Health needs assessment and the ecology of care: a research note

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Abstract

A Health Needs Assessment project was undertaken in 1999 for The Royal New Zealand Plunket Society (Inc.), a voluntary community organisation that provides child and family health promotion to 50,000 new babies each year nationwide. Specially qualified registered nurses, community workers and volunteers deliver the service that includes home visiting as part of universal health care.

The aims were to verify and refine criteria for health needs assessment by nurses for the ongoing development of practice. Methods used enabled participatory action by child and family health nurses (Plunket nurses). The context was health promotion for apparently well children and their families as part of the Ministry of Health universal Well-Child Tamariki Ora program.

The results included identification of a series of health needs assessment criteria, and direction to further develop practice. As a result of the project, it was possible to incorporate the four major concepts in the 2000 revision of the Plunket Health Record.

The challenge for child and family health promotion in New Zealand is to assess health need at a family level with the focus on improving child health outcomes. Nurses who use standard data collection items to assess health needs are also likely to identify subsequent interventions more explicitly. Therefore the main benefit of the project is the potential to improve clinical practice.

Assessment of risk factors and health need

Health needs assessment is part of risk assessment. A literature review in 1998 revealed a global trend in recommendations for well child health programs (Royal New Zealand Plunket Society Inc. 1998). Eight recommendations were identified; services that should develop from a socio-ecological perspective, have a home visiting component, be initiated as soon as possible after birth, be voluntary in participation, be culturally competent, offer enhanced services to communities rather than individuals, services to be integrated with a variety of other services, and services that are delivered by qualified staff.

We identified four concepts on which to base health needs assessment practice: health determinants (determinants of health arising from social economic trends), health seeking behaviour (the ability to "reach out" for health care), relationship building (ability to develop healthy relationship within the family and within social groups), and complexity (factors that protect or increase risk for vulnerable families in their situation). Health needs tend to vary in the interplay between and within the four concepts. This indicates the need to link risk, vulnerability and protective factors when deciding on interventions for each family.

Identifying which protective and risk factors are important for each family assumes that there is always a chance that adverse outcome will occur, and that it increases proportionately with poorer communities. The probability of a particular risk may be statistically relevant to health planners, yet for a family it may mean that while the identified risk is slightly less [for some families], it may remain a likelihood for a greater number of children. This can lead to increased deprivation in populations in the longer term.

Interventions are based on the assessment of the current needs of the child or the family that impact on health goals, and may be thought of as 'problems', or 'barriers' to health. Needs assessment tools help workers make decisions about interventions (Hetherington 1999). Needs assessment provides two functions: a rationale for intervention, and risk assessment for the child.

The four principal functions of health needs assessment are determining the needs/problems that contribute to risks or that create barriers, establishing overall needs/strengths levels that can be reviewed at intervals, identifying priority needs, and helping to evaluate the effectiveness of interventions. Further, the trend for less child-based research relating to concepts of risk assessment and outcomes is potentially serious (Feetham & Frink 1998). This situation is complicated by demographic evidence of an "ageing" population, which potentially can swamp the health needs of the comparatively small population under five years of age.

Assessment also impacts on access to health care - for example, through the referral process. Assessment of referral needs can be either immediately necessary, or be delayed for a time (Burgess 1983). The nurse often works to overcome family suspicions about a provider because of past negative experience(s). Hence referral may not indicate the time when need is first assessed because of subsequent care processes from the time of need identification. Finding the pathway for families to agree to interventions once assessment is complete can be complex, especially from the socio-ecological perspective. The socio-ecological perspective represents families connected to neighborhoods, so when care processes of families are clearly documented, it shows that health assessment is more than "a shopping list of problems".

Four ways that have the potential for developing process indicators in health promotion nursing are suggested. Audit for skills assessment development, audit of client records to demonstrate documented primary health are benefits and also evaluations, client views on their perceptions of benefits subsequent to assessment, and scrutiny of health needs assessment profiles to determine that assessment has been made of local need (Macleod Clark et al 1998). Health indicators as process measures appear to be proxy measures of health, as well as a useful connection to longer-term outcome measures. Despite this understanding, process measures seem to be very much in a development phase worldwide.

