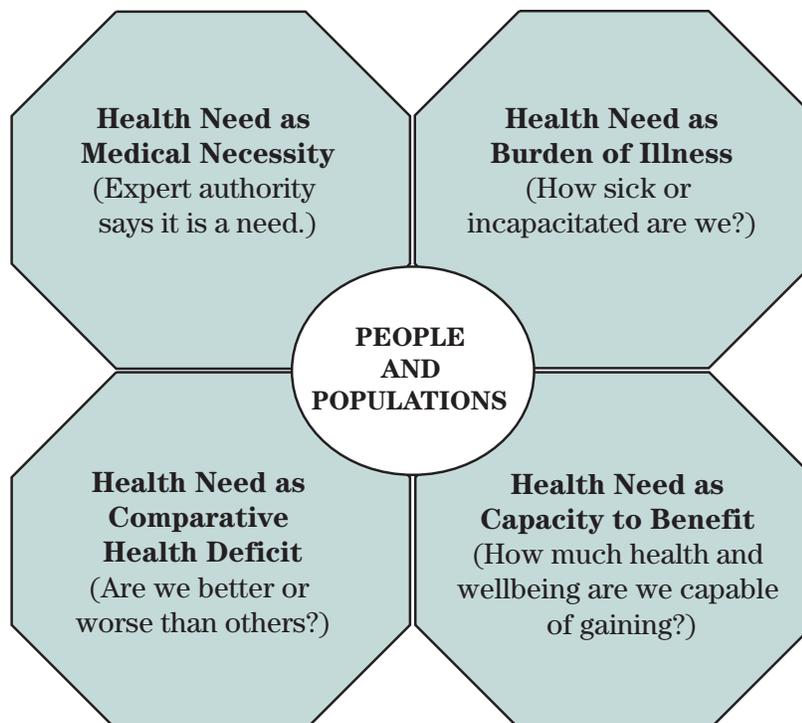
As noted above, however, people’s needs may never show up in medical services. People may not recognise that they have a health problem or they may believe that they cannot be helped by medical care, so their needs will not be expressed. Other groups such as homeless people and people with chronic mental illness may have medical needs but may not seek care,⁶ while the largest burden of illness in the community – chronic diseases and conditions – may not be well-served by existing medical services.³⁰ The *Canada Health Act’s* version of medical necessity is therefore not a good model for defining health need. It perpetuates current practices rather than shaping practices to meet expected needs.

2.3.2 Health Need as Burden of Illness

When thinking about health needs, it is natural to consider how big the health problems are. The burden of illness or disease concept is based on the idea that health need is related to the magnitude of the health problem. The World Health Organization (WHO) uses a burden of disease measure to gauge the size of population health problems and as an indicator of health system performance: health systems that perform well will minimise the burden of disease as efficiently as possible.³¹

The notion of burden of disease is called a “summary measure” because it represents the overall health status of a population in a single figure. Life expectancy is another common summary measure, and life expectancy comparisons provide a very general gauge of health status and health need among different populations. Measures of disease burden allow a finer discrimination among health needs: overall disease burden is estimated by aggregating all burdens measured for individual diseases, so individual diseases may also be ranked by relative size of burden.

Figure 9: Definitions of Health Needs



Prevalence and incidence of disease are measures of disease frequency commonly used in needs assessment as indicators of disease burden:²²

- The **prevalence** of a disease is the proportion of a population that has a disease or illness at a specific point in time.
- The **incidence** of a disease is the rate at which new cases occur in a population during a specified period; the mortality rate in fact is the incidence of death, mortality from specific conditions being the incidence of death from those conditions.³² (See Section 3.2, *Mortality Measures*).

Prevalence and incidence measures serve different purposes:

- Prevalence measures are important for planning current curative and rehabilitative services, while incidence-based measures are more relevant to the planning of prevention activities.³³
- Prevalence is particularly important when the duration of disease is long, for example, asthma, diabetes, or multiple sclerosis, implying ongoing need for services.³⁴ Incidence is an important gauge for diseases or conditions that are of short duration (such as many communicable diseases) or for those for which a substantial amount of the healthcare input occurs shortly after diagnosis (myocardial infarction for example).

However, these measures of disease frequency do not completely measure disease burden. Other choices will have to be made beyond incidence or prevalence to convey the “weight” of the burden of ill health in a population. What is the burden, for instance, of a relatively uncommon condition that causes great individual suffering and/or certain death, compared to a common but less severe condition? Prevalence and incidence represent the number of afflicted people and the number of deaths caused by the disease, but burden is also expressed in measures such as reduced life expectancy, disability, severity of disease, loss of quality of life and the economic impact of disease. All these measures incorporate not only the number of events, but also some other, qualitative sense of their significance.

As used internationally, the burden of disease concept incorporates:

- personal health experience (which is qualitative)
- and disease frequency (which is quantitative).

As a gauge of health need, burden of disease has the advantage of incorporating many dimensions of health experience, not only mortality but premature mortality and morbidity or disability as well. Several measures of disease burden have been developed, however, among which health planners will have to choose. Quality-adjusted life years commonly used in cost effectiveness analysis, disability-adjusted life years (DALYs), used in the WHO’s Global Burden of Disease estimates, and health-adjusted life years (HALYs), used in Canada to estimate summary measures of health for some 200 diseases,³⁵ are examples of summary measures to represent disease burden.

All such measures of health involve social value choices. Quality-adjusted life years (QALYs) for example, look at a health intervention by examining:

- how many years of life an intervention will add to the life of a person experiencing a health problem
- the value of each life year before the intervention, expressed on a scale on which “1” represents perfect life quality (a score of 0.3, for instance would represent relatively low quality), and the added value of each year of life after the intervention.

A person could undergo an intervention that adds no additional years to life, but that adds quality to each remaining year of life so that it increases from, say, a pre-intervention score of 0.4 to 0.6 per year (it could well be in this example, for instance, that the intervention might have increased quality to 0.8, except that the intervention has side effects that in turn reduce the quality from 0.8 to 0.6).

The basic question that underlies QALYs (and similar tools) is: “Who defines quality, or level of disability, or health improvement?” While survey tools have in turn been developed that attempt to gauge how a population

itself evaluates things like health, disability and quality of life, the tools themselves demonstrate that establishing a measure involves making a social choice about value. Accordingly, choosing among the measures is tantamount to choosing among values.

Other value choices involved in measuring burden include such things as:

- whether lost years of healthy life are valued more at some ages than others,³⁶
- the “weight” assigned to years lived with different diseases and disabilities.

As an example of value related to age, consider before what age a death should be judged premature. The age standard for premature mortality has varied historically and internationally. The World Health Report (WHR) 2000 defined life expectancy at birth as 82.5 years for women, and 80 years for men, the average life expectancy of the Japanese, who at present have the world’s longest overall life expectancy. The World Health Report chose these life expectancies on equity grounds, arguing that all nations should be able to obtain the survival results of the most successful.³⁷ Great swaths of health need thus can be added or removed simply by taking premature death to be any death before the age of 80 or before the age of 65.

