# A MULTI –METHOD MODEL FOR EVALUATING AN INNOVATIVE NSW PRIORITY ORAL HEALTH PROGRAM - A CASE STUDY.

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The NSW Department of Health, Oral Health Branch and the AIHW Dental Statistics and Research Unit (DSRU) have entered into a collaborate initiative to evaluate an innovative NSW Oral Health Branch triage system to prioritise patients seeking oral health care. DSRU is evaluating the efficacy of the new system in allocating urgency codes to oral health conditions according to patients self defined criteria. Losses to the system, effects of various waiting times on oral health and treatments required, oral health impact upon daily functioning and ultimately measures of client and staff satisfaction with the program are also included in the evaluation.

The Priority Oral Health Program (POHP) allows patients to initially define their own need for care. Epidemiological methodologies, psychosocial and satisfaction measures and temporal calculations of actual waiting time for treatment are employed in the evaluation process. POHP employed a ranking system whereby more points, and hence priority, are given to those individuals with a serious medical or dental condition as well as those from population subgroups where research shows the existence of greatest health inequalities and need. By identifying both social and dental characteristics of those waiting in the various codes, POHP is a pragmatic and potentially equitable approach to meeting objectives of access to oral health care.

The paper seeks to address comparisons between the triage methods, ie POHP versus traditional chronological queuing, and asks what are the outcomes of prioritising patients according to subjective need relative to clinically defined need. Can we be sure of what we are really measuring when oral health status and the social and general health impact of oral health changes over time and definitive diagnosis of oral health conditions remains elusive?

Keywords. Oral health, health services research, oral epidemiology, dental care, healthcare evaluation.

## 2.1 INTRODUCTION

### 1.1 Research Problem:

To date, no uniform criteria have existed for prioritizing eligible persons queuing on clinic waiting lists for oral health care in NSW. Chronological queuing combined with a lack of standardised priority criteria were perceived to be problematic and contributing to inefficient service delivery and unacceptable waiting times for treatment, particularly for a general course of care. In addition to immediate service delivery issues, NSW Oral Health Branch viewed such a lack of uniform clinical data management tools as problematic to internal strategic planning and budgeting.

### 1.2 Intervention:

The Priority Oral Health Program; POHP is a uniform strategy for access to oral health care based on oral clinical need, medical conditions and social and economic parameters and is managed via a universal IT module operated at the interface between patient and service provider.

### 1.3 Conceptual framework:

As chronological queuing for oral health care is perceived to be both inefficient and inequitable, an alternative method of triaging public dental patients based on a hierarchy of need was developed and implemented in selected dental clinics in NSW with the objective of being evaluated 'in situ'. The goals and objectives of the NSW Health Service are the goals of POHP – to improve the levels of oral health within the eligible NSW population within current political parameters.

### 1.4 Target group:

Adults eligible for public dental care.

### 1.5 Stakeholders:

NSW eligible adult concession cardholders'.
NSW Health Department Oral Health Labourforce.
NSW Oral Health Branch.

### 1.6 Project management:

Evaluation contract tendered to AIHW DSRU. Evaluation planning and co-ordination and implementation performed by NSW Oral Health Branch and technical expertise in design and analysis managed by DSRU.

### 1.7 Purpose:

To test the efficacy of the new POHP triage system compared with the 'traditional' chronological system for allocating access to oral health care while maintaining the principles of the public hospital booked patient waiting list model (NSW Health).

**1.8 General goal:**
If found to be effective in meeting project objectives, POHP will be implemented as a uniform statewide oral health program in NSW and is of interest at a national level.

## 2. EVALUATION OBJECTIVES:

2.1 To determine whether priority codes identify level of need by psychosocial, medical and dental profiles.
2.2 To determine correlation between pre-assessment priority codes and clinical priority codes.
2.3 To compare effectiveness of POHP with the previous system using correlations between temporal and clinical indicators.
2.4 To evaluate the effects of various wait times on oral health, treatments required and the social impact of oral health.
2.5 To evaluate staff and client satisfaction with POHP.

## 3. PROCESS AND EVALUATION

Six data collection phases are involved in the process of evaluating POHP and each involves different methodologies, conceptual frameworks, objectives and challenges. Logistical issues relating to the administration, management and implementation of a long-term and complex collaborative evaluation within the constraints of an operating system will be developed, as will the complexities of making sense of the data. The attached model illustrates the six data collection modules of the evaluation that correspond to the 6 stages of a patient process (PP) through POHP.