The design of the project

Parents of children under age five years demonstrate a range of responses to their particular situation. Responses to each situation influence decisions about Well-*Child* Tamariki Ora interventions provided by community health specialty nurses (Plunket nurses). These decisions impact on child health outcome.

The Project was directed at discovering how assessment of levels of health need might be developed within an ecology of care, with methods that include Plunket nurses who deliver the Well-Child Tamariki Ora program to families.

We decided to use qualitative analysis of meta-concepts and case studies from Plunket nurse experiences in four New Zealand geographical Areas. Two methods for data collection would be used: the Nominal Group Technique, and a modified Delphi Technique. A series of discussions were held with five groups of nurses.

Project sites were Christchurch city, Palmerston North city and surrounding small rural towns, Te Awamutu and small rural towns, and the Auckland metropolitan area. Selection of communities represented a mix of large cities, rural towns, and small rural communities. Families had at least one child aged under twelve months.

Thirty experienced nurses in five groups volunteered to engage in project activities. Their task was to verify and refine a series of criterion statements. One group of six specialist nurses had no caseloads, as they were involved with clinical effectiveness of geographical clusters of nurses. The remaining four groups of nurses with caseloads used health records of a total of 140 families. These families had contact with nurses over the previous few months. The total number of contact episodes referred to by the nurses was 478 (approximately 3-4 contacts per family).

Methods

The first step was to identify a semi-structured series of criteria statements with one group of non-caseload specialist nurses using the Group Nominal Technique and based on a literature search. The criteria statements were arranged in a gradated sequence, and verified by nurses as four macro concepts with sub-groupings of criteria options related to parenting factors.

The second step was to use these statements in a modified Delphi Technique. Four groups of Plunket nurses compared the statements with their recent case experiences. Each group of nurses reviewed draft criteria statements with the Health Records of families, to compare the reasons for clinical judgements made. In particular, nurses focused on characteristics of parenting behaviors that influenced decisions about interventions.

Analysis was both inductive (specific observations made by nurses in their caseload experiences that were considered as typical), and deductive (refinements made to draft criteria statements). The four discussion groups were conducted by the four non-caseloaded specialist nurses. Recommendations were made to the project leader who checked corrections with those involved.

Main Findings

Findings revealed that an informal process of assessing types of health needs did exist among nurses working in different geographical situations and with families in diverse situations. Overall, support was readily gained from participating nurses for developing health need criteria. Nurses reported that with refinements, the criteria statements were likely to help identify which families require which intervention. The family is viewed by Plunket nurses as a functional and a foundation health care system, which they seek to strengthen. Priority is given to the families with the highest need, though describing "levels of need" is increasingly very confusing. Generally, nurses consider that both action and inaction are planned interventions once health need assessment is complete. Therefore from an ecological perspective, clinical decisions can and do influence neighborhoods in terms of family health outcome.

In the universal Well-*Child* Tamariki Ora program, levels of need are predicted to differ for different family circumstances. Further, family circumstances may differ rapidly between each contact with a health carer. To reach families who experience more disadvantage, and to reduce disparity, community health nurses need a collective process to filter health needs. The benefit of collective effort can lead to further evaluation of health outcome in the wider child population, involving several providers.

Tables 1 to 4 show four groups of nine criteria statements. Each table represents a meta-concept and the result of the participating nurses' recommendations and refinements of initial criteria statements. Nurses viewed these statements as influential in their clinical decision-making. The underlined phrases distinguish the element that seemed to trigger different levels of need an individual family may have, to help clarify the health care ability of the family. It is important to acknowledge that other data are necessary, so these criteria statements do not stand alone. The benefit to improving practice is to give additional clarity to reasons for or against specific interventions that can be communicated both to families and in their health record.