Premature mortality in Canada is defined as any death before age 75. This definition makes a more or less explicit choice, implying that someone who dies after age 75 does not count in the same way as someone who dies before.³⁸

Similar to determining scales for quality of life or quality of disability, some tools involve scales meant to determine the weight or value of time spent in a specific state of health. Some of these measures incorporate an arbitrary threshold below which the value of the health state is zero (i.e. equivalent to death) and above which the value is one (i.e. equivalent to full health). Such valuations make the measures very sensitive to variation in the arbitrary threshold definition, compromising their usefulness.

Other measures allow, in principle, continuous valuations of health states from 0 to 1, although how the values are decided is still an issue (see the HALE – health-adjusted life expectancy – example described in Section 3.3). For measures that incorporate continuous valuations, approaches to health state valuation can be distinguished further on the basis of:

- the persons whose values are used
- the type of valuation question that is used
- the manner of describing the health states to be valued
- the range of health states – from mild to severe – valued at the same time
- the combination of valuation questions
- more generally, the type of deliberative process undertaken, if any.³³

Severity, for instance, is an element of the weight of disease: more severe disease is a “bigger” burden than less severe conditions. Yet severity is open to different interpretations. Whether a disease is fatal or likely to lead to permanent disability is one aspect, but severity also includes:

- the level of pain or current disability
- the urgency of treatment demands
- the extent to which the disease can be treated in the first place.³⁹

The severity of the disease thus turns out to be a multifaceted concept, another choice that must be defined if measures of health need are to be transparent.

The merits of each choice are debated extensively in health economics literature, and health planners may not be directly involved in decisions about how health and burden of disease measures are constructed. Most measures for health needs assessment will be “off the shelf”, but health planners should be aware that even seemingly objective measures of health involve choices and value judgements in their construction and application. These choices have implications for

comparing the health of one population with another, monitoring changes in health, identifying and quantifying health inequalities, and informing debates on priority setting for health services.³³

A distinction can also be drawn between avoidable and unavoidable burdens of illness. Whether an illness is avoidable is a function of available knowledge and technology, making illnesses that are avoidable in some countries, regions or populations unavoidable in others.³

Two phenomena illustrate the inherently social nature of health needs assessment:

- Choices must be made regarding the different values (more or less) implicit in different measures.
- “Avoidability” of illness varies by country or region.

In short, what counts as a legitimate health need will depend on the values and level of development of the society in which the assessment is conducted.

2.3.3 Health Need as Comparative Health Deficit

In the absence of absolute definitions of need, health need in one population is often defined in comparison to the health status in another: health need is defined as a “measurable health status deficit”, suggesting a comparison to some standard. Typically the standard is the average across the province or country for the chosen indicator, but – as the World Health Report example (cited in the previous section) indicates - a higher standard may be chosen. Health need has also been defined as a “measurable opportunity to maintain or enhance health”. This definition was proposed in the interest of extending the definition of health need beyond merely the presence or absence of disease.⁵

The comparison in this case would be a comparison of the current state to a theoretical “target” for health. The target would in turn be based on the nature of one’s theory of health. A broad theory of health that incorporates social determinants will identify many more, and different, opportunities to maintain or enhance health (i.e. “more needs”) than a narrow biological model. The broad theory of health might

include increased income as a health need because income is a key determinant of health, but the biological model would emphasise medical care needs.

2.3.4 Health Need as Capacity to Benefit

The definition of need most widely favoured by health economists is “the ability of people to benefit from health care provision. “In other words, “need” exists only if there is a capacity to benefit from a health care service.⁴⁰ This definition highlights the outcomes to be achieved by allocating resources on the basis of need, and it introduces priority-setting criteria: it recognises as a need only those things about which something can be done, and among the things that can be done, selects those that will provide the most benefit.

There would be no benefit from an intervention that is not effective, so according to this approach, resources should be applied to needs for which:

- interventions are effective in producing benefit such as health protection and enhancement, disease prevention, or the postponement of death; and
- the most benefit will occur.⁶

The Upside of the Concept of Capacity to Benefit

The value of these desired ends (i.e. effective interventions, and most benefit) makes the notion of need ethically compelling in comparison to mere wants or demands. Demands are related to desired ends too, but the value of those ends is given less moral weight.

Allocation on the basis of need is therefore more equitable than allocation by demand because the ends served are more highly valued or fundamental.⁴¹ In short, there is no value in an ineffective intervention., even if it is demanded.⁴²

Need, defined as capacity to benefit, also promotes efficiency because it directs attention to interventions that produce the most benefit, thereby maximising health benefits for resources invested. ⁴³

The largest health benefit, however, may come from investments beyond clinical care. Despite confusion

between the two, health needs are not the same as health care or medical needs. Health need defined as capacity to benefit, may draw attention away from health care toward broader determinants of health, through which larger total health benefit might be achieved.

Need as capacity to benefit, therefore, has the advantages of:

- drawing attention to the desired end that a need is supposed to serve
- emphasising the effectiveness of proposed interventions
- promoting efficiency by allocating resources to those needs where the most benefit will accrue
- drawing attention away from health care toward broader determinants of health, which may have greater payoff.

The Downside of the Concept of Capacity to Benefit

On the other hand, allocating resources on the basis of capacity to benefit can have socially questionable results.

For instance, benefit from health care may be affected inversely by the severity of disease: someone suffering from mild symptoms of coronary heart disease may have a greater chance of receiving coronary bypass surgery than an older patient with severe disease (whose life may not be extended greatly by surgery) on the grounds that the former has more capacity to benefit.⁴⁰

Yet in health care, preference is commonly given to helping the worst off, a preference supported by several theories of distributive justice and health ethics. In this case, priority should be given to people whose suffering and inability to function is most pronounced or severe (most in need, under this definition) even if treatment available for them is less effective than for other conditions and if the overall health benefits gained are fewer. Studies have shown that people are often pre-

pared to sacrifice overall health benefits to ensure that more severely ill people are given priority over the less severely ill.⁴⁴ Defining need as capacity to benefit thus conflicts with this humane impulse to aid the worst off.

A related issue arises from the “Rule of Rescue” – society’s desire to rescue people facing avoidable death or serious harm, without giving thought to the foregone benefits of doing so:

- Rescue efforts will be mounted for lost or stranded individuals even when the efforts are futile.
- Critically ill patients will receive intensive care, despite a discouraging prognosis.
- Some patients receive a second or third heart or liver transplant even though first-time transplants have a better chance of survival.

These practices ignore the cost effectiveness calculations served by the notion of need as capacity to benefit.⁴⁴ The most popular definition of need among economists thus seems to conflict with compassionate desire to aid the afflicted.