### 3.1 Stage 1 – Initial Contact with the Dental System.

Upon patient contact with a POHP clinic, a questionnaire is routinely administered and, dependent upon the cumulative weight of responses, a priority code representing a maximum waiting time for an appointment for an assessment is given to the patient. Codes are allocated depending upon patient responses to current status of trauma, pain, social impact and socio-economic questions. POHP raises issues of professionalism within dentistry and challenges the role of the 'expert' in determining initial need. Hence, evaluation of this 'subjective need' and its appropriateness is relatively underdeveloped and will be assessed in analysis for strength of correlation with 'normatively' defined need. (Cushing, Sheihamn Mazels, 1985). Subcontracting issues relating to IT hardware and IP will be raised.

### 3.2 Stage 2 – Wait for Assessment.

The complexities of evaluating in partnership will be discussed and implications developed. Fundamental issues of clear and early demarcation of responsibilities, the challenges of evaluating in a climate of potential changes to the operating system and its subsequent impact upon the integrity of the evaluation will be addressed. Comparative data is used from research conducted prior to implementation of POHP and provides baseline data of oral health of eligible adults waiting for care in comparable clinics.

### 3.3 Stage 3 – Clinical Assessment.

At this stage of the evaluation a dental officer assesses and records the patients' oral health status onto an Optical Mark Read (OMR) scan form. The OMR form charts the status of teeth present and the condition of a denture if present. This clinical data is an attempt to validate the 'subjective' oral health need as determined by the patient at initial contact with the system and subsequently to validate the urgency code each patient is allocated. The validity or usefulness of the oral epidemiological assessment is problematic as such interpretation by practitioners of a patients oral health status is viewed not as a hypothetico-deductive process but operates in the absence of definitive diagnostic steps and contributes to the extensive variation among practitioners when they are asked to provide caries diagnosis or number and type of procedures and even teeth involved. (Bader & Shugars, 1992, 1995, 1997). Resulting low correlations between dental practitioners' determination of disease presence, severity and treatment of individuals remains problematic in predicting treatment plans but may however be useful at predicting resource supply (Elderton & Nuttall, 1983). The application of epidemiological data in health services evaluation in an attempt to engender rational decision making for planning, administration and evaluation is relatively underdeveloped (Spencer, 1985) and resolving discrepancies between diagnoses at an individual level with population level statistical interpretations is untested.

### 3.4 Stage 4 - Wait for Treatment.

Stage 4 opens up issues related to management, tracking patients through the POHP process and the longevity of the evaluation process across all codes. The social and oral health impact of various waiting times for treatment will be evaluated by coring into the existing waiting list and used to determine the efficacy of code priority and definitions.

### 3.5 Stage 5 – Treatment.

Issues of validity or unreliability of data collected at Stage 3 may be able to be resolved utilising data collected at Stage 5. If assessing and treating dentists' perceptions of urgency of care are highly correlated then significant agreement on tooth or treatment may be unnecessary. If access to care is the issue and not appropriateness of that subsequent care then such statistical correlation at this level of analysis may prove valid (Elderton & Nuttall, 1983).

### 3.6 Stage 6 – Client and Staff Satisfaction.

Stage 6 evaluates client and staff satisfaction with the program using both qualitative and quantitative methodologies. Potentially there may discrepancies between client and provider satisfaction with the program or discrepancies between code accuracy and satisfaction with the methodology employed to determine priority. There is the theoretical potential to remove the normative assessment phase in view of lack of practitioners' clinical correlation between need and treatment and accept client and provider satisfaction.

POHP is an attempt to shift away from an exclusively acute medical model to a more primary health care approach. It is hypothesised that using statistical methodologies we can determine the sensitivity and specificity of the model in spite of the absence of a gold standard for caries diagnosis treatment planning. Such a multi-method evaluation establishes significant challenges to the integrity of the data collected, its' management and interpretation but such research can only lead to better development of theoretical models of relative and normative oral health and assist in better resource planning and better health outcomes.

**EVALUATION MODEL**

**Patient Process (PP)**
**Evaluation Tool (ET)**
Data Collected (DC)