Table 1: health seeking behavior (ability to reach out for health care spontaneously)

readily understands explanation when there is deviation from normal	indication that there is justified concern for childrenthough family may be unaware of the long term implications	reluctant/unable to understand clearly observable health concern(s) exist and need action
seeks information to use in choosing health action(s) and does not misuse drugs, alcohol, tobacco	delayed illness recognition for children may further delay necessary health action	resists help when suggested/offered - may refuse or show little interest
accepts explanation given about child assessment findings	knows that intervention is justified for potential/existing modifiable health condition	avoids taking opportunity to consider health action is needed when help is available

Table 2: health determinants (determinants of health developed from trends reported in New Zealand)

provides safe health care for children and readily uses self-developed and preventive ways	Inadequate growth pattern for developmental age of child	finds decision-making a problem/ is uncertain about health decisions/ active grief (or significant loss) process
clearly has sufficient contact with a supportive family & community network	Needs encouragement to consistently complete health action previously agreed	demonstrates unhealthy care behaviour towards self or children
readily uses positive ways to reduce stress so is adjusted for child care responsibilities	Reluctant about accepting suggestions made without persuasion and encouragement	reluctant to actively participate in health decisions (may not be a priority) - prefers to delay; limited in capacity to care for young children

Table 3: relationship building (ability to develop healthy relationships within the family and within social groups)

Spontaneously refers to positive relationship with family member(s) /partner	appears compromised when support would be helpful from the family for a health issue/unstable relationship	conflict is apparent between household members/violent family pattern
willing to communicate new found health issues with family member(s)	some antagonistic behaviour is apparent in the family involving the caregiver	significant reliance on others for needs, when ability to provide basic food, shelter etc. is compromised
Expresses satisfaction with caregiver role and the child	caregiver ability affected by coping with continuing stressful life events in the family	family support inadequate for child care needs to be met; absent or inadequate support

Table 4: complexity (factors that protect or increase risk for vulnerable families in their situation)

has adequate resources to make everyday choices for healthy lifestyle	needs anticipatory guidance to prevent deterioration of child and/or adult disability/illness	does not recognise contradictions in own behaviour towards children
clearly has realistic expectations and is willing to manage any identified health problem for child, child care & self care	adequate child care environment is prevented by circumstances of health need/ poor living conditions/ unstable financial situation	mood/reality perception disturbances - includes low confidence or esteem, anxiety, mental health difficulties
likely to seek help with any health issue - regardless of seriousness of health condition	unable/unwilling/uncertain about deciding alternatives for positive (safe for child) health action	expresses factors that suggest abuse behaviour experience for self (as a victim) and/or children, that impacts on quality of care giving

The following three questions were derived from the process of verifying the criteria, which have the potential to test the capacity of the criteria to assess levels of health need in groups of families:

- Do families demonstrate a gradated pattern across the series of criterion statements, so that levels of need can be recognised as low, medium or high? Note that "low" need differs from "no" need.
- How valid and reliable are the criteria statements?
- Do interventions applied to levels of need reduce disparity over time?

A comprehensive Well-*Child* Tamariki Ora assessment includes, but may not be limited to, the community profile, clinical screening, surveillance procedures, physical examination, demographic and socio-economic assessment, parenting ability, child safety, child neglect prevention, and preventable illness recognition. The verified series of criteria statements has the potential to enhance assessment of each one of these.

Discussion

The investigation raises several issues that I will discuss under 10 headings. First, Plunket nurses working on health needs assessment of families with young children frequently report that this can be complex, and though much of their work is "invisible", it is also "necessary". Timely intervention both prevents ongoing difficulty, and with anticipatory guidance, enhances intermediary outcome. Cases for study were selected from recent previous clinical experience to prompt recall. Documentation was available at the review discussions. Targeted groups need to be identified for appropriate intervention within a widely accepted and readily accessible program, connected to many other services, to shift the distribution of risk in a favourable direction. Family based health promotion may be underestimated in its true value.

Second, there are limitations in developing a series of criteria statements for need assessment. The series of statements included no statistical analysis of the qualitative data. Only a 10% sample (30 nurses) from a potential group of about 400 were involved in the project. Many more were interested in participating. The volume type of service contract creates difficulties for assessed needs being met with low cost nursing interventions. Plunket caseloads are double those in other similar countries. Improved assessment of needs may not overcome difficulties in meeting needs identified. This raises a significant dilemma for nurses. Any reluctance to undertake complete assessment of health needs is linked to resource allocation, rather than nurse commitment to provide effective health care.