To the extent that capacity to benefit depends not only on one’s health condition but also on other determinants of health – socioeconomic status (SES) primary among them – there is a risk that decisions to allocate health resources to those who have more capacity to improve their health will benefit groups in society with favourable prospects for health, rather than groups with less favourable prospects.⁴⁵ Higher socioeconomic groups generally have more favourable prospects for health and thus have greater capacity to benefit from health interventions. For example, health promotion initiatives to reduce behavioural risk factors for chronic disease have been more easily adopted by higher socio-economic groups, leaving lower groups at a larger relative disadvantage.⁴⁶ Investing resources in those who can better take advantage of life-extending and quality enhancing care might be the policy that maximises aggregate health, but it might widen the gap between the healthy and the less healthy.⁴⁷

Allocating resources on the basis of need defined as capacity to benefit, therefore, may increase inequities.

2.4 Health Need, or Health Care Need?

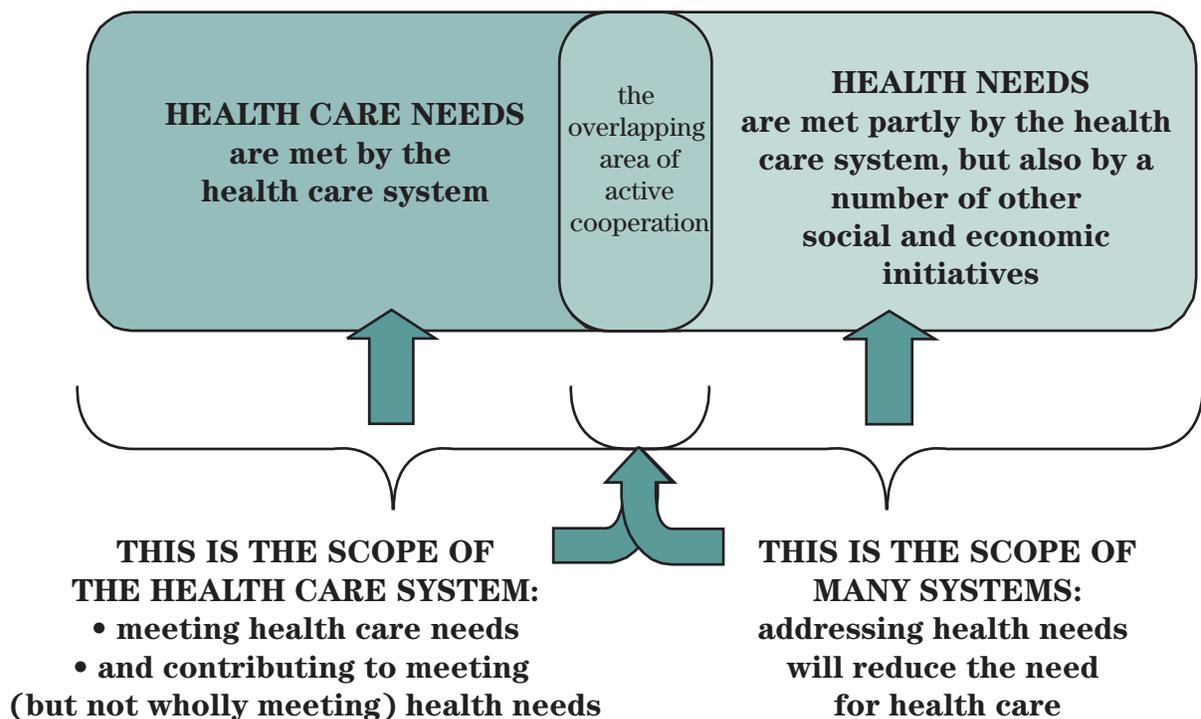
Health care needs are those that can benefit from health care (health education, disease prevention, diagnosis, treatment, rehabilitation, end-of-life care).

Health needs on the other hand incorporate the wider social and environmental determinants of health such as deprivation, housing, diet, education and employment. This wider definition directs attention beyond the confines of the medical model that is based on health care services, to the broader determinants of health in which the focus is on improving the health status of a whole population or sub-population, rather than individuals.

Emphasising broader population health and its determinants has several implications for health planning and health needs assessment choices. The health care needs of individual patients might not reflect the health needs of the population, and distinguishing between individual needs and the broader needs of the population is important in the planning and provision of health services.⁶ In fact, central to the theory of population health is a distinction between the causes of individual cases on the one hand and population incidence of disease on the other:

- For individual cases one asks, “**Why is this person sick at this time?**”
- But for population incidence one asks, “**Why is this rate high (or low) in one population but not another?**”

Figure 10: Health Care Needs, and Health Needs



Addressing the cause of individual cases may not address the cause of the population's incidence of disease, but the largest health benefit is likely to arise from the latter because small improvement over a larger population will result in more total benefit than large improvement in fewer individual cases.⁵⁶ Planning on the basis of population health needs may therefore conflict with planning on the basis of individual care needs.

Research in the broader determinants of health shows that a population's health is influenced by a wide range of factors. The availability of health care is only one factor among such issues as lifestyle options, nutrition, housing, work, education and income.⁴⁹ Health needs in this case are those states, conditions or factors in the community which, if absent, prevent people from achieving optimal physical, mental and social well-being.⁵⁰ Meeting such health needs is more a matter of addressing social and material living conditions than reducing unmet service need (the usual scope of health planning).⁵¹

Focusing on the health of populations also draws attention to inequalities in health status between population groups. Many authors argue that the central moral concern in health policy is that inequalities in health, both globally and within countries, are too high.⁴⁷

A large body of empirical research suggests that health care has limited consequences for population health status, and thus for narrowing health inequalities, relative to other policies that affect education, income, wealth and social status. The rationale for health planning within the determinants of health model becomes the promotion of equity in health, beyond equity in access to health care.

Attention to health equity in turn requires attention to the health status of disadvantaged populations, since evidence demonstrates that health inequalities can worsen even as average levels of health improve.⁵² Thus, interventions proposed to reduce health inequalities will be more in the realm of social and economic policy and programs than in health care.^{53, 54}

Health services proposed will tend to be in the realm of public health, health promotion, disease prevention and perhaps primary care.

A broad population health approach, therefore, would tend to draw attention to:

- population rather than individual needs
- social and material living conditions rather than health care
- health inequalities rather than average health
- public health rather than clinical care.

The more familiar theoretical perspective for health needs assessment, however, focuses on the need for *health care services* rather than the need for *health*.

Although planning processes may recommend a broad perspective on health,⁵ although more health could be gained through improved social and material conditions than through health care, and although the contribution of health care services to population health is a matter of some debate,⁵⁵ the demand for health care captures the lion's share of planning attention.

LHINs have the mandate to “*plan, fund and integrate the local health system*”. While health services defined in the *Local Health System Integration Act* are traditional health care services, non-traditional health-related services are not explicitly excluded.⁵⁶ This holds promise for a broader scope of definition of health within the work of LHINs.