Third, children as a population of under fives may become "swamped". The 1999 total of births in New Zealand was 57,473, about 3,000 (or 4%) less than in 1990. The trend towards delayed parenting with the average age for women giving birth now 29.2 years compared with 27.6 years in 1990, and an average of 2.01 births per woman which is 4% below the level of population replacement without migration, contributes to a changing nation wide pattern (New Zealand and Health Hospital, Jan-Feb 2000: page 8). At the same time,

family patterns are becoming more diverse by ethnicity, culture, structure, and functions. Children under age five will be the first population group to experience the impact of these changes, and changes to social cohesion in communities may become more problematic without sufficient access to timely and ecological services.

Fourth, evidence-based medicine (EBM) and Health Needs Assessment are both becoming a popular basis for decision making. Hart (1997) is cautious about EBM. As presently understood, evidence-based medicine aims to advance practice from its traditional unverifiable mix of art and science to rational use of measurable inputs and outputs. In practice, its advocates may accept uncritically a de-socialised definition of science, assume that major clinical decisions are taken at the level of secondary speciality rather than primary generalist care, and ignore the multiple nature of most clinical problems, as well as the complexity of social problems within which clinical problems have to be solved. Health needs assessment is directed at oopulation needs, rather than service needs. Hooper (1999) notes that "... services are not the focus of health needs assessment, but the health of the target population is the focus." The child population under age five seldom has a comprehensive health needs assessment, and requires the inclusion of many factors. Otherwise, only part of health needs will be understood by health planners and clinicians. Their combined efforts may even be ineffective.

Fifth, criteria development is in its infancy, and outcomes based on morbidity and disease prevalence are more easily recognised and reported. The premise is that indicators represent certain constellations of characteristics related to health hazard, ill health or need of care. It is suggested that a fundamental uncertainty is involved with methods used due to lack of conceptual analysis (Liss 1998). The conceptual analysis process in this project concerned nine criteria attributed to four meta-constructs. The advantages are; to enable the care process to be an outcome oriented care episode compatible with the health promotion ethos that families self-manage in such a way that nurses can monitor their own interventions, and, to acknowledge that the assessment 'conversation' nurses have with families is part of health intervention from the family point of view, who see conversations as nurse contact and care.

Sixth, do the series criteria "fit" the Maori perspective? Maori involvement was not specifically sought, so it is unknown the extent that the criteria is valid for Maori. A separate study is needed to understand how well the criteria may "fit" with the Maori perspective, if at all.

Seventh, ecology of care is distinctive. The two key elements are families linked to community services, and integration of services within social systems. In this sense, social cohesion is valued as part of personal efficacy (Trout 1999). The aim is to empower groups rather than to focus on their deficits. The project process was sensitive to the clinical experience of nurses providing community care.

Eighth, there is an opportunity to learn more about patterns of health need in populations. Apparently well children are not always considered a population. Breaking new ground to find ways of articulating not only the disparate levels of need, but also the type of interaction that results in the most health gain, is urgent. A window of opportunity to increase assessment skills may have appeared. Further, the participating nurses expressed their willingness and pleasure in being involved in the project, indicating that process and methods used in a project can also enthuse nurse practitioners.

Ninth, there is provocation of clinical practice development. Improving and proving the worth of any health intervention raises questions. The project process identified four questions connected to need assessment and to health gain within universal child health:

What patterns of health needs change with which intervention?
Which interventions produce the most child health gain in our patch?
Which families require what kind of health care to lower the need for service?
What counts as empowerment in client-nurse relationships?

Finally, there is the scope of Well-*Child* Tamariki Ora specialty nurse practice. Collective practice in geographical areas can magnify issues faster than individual interpretations. This may include, though may not be limited to emphasizing health needs in the clinical health record, using defined terms to stabilise data collection at point of care to highlight health need and health gain, and undertaking comprehensive evaluation of each Well-*Child* Tamariki Ora program in different community contexts at the lowest possible level. Plunket nurses are the major group, but not the only group providing the Well-Child Tamariki Ora service.