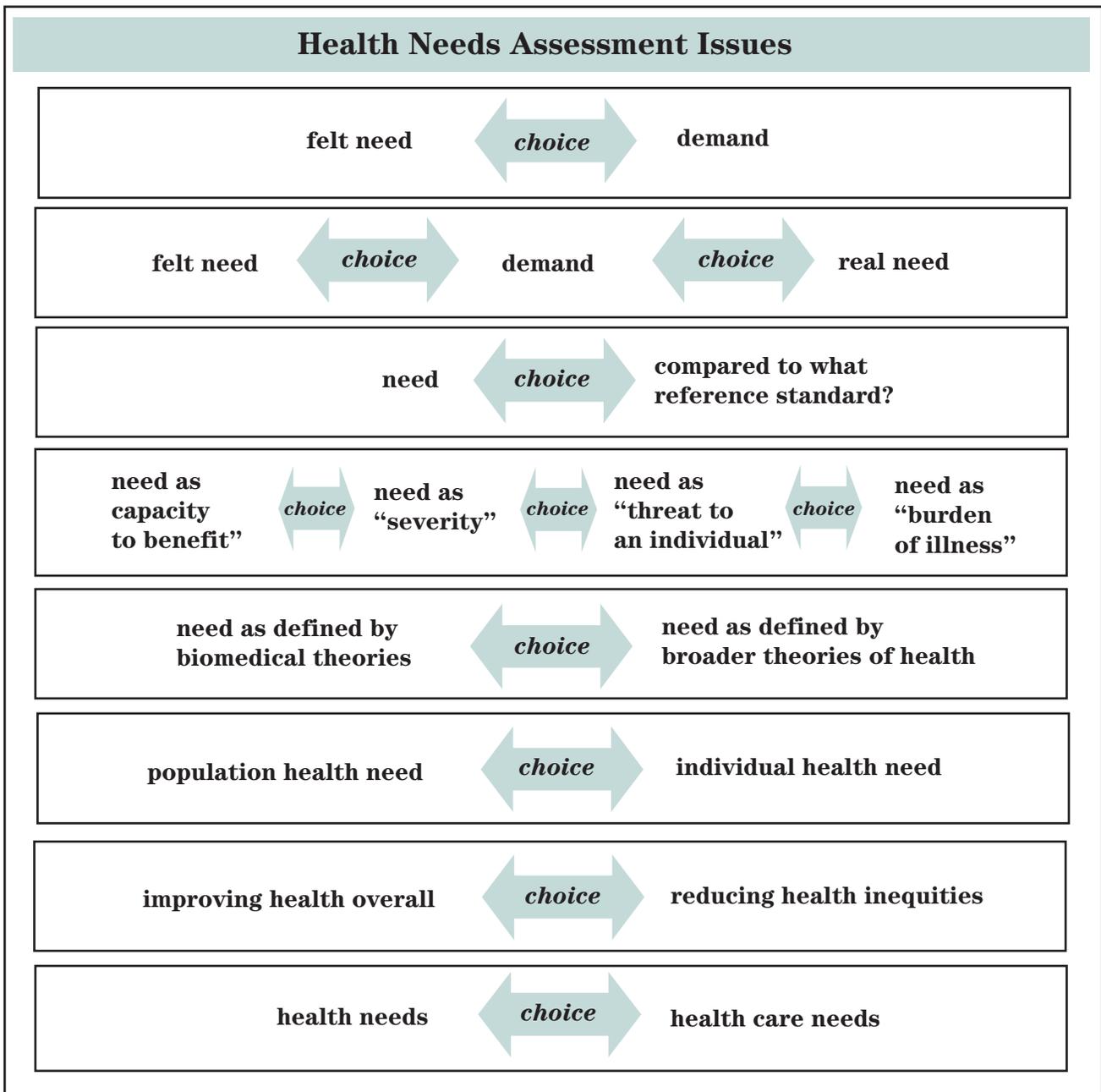
While public demand, conventional health planning and the inertia of existing health services all emphasise health care needs, tension may emerge between planning and assessing needs for health care and planning and assessing needs for health. Some of the tension may be resolved if the issue is framed as a question of the most efficient response to health care need:

- The best way to address a disease may be to prevent it.
- And the best way to prevent it may be through a broader determinants of health policy initiative.

Even if needs assessment is restricted to health care, a broad conceptualisation of health and health care can allow for choosing creative options to address needs – options that take into account the place of health care within the broader environment called “health”.

The graphic below shows some of the choices that must be made in assessing need for health and/or health care.

Figure 11: Conceptual and Value Choices



Health Needs Assessment Choices: “Burden of Disease” Indicators

The practical activity of identifying health (care) needs is well established. Different concepts of need have been discussed earlier, but conventional health needs assessment defines need according to the general burden of disease in the population. Even in conventional needs assessments, however, choices must be made among indicators – choices with implications for how health need is identified and described.

Health needs assessments must identify the burden of disease within their populations of interest. As noted previously, “burden of disease” refers to measures that include both qualitative and quantitative information, to weight the burden beyond mere frequency of disease. But Murphy's Law of Information comes into play at this stage:

“The information we have is not what we want. The information we want is not what we need. The information we need is too expensive to collect.” ²²

“It is the presence of the essential thing in a very small detail which one must catch in order to expose larger things.”

Satyajit Ray

Choices must be made regarding what information will be considered adequate for assessments. Chosen geographic boundaries may not correspond to boundaries within which health data have been collected. Indicators of interest may be available on a provincial rather than regional basis, or regional boundaries may not coincide with health service boundaries. Neighbourhood boundaries may differ from census tract boundaries. The significance of these geographic discrepancies will have to be assessed. And even if boundaries coincide, data available within them may be limited.

The rest of this section describes nine types of indicators that can be used in health needs assessments and points out advantages and disadvantages of each.

3.1 Health Services Utilisation

One approach widely adopted in estimating health needs has been to draw upon health service statistics. For example, the weighted capitation approach to resource allocation in the United Kingdom (UK) is based on analyses of actual health service use, adjusted on the basis of mortality and socio-demographic variables. Use of hospital and medical services and publicly funded prescription drugs, for example, are

Figure 12: Indicator Types



based on readily available administrative data and are easily calculated.⁵⁷

However, utilisation rates may not be reliable indicators of service need. In the UK again:

Significant, positive correlations were found between:

- the prevalence of respiratory disease and the hospital admission rates for respiratory problems
- and for the prevalence of depression and the admission rate for depression

but no correlations were found for digestive disease, musculo-skeletal disease and obesity.

These findings suggest that utilisation-based measures must be used selectively as indicators of health service need.⁵⁸ They may describe “met need” for some illnesses, but give no indication of unmet need for those illnesses and for other conditions.

As well, what is (i.e. utilisation) may not be a good guide to determine what ought to be. Health care use may be affected by:

- **Practice patterns of local practitioners and institutions.** This is important because people often do not independently seek services: they are referred to services by practitioners and institutions.
- **Patients’ propensity to seek care.** Some people may readily seek care for a health problem. Others may not. The non-seekers, therefore, do not add to utilisation data.
- **The availability of health care providers and services,** which varies across populations and regions and can vary because of physical, psychological and ethnocultural barriers to access. When and where providers and services are scarce or inaccessible to some populations, utilisation will be low not because of low need, but because of restricted accessible supply.

Health care use may differ across populations with the same needs but with different supplies of resources, and people with the same level of utilisation may have

different needs. Furthermore, use of utilisation data risks perpetuating inequalities and inefficiencies in the health care system.⁵⁹ The prevalence of small area variations in health care practices in Ontario in fact has been an incentive to find more reliable means to determine health needs.⁶⁰

3.2 Mortality Measures

The mortality rate for specific conditions is the incidence of death from these conditions.

As a needs indicator, mortality rates summarise the cumulative social and health experience of people living in an area. These rates are highly sensitive to differences in socio-economic status.⁵⁷ Standardised mortality rates (SMRs) are used to indicate the overall health of the population, similar to life expectancy measures.⁶¹ Age-standardisation, in which age-specific death rates in a reference population provide a standard for comparison, is a prerequisite for a mortality-based gauge of comparative need. Mortality measures are familiar, reliable, and relatively easy to collect, making them a common choice to represent health need.

However, the use of standardised mortality rates as indicators of health service need has been contested. Mortality only gives information on fatal illnesses. It does not supply information on the number of sick people nor on the effects of non-fatal disease. For example, correlations between mortality and acute sickness and between mortality and sickness that requires bedrest have been found to be not significant. But a significant correlation has been found between mortality and chronic sickness,⁶² and simulations on Ontario data show that SMRs are a reasonable proxy of need, when need is measured by self-assessed health. In this latter case, the availability, reliability and relative cost of SMRs give them an advantage over more elaborate measures of need.⁵⁹

The premature mortality rate in particular (deaths before the age of 75 years in Canada) has been proposed as a good proxy of overall population health needs because:

- it correlates highly with self-reported chronic sickness, poverty and unemployment
- it is related to illnesses that have large resource implications⁶³

Life expectancy is another common health status indicator. Higher life expectancy is associated with better socio-economic and health conditions. Life expectancy varies with marital status, gender, income and geographical location but it is not affected by the age structure of the population. It is based upon good data (current age- and sex-specific death rates), it is accepted and understood by many, and it correlates well with other measures of population well-being.

However, life expectancy is insensitive to the health status of the population. Canadians are living longer, but at older ages people are often frail and plagued by chronic disease. Additional years of life may be years lived in illness.^{64, 65}

Because mortality-based statistics do not reflect non-fatal morbidity, they fall short as a measure of general health service need. They reveal little about other important aspects of an individual's or a community's health needs. Better disease treatment has delayed mortality, but increased chronic morbidity and disability mean that mortality measures no longer adequately reflect population health need.

As well, survival rates for conditions such as cardiovascular disease and cancer show significant differences between the most and least affluent populations, meaning that death rates as a proxy for morbidity will be biased by socioeconomic status. As well, the numbers of deaths at the very local level tend to be low, so mortality from specific diseases will not accurately reflect the needs of living but suffering people, especially in small rural and inner city areas.⁵⁷

3.3 Health-Adjusted Measures: Morbidity, Disability and Self-Assessed Health

Measurements of specific morbidity in the population may be the best approach to identifying need for medical care, since these directly gauge the state of ill

health for which people seek help. The most traditional direct measures of morbidity are those that measure the incidence or prevalence of specific diseases.

An inventory of morbidity measures would include, for example:

- incidence rates of acute morbidity such as injury or respiratory and gastrointestinal infection
- prevalence of chronic disorders such as cardiovascular disease, diabetes and arthritis.⁶⁴

Prevalence typically is of greater interest than incidence to people who are trying to predict demand for service. In assessing how many hospital beds or therapists are needed, it matters more how many people are seeking service at any one time than whether the patient is seeking help for the first time or the fifth time.⁶⁶ High or increasing incidence rates, however, would suggest that preventive services such as screening or injury prevention programs are desirable, to minimise the number of new cases that occur in the first place.

Data that describe direct measures of morbidity and that have been validated for accuracy are not necessarily available for local populations.⁶⁷ In some cases (minor injuries for example) many events may never even be recorded.⁶⁸ Because morbidity data for populations have not been systematically collected, indirect measures of relative health care needs have been developed from mortality rates, in combination with demographics and population surveys. Age and sex data are easily obtained and highly related to morbidity, but are not sufficient indicators in and of themselves because of wide variations in health needs even after accounting for demographics. Ethnic groups, for example, often have different disease patterns and health service utilisation patterns from the rest of the population. Ethnic identity as an indicator of needs does not necessarily imply that ethnic populations have higher health need, but it is a marker that types of health need may differ in these populations.⁶⁹

Self-reported health status, aggregated from the individual to the population level, is sometimes

considered the “gold standard” for assessing population morbidity since it reflects individuals' perceptions of their health relative to the health of their peers. As a generic or summary measure of health status (rather than a specific morbidity or mortality measure), it has the advantage of capturing the impact of a wide range of diseases and illnesses. Because self-assessed health correlates closely with many other health indicators and is independent of utilisation of healthcare services, it has been proposed as a reliable and valid measure of health need.^{59, 63} However, information on self-assessed health may not vary sufficiently to provide meaningful information on comparative healthcare need, and more specific health needs subsumed within the self-assessment (related to physical, mental, or social functioning) are not always clear.

Another generic measure of health status is obtained from the Health Utility Index (HUI), which is included in Canada's National Population Health Survey. This index creates a single composite score based on self-reported status on eight attributes of functional ability.

The HUI is then used to estimate health-adjusted life expectancy (HALE) a “health expectancy” measure (HALEs measure expected healthy years of life.) Using life expectancy calculations as its foundation, HALE is estimated by weighting the years of life according to health status as represented by HUI scores. Years lived in good health are given higher weights than those in poor health, and all the years combined give a single, summary indicator of the expected years of good health. In this way, health expectancy more closely reflects current definitions of health than do indicators of morbidity or mortality alone. The difference between life expectancy and HALE represents the burden of ill health.⁶⁵ Since HALE captures a broad perspective of health, even small HALE differences have important public health significance. An Ontario study of local level HALE found larger north/south and urban/rural health differences in the province than seen with mortality indicators alone. HALE at the local level indicates that the magnitude of health differences among males may be even larger than previously estimated using other indicators.⁷⁰

A major drawback of HALE (as with other newer summary measures), however, is that it requires large, expensive population sample surveys. In the Ontario HALE study, despite a relatively large health survey, few HALE differences differed significantly from the Ontario mean, raising concerns about the precision of local health expectancy measures and the meaning of comparisons. This illustrates that health needs information-gathering faces issues of cost as well as any technical and conceptual issues encountered.