Conclusions

The project identified and verified 36 criteria statements that have the potential to be used in addition to other aspects of documenting assessment of family needs. Community characteristics and child health priorities are important to evaluation, and the ecological perspective acknowledges that the reality of each family situation is vital. The scope of community child and family nursing includes assessing health need and providing care as actions that avoids or lessens the need for further non essential professional care. The ecology of care perspective is about care that strengthens the ability of families to interact favorably.

When nurses lower the unnecessary use of more professional care through the identification of needs that may be wholly or partly met by their own nursing actions, clearer ideas about what counts as promotive health care may be formed. These include better decision making by the family. Nurses commonly report that much of this work may be "invisible" to onlookers. The justification for providing anticipatory care to avoid problems and to strengthen family abilities, and for remedial care to correct more obvious deficits, deserves greater attention. The increasing gradient of need for health care is potentially the greatest challenge of all. The disparity associated with those that are able to cope better than others has become central to child health care in New Zealand. Decisions made by nurses and paraprofessionals are significant, as these may either slow down or speed up progress.

Some professionals may resist the use of standard tools for assessing children's needs. One of many reasons may be that the implementation of any standard tool depends on the extent that the professional has the capacity to use clinical judgement alongside any tool. Nevertheless, there is little chance of promoting change in health status unless health needs are explicit to the family and the provider, and are well matched to interventions. Therefore, health needs assessment in this sense is likely to be viewed by families as part of the process of care provided, or care not provided. The ecology of care encompasses each family, their environment, and their reality.

The magnitude of the impact of inconsistent health needs assessment of child health in New Zealand may be more important than so far known. The opportunity for leadership to enhance practice competence will no doubt lead to effective service provision, clinical education, and further research.

The project demonstrated a process that involved willing Plunket nurses to consider better ways to assess need, and to improve child health. Better assessment of health need has the potential to influence practice efficacy in child health, enabling on-going evaluation by clinicians. The project highlighted the often marginalised experience of nurses who strive to deliver meaningful and timely family health care in the community. Their clinical experience may otherwise be overlooked in the management of progressing Well Child Health programs from a service delivery stance. Verifying a set of criteria considered to be useful in assessing health needs can link interventions to outcome in a more explicit process.

References

Burgess W 1983, 'The referral process', in Burgess & Ragland (eds). *Community Health Nursing: Philosophy, Process, Practice*. Appleton-Century- Crofts, Norwalk, pp 433-439.

Feetham S & Fink B 1998, 'Issues in health services research: Children and families and the health care system' in M Broome, K Knafle, K Pridham & S Feetham (eds.). *Children and Families in Health and Illness*. Sage Publications Inc, London, pp 280-297.

Hart J T 1997, 'What evidence do we need for evidence based medicine?' *Journal of Epidemiological and Community Health*, vol 51, pp 623-629.

Hetherington T 1999, 'Needs assessment and case management in child protection and alternative care', *Child Abuse Prevention*, vol 7, no 2, pp 7-11, Australian Institute of Family Studies.

Hooper J, 1999, 'Health needs assessment: Helping change happen', *Community Practitioner*, vol 72 no 9, pp 286-288.

Liss P, 1998, 'Assessing health care need: The conceptual foundation', in S Baldwin (ed) *Needs assessment and community care: Clinical practice and policy making*, Butterworth Heinemann, United Kingdom.

Macleod Clark J, Franks H, Maben J & Latter S, 1998, *The developing quality indicators project: Health promotion in primary health care nursing*. Unpublished research report - phase 2, Health Education Authority, London.

National Health Committee, 1998, *The social, cultural and economic determinants of health in New Zealand: Action to improve health*, Ministry of Health, Wellington.

Royal New Zealand Plunket Society, 1998, *Skill mix and caseloads: Literature review.* Unpublished report. Dunedin.

Trout F, 1999, *Health needs assessment within the ecology of caring*. Masterate Thesis, Massey University, Palmerston North, New Zealand.