With reduced mortality and longer lives, disability related to illness and injury is an expanding health need category. Disability is measured by indicators such as restricted activity days – bed days, work loss and school loss days, for example – that are used to gauge the impact of acute and chronic illness. Other indicators of the long-term impact of chronic conditions include measures of limitation of mobility and limitation of activity. Limitation of activity measures are based on major life activities according to age groups, such as normal play or school activities of children and youth and, for adults, the ability to work at home or at a job or business. For the elderly and the chronically ill, a group of indicators falling under the general heading of “activities of daily living” (ADL) measure the ability of a person to function independently or with assistance in activities such as eating, dressing, bathing, and preparing meals.⁷¹

However, there is no gold standard definition of disability and no clear threshold that defines when a person becomes “disabled”. Several perspectives on disability exist, differing from each other based on:

- the degree to which disability is defined biomedically
- the degree to which it is defined by characteristics within the individual
- the degree to which it is defined more socially, as a product of interaction between individuals and their environment.

What this means for assessing health need on the basis of disability is that estimating the number of people with

disabilities depends on the definition of disability chosen, and different definitions yield different population estimates of need.⁷² Different definitions also have implications for the type, breadth and mix of health and social services to address health needs. Ontario defines a person with a disability as someone who has a continuous or recurrent substantial physical or mental impairment expected to last one year or more, verified by a person with the prescribed qualifications.⁷³ On the other hand, the London Borough of Newham, UK, recognises that a person may be physically or mentally impaired, but defines the person as disabled as a result of the limitation of opportunities to take part in the everyday life of the community on an equal basis with others: “*Newham Council therefore recognises that the cause of disability does not lie within the individual but within the way society is organised.*”⁷⁴

The Ontario and Newham definitions have very different implications for the type and degree of social activism in which a local health planning body might engage, and they illustrate the consequences of narrower and broader health need concepts.

3.4 Risk Factors

Many health problems of concern in Ontario develop over many years, indicated in the interim primarily by risk factors and conditions. These conditions themselves represent individuals’ and communities’ health need, even if they are intermediate to the “ultimate” measures of health need such as overt morbidity or mortality.

Obesity, for instance, is associated with many health problems, intermediate to or on the path toward more traditional morbidity and mortality indicators of health status. Therefore the risk factor profile of a population is another measure of health need.⁷⁵ Nonetheless, the meaning of various risk factors, either in and of themselves or in their implications for health priorities, is not always clear. The most common measure of obesity, for example, the body mass index (BMI), has been criticised as obsolete, the waist-to-hip ratio being a far better measure;⁷⁶ and the actual causal role of risk

factors in disease etiology may not be sufficiently understood to create effective interventions.

3.5 Economic Burden of Illness

Economic burden or cost of illness studies are a type of economic study that identifies and measures all the costs of particular diseases, including the direct and indirect costs (and sometimes intangible or “pain and suffering” costs), expressed in monetary terms:

- Direct costs refer to the value of goods and services for which payment was made and resources used in treatment, care and rehabilitation directly related to illness or injury.
- Indirect costs are defined as the value of economic output lost because of illness, injury-related work disability or premature death.

The output of such studies is an estimate of the total economic burden of particular diseases to society. Health Canada, for example, published the *Economic Burden of Illness in Canada* (EBIC) in 1991 and 1997, followed by a more detailed report in 2002.⁷⁷

Estimating the total societal cost of an illness provides important evidence for health policy and planning. It conveys more than just the total number of people with a health problem. It also conveys their resource use and other social consequences. The economic burden of mental illness, for instance, involving high health service and debilitating human costs, draws attention to a problem often neglected in mainstream health reform initiatives.⁷⁸ Determining the total cost of an illness estimates how much society is spending on a disease, and by implication the amount that would be saved if the disease were eliminated. Estimating the economic burden of disease also identifies the different components of cost and the size of the contribution of each sector in society (direct treatment costs compared to productivity losses, for example). Such information helps determine funding priorities by highlighting areas where inefficiencies exist and savings might be made.⁷⁹

However, there are arguments against the usefulness of economic burden studies:

- There are difficulties in accurately measuring and attributing costs to a given disease.
- Few diseases can be eradicated, so the total costs of treatment will not be saved. Even if preventive interventions were moderately successful, some services will still be required to treat patients with the disease, so cost savings will be less than the average suggested by cost of illness studies.
- A high-cost condition may not yet be treatable, but a condition that presents low cost to society may also be preventable at low cost, leading to high individual health gains. For example, untreated phenylketonuria does not present a great financial burden to society but its prevention is simple and inexpensive, and the health gain to affected individuals is great.

For priority-setting purposes, therefore, economic burden of illness studies may divert decision-makers' attention away from areas where important health gains can be made at low cost. From an economic perspective, it is more efficient to determine where to invest in order to generate greatest health benefits, a challenge for cost-effectiveness rather than simply cost of illness studies.^{77, 79} The role of cost-effectiveness in priority setting is described in Module 6 (**Establishing Priorities**).

3.6 Deprivation

Measures of social deprivation are used as indirect measures of health care needs based on the association of social deprivation and morbidity. The indisputable health effects of socioeconomic status (SES) are the basis for the broader determinants approach to health. The relationship between individual socioeconomic status and virtually all health problems is direct: lower socioeconomic status is associated with poorer health status.⁴⁹ Low socioeconomic status thus indicates multiple deprivations. While an inverse relationship between socioeconomic status and mortality has been

demonstrated, when measures of disability or dependence are also taken into account the disparities between socioeconomic groups widen substantially: low income neighbourhoods consistently show more risk factors and chronic conditions, higher levels of distress, lower self-rated health, less use of preventive measures and higher rates of avoidable hospitalisations than high income neighbourhoods.^{80, 81, 82, 83}

The social gradient in disease represents a large health need in terms of the opportunity to improve the health levels of low socioeconomic status populations up to the levels of high populations. As noted above, many interventions to address this need will be social and economic, but health service interventions still play a role. Literature on evidence-based medicine shows significant improvements in disease incidence, quality of life and mortality following timely and appropriate use of particular treatments and procedures.⁵⁷

It cannot be assumed, however, that strong social gradients in disease prevalence mean that populations in deprived areas have higher health care needs. For example, although the prevalence of cardiovascular disease clearly exhibits a significant social gradient, morbidity from the disease is nevertheless primarily a function of the age and sex of the population. Thus, a population that scores high on one of the many indices of deprivation may not have a higher overall level of health needs than one with a low score. Age profiles tend to determine which of the two has the higher needs.⁵⁷

3.7 Demographics

Age is an important influence on the probable type of health experience individuals will have and the likely demands they will put on the health system.⁸⁴ As with other developed countries, the age profile of the Canadian – and Ontario – population is becoming older: in some 25 years, the median age of Ontario's population will rise to 43 years, from 38 years in 2004. The implications of the age profile of the population can be seen in cardiovascular disease and cancer and the services required for them. While mortality rates from

these two major disease categories are falling⁸⁵, they will remain primary causes of the absolute numbers of deaths because of their association with age.⁸⁶

The practical identification of health needs thus must incorporate socio-demographic information on the population of interest, as well as more traditional health information such as risk factor profiles, self-reported health, mortality and morbidity data, and health service utilisation data. The Association of Public Health Epidemiologists of Ontario (APHEO) has identified 120 core indicators to provide the foundation for community health status reporting in public health.⁸⁷ Choices in health needs assessments must be made, therefore, regarding the type of information used to identify and describe health needs and how this information might be combined.

Is there a “shorthand” for describing population health needs that will reduce the volume of information that must be considered?

Research in Manitoba has found that three categories of information are most important:

- the **demographic mix** of people according to age and gender
- **socioeconomic characteristics**, specifically those that are risk factors for poor health, such as unemployment, education levels, proportion of single-parent families and percentage of people living in poor housing
- the **health of residents**, often measured by premature mortality (death) rates.

A model based on these factors seems to explain patterns in Manitoba of visits to physicians that took place outside hospitals and was used to simulate scenarios for hospital acute care funding adjusted for need.⁸⁸ However, the developers of the model admitted that the model requires an enormous amount of data. Because of this, the model cannot be extended to many other aspects of care where data currently are sparse (for example, home care and broader health needs).

3.8 Stakeholder Perceptions

Discussion of the health indicators outlined above has highlighted some of the limitations of these indicators. Although relatively well developed, these indicators have been used principally in the assessment of health care need; broader health need approaches are at earlier stages of development and acceptance.⁸⁹ But even the more familiar indicators may be associated with very different levels of health need in different individuals or even in the same individual at different points in time.

For example, though an estimated 2% of the world’s population has unipolar depression at any given time, these people have very different levels of physical, mental and social functioning. Similarly a person with diabetes may be fully functional, only requiring some dietary restrictions and exercise, but may experience progressively severe limiting complications. Information beyond quantitative indicators is critical to understanding levels of health at the individual and population levels.⁹⁰

The importance of stakeholder involvement in setting the parameters of health needs assessment has been mentioned, but stakeholders also provide insight into what the quantitative indicators mean “on the ground”. Stakeholder involvement will be discussed further in Module 5 (**Stakeholder Engagement and Communication**).

3.9 Community Indicators

A glaring example of Murphy’s Law of Information (stated previously) is confronted if a broad determinants of health perspective on health is pursued. Discussions of population health implicitly treat the population as an aggregation of individual people, populations being defined as the people living in a specified area. But from a determinants of health perspective, to be healthy is also broadly conceptualised. To be healthy (not just to be disease-free) an individual or group must be able to identify and realise aspirations, satisfy needs and change or cope with the environment.

Health is a positive concept emphasising social and personal resources as well as physical capacities.¹⁰⁵ According to this concept, for example, a healthy population balances personal freedom with environmental protection. Its institutions function harmoniously. Its people live in balance with nature and each other. These ideas correspond to a concept of the health of a population as a collective social entity, in addition to the health of individuals within it.

This notion of population health may be better represented, then, as **community** health because community entails a shared identity and intentional participation in addition to, not restricted to, residence in a geographic area. In this dynamic sense of population or community there is a purposive collaboration among members that makes them behave differently than a mere aggregation of individuals. Because of these interactions, the functioning and health of the whole cannot be fully understood by examining only its component parts. Health measures must therefore extend beyond aggregated individual indicators to include social, environmental and global indicators.⁸⁹

Health needs conceptualised as characteristics of whole communities thus differ from the health needs of individuals in the communities: individuals may have heart health needs of a familiar physical sort, for example, but the “heart health” of the community may relate more to its sense of self and capability. Community measures that indicate the health of the community as a whole could include:

- a **sense of community** in the first place: a sense of belonging to a group with a shared history, involving among other things, a faith by individuals that needs will be met from group resources
- **collective efficacy**, used to indicate a community's sense of its ability to achieve goals
- **community competence**, or the collective problem solving capacity of a community
- **community capacity**, referring to assets that residents bring to enhance the quality of community

life, including knowledge, feelings of trust and reciprocity, and vibrant social networks.

The health of the community as a whole is the objective of some types of healthy community initiative and of community-based health promotion that fosters community capacity. Health needs in these cases relate to deficits in the community's collective functioning, not just to the needs of individual community members.⁹²

More common than concern for the health of the collective community, however, is concern for the effect of qualities of the collective community on the health of individuals within the community. Much epidemiological research clearly establishes the relationship between individual-level socioeconomic status and health outcomes. Recent studies, however, have explored the independent association between community-level socioeconomic status and individual-level health. Such studies show that, while people's health status is associated with their individual and family socioeconomic status, the socioeconomic status of individuals' community of residence appears to have a separate pathogenic effect on individual health. The conclusion is not universally supported by research, but there is evidence that people in poor communities can be less healthy than can be explained by their individual poverty alone. Some work also suggests that adverse health outcomes in developed countries are not associated so much with average individual income level, but rather with the degree of income inequality. Inequality is not a characteristic of individuals, of course, but is a quality of the relationships among people, a quality of the collective social condition.

Despite little evidence for a primary effect of income inequality on health per se, income inequality is an indicator of health need in that reducing income inequality by raising the incomes of the most disadvantaged will improve their health, help reduce health inequalities and generally improve population health.⁹³

Much work has also investigated contextual aspects of the local neighbourhood physical and social

environments that might be health promoting or damaging. Quality of the physical environment, healthy home, work and play environments, support services, neighbourhood socio-cultural features, and even the reputation of an area have been proposed as community conditions that might influence health.⁹⁴

The concept of social capital has emerged as a frontrunner in promoting an understanding of how the quality of the collective impacts on individuals. Social capital, a characteristic of social groups rather than individuals, is born of shared experience and association that foster a sense of belonging, mutual trust and reciprocity. Social capital, a characteristic of social groups rather than individuals, is born of shared experience and associational links that foster a sense of belonging, mutual trust and reciprocity. Social capital is a collective resource that may accumulate over time and facilitates achievement of otherwise unlikely objectives. Studies increasingly show that communities supported by a good stock of social capital have better economic and social performance and lower crime rates, tax evasion is less common, individuals are more tolerant and good-humoured, and children have a higher level of well-being and are more successful in school.⁹⁵ While it cannot be measured directly, many researchers argue that its presence can be inferred from proxies such as dense networks of associations or trust in neighbours or government.⁹⁵

A growing body of health research has begun to explore the implications of the presence or absence of social capital. Statistics Canada, for example, reported that a strong sense of community belonging was associated with substantially better self-reported physical and mental health.⁹⁶ A study of 39 American states found that low levels of group membership and high levels of mistrust correlated with higher age standardised mortality rates. Furthermore, a review of six community-focused interventions designed to prevent death from heart disease found that measures to increase social cohesion fared comparatively well against approaches based on medical care of individuals.⁹²

A strong body of research thus suggests that qualities of collective social functioning and the collective condition, such as community capacity, community socioeconomic status, income inequality, neighbourhood physical and social environments, and social capital, are determinants of health. One can also think of health need, therefore, in terms of a comparative deficit of social capital or an excessive burden of income inequality for instance.

Despite burgeoning research into the health effects of collective social or community conditions, such broader approaches to health need suffer from a shortage of indicators. Measures of community well-being, capacity, resiliency or social capital, for example, and measurements relevant to understanding the broader social determinants of health, are generally underdeveloped.^{97, 98} Conventional health data are more familiar, well established and routinely collected administratively and/or epidemiologically (see Module 3 on **Evidence-Based Planning** for discussion of differences between administrative and epidemiological data). Burden of disease is sometimes demonstrated by conventional data such as healthcare utilisation data, case registries or population self-reports of morbidity and/or measures of sociodemographic characteristics, deprivation or mortality. Health needs assessments often express “burden of disease” as incidence and prevalence of disease. These data are often standardised by age and sex and combined in various ways using indexing methods. Manitoba has a relatively well-developed set of health care indicators that includes all of this information.⁹⁹ Even so, such indicators are not as comprehensive as local planners might like or they are numerous but incoherent, geographic boundaries of the available data sets may overlap only roughly,¹⁰⁰ and available consistent data may be years old.¹⁰¹ There is evidence that urban and rural factors also influence the meaning of health indicators. A UK study found that deprivation indices, and mortality and morbidity data, could be used interchangeably as proxies of health care need in urban areas, but not in rural areas. In particular, limiting long-term illness in rural areas was higher than expected from the mortality rates.¹⁰¹

Summary – Making Choices in Health Needs Assessments

If health resources are to be distributed on the basis of need, a way of defining “health need” must be found. This module has referred to choices that must be made in defining health need.

“And generally let this be a rule, that all partitions of knowledge be accepted rather for lines and veins, than for sections and separations; and that the continuance and entireness of knowledge be preserved.”

Francis Bacon, *The Advancement of Learning*
(1605)

For the purposes of health planning, then:

- Defining needs on the basis of capacity to benefit is not the same as defining need on the basis of demand, on the basis of severity, or on the basis of identifiable individual circumstances.
- Defining needs for individuals is not the same as defining needs for a population.
- Defining needs for health care is not the same as defining the needs for health.
- Indicator choices are not equivalent and will determine the way in which need is measured and represented. Depending in turn on which measures are used, different diseases and demographic groups will receive differing priorities for intervention.

But acknowledging these complexities does not solve the problem of how to decide which needs will be met. If anything, being aware of the complexities makes the practical tasks of identifying health needs and allocating resources among them even more challenging. But taking on these challenges is essential, because a reliance on unexamined convention is less acceptable. As well, even if need were an objective condition it would be socially constructed because social decisions would be made about what would count as a legitimate

need and social decisions would also be made about paying attention to some aspects of need rather than, or more than, others.

Needs are defined within a social and organisational context, which means that different groups in society may have different notions of needs and will have different power over the definitions used.²⁵ This power has usually been wielded by health experts rather than the public. Within the health care delivery sector, “[n]eeds, by definition, are determined by experts; consumers have demands that experts may or may not agree should be met”.¹⁰² Viewed this way, health need has been defined **for** people rather than **by** them.

Given the complexities inherent in the concept of health needs, there is no overriding “objective” definition of need that will guide planning and decision-making. Social decisions must be made about the definition of health need and the resolution of the tensions among different needs. Democratic principles require that these decisions be taken broadly, not on the basis of narrow interest. Thinking about needs as normative and socially defined makes it explicit that conscious choices must be made about what should count as a need. “Need” may be used to convey a sense of urgency or imperative, but there is no consensus about what needs are objectively justified: what counts as a legitimate need depends on the values and priorities of the community in question. Because health planning must grapple with these issues, planning is inherently a moral and social activity, over and above the technical tools it uses. The ethical and policy decisions associated with determining health needs are some of the most difficult decisions that health decision-makers face.

So there is no easy and quick recipe for health needs assessment. Different topics require different approaches. These approaches involve both qualitative and quantitative research methods to collect original information, and adapting and transferring what is already known or available. Objectives must be clearly defined and relevant agencies or stakeholders must be

involved appropriately, be they primary care providers, hospitals and their staff, the voluntary sector, patients, government, researchers or advocacy groups. Although scientific information is incorporated in the needs assessment process, the absence of any scientific “trump card” requires that explicit choices be made about the type of health need to be addressed and the information to be included.

Deciding who will make those choices is essential in health needs assessment and in the larger planning process. One of the goals of LHINs is to “*engage the community in local health system planning and setting of priorities*”. This is consistent with general health needs assessment process recommendations, although local participation in health care decision-making can run the danger of entrenching existing health choices by allowing more articulate stakeholders to register their demands at the expense of the less articulate. Nonetheless, if participation is handled appropriately, marginalised groups can be provided with opportunity to raise their voices and can be involved in explicit choice making, resulting in a more representative assessment of need.

This module has discussed the choices in the first questions – how need is to be defined and possible indicators to use – in the longer needs assessment process. Note that societal discussion of indicators so far has been largely in terms of need as burden of illness. The choices involved in addressing health needs as “capacity to benefit” have not yet been discussed nearly as thoroughly.

If resources are to be allocated on the basis of an epidemiological examination of the distribution of particular diseases, with particular emphasis on the capacity of patients to benefit from interventions aimed at preventing or curing those diseases, then both effectiveness of interventions and capacity to benefit will have to be assessed. These issues are examined in Module 6, **Establishing Priorities**.

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Needs Assessment Choices Practical Guides and Workbooks

Canada

Alberta RHA Health Needs Assessment

<http://www.health.gov.ab.ca/resources/publications/pdf/healthneeds.pdf>

Community Health Needs Assessment: A Guide for First Nations and Inuit Health Authorities, 2000

http://www.hc-sc.gc.ca/fnih-spni/pubs/home-domicile/2000_comm_need-besoin/index_e.html

Manitoba Community Health Needs Assessment

<http://www.gov.mb.ca/health/rha/chnag.pdf>

Saskatchewan Population Health Guide

http://www.health.gov.sk.ca/ic_pub_3793_skhthframework.pdf

International

Health Needs Assessment Workbook (Source of Figure Appendix B.)

<http://www.publichealth.nice.org.uk/page.aspx?o=502009>

Needs Assessment for Local Mental Health

<http://www.scotland.gov.uk/library3/health/namh.pdf>

(All documents accessible as of March 24, 2006.)

Five Steps of Health Needs Assessment¹⁰³

The five steps of health needs assessment



