Competencies and scope of practice of nurse practitioners in primary health care: a scoping review protocol

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\section*{Abstract}

\textbf{Objective:} The objective of this scoping review is to explore existing literature about nurse practitioners’ competencies and scope of practice in primary health care in order to examine and conceptually map the evidence and identify gaps in the literature.

\textbf{Introduction:} To meet growing health care needs, current primary health care models have expanded to include nurse practitioners. The integration of nurse practitioners in primary health care is challenging. This is mainly due to the lack of a unified definition of the role, competencies, or clear criteria to determine scope of practice.

\textbf{Inclusion criteria:} This scoping review will consider studies addressing nurse practitioner practice in primary health care. The focus lies on nurse practitioner competencies (e.g., core competencies or practice activities) and scope of practice (e.g., areas of responsibility or legally defined professional boundaries). Studies that were conducted in primary health care settings in rural, urban, and suburban regions where nurse practitioners are employed will be included.

\textbf{Methods:} Studies published in English, German, or French from 1965 to present will be considered. The databases to be searched include PubMed, CINAHL, Web of Science, and PsycINFO. Sources of unpublished studies and gray literature to be searched will include ProQuest Dissertations and Theses, OpenGrey, and websites of national nurse practitioner organizations. Retrieval of full-text studies and data extraction will be performed independently by two reviewers. The extracted data will be presented in tables or graphs, with an accompanying narrative summary.

\textbf{Keywords:} competencies; nurse practitioners; primary health care; scope of practice


\section*{Introduction}

Increasing primary health care capacity has been recognized as a bridge to cost savings and better care.\textsuperscript{1} The demand for primary health care is rising due to shifting population demographics, increasing complex chronic health concerns, ongoing health care financial constraints, and a greater need for health promotion.\textsuperscript{2} With global shortages of primary care providers and decades of evaluation showing that primary care delivered by nurse practitioners (NPs) is of equal or better quality and lower cost, there is a growing global movement towards team-based-care delivery models using NPs in the primary care workforce. A recent systematic review by Laurant \textit{et al.}\textsuperscript{3} indicates that in comparison to physicians, NPs achieve equal or better health outcomes, a slightly higher quality of life for their patients, and higher patient satisfaction. Consultations take longer and return visits seem to occur more frequently. The evidence level of the included studies in this review is considered to be moderate according to GRADE.\textsuperscript{3}

The International Council of Nurses (ICN) defines an NP as an “Advanced Practice Nurse (APN) who integrates clinical skills associated with nursing and medicine in order to assess, diagnose and manage patients in primary healthcare settings and acute care...
The term APN refers to: "a generalist or specialised nurse who has acquired, through additional graduate education (minimum of a master’s degree), the expert knowledge base, complex decision-making skills and clinical competencies for Advanced Nursing Practice, the characteristics of which are shaped by the context in which they are credentialled to practice. The two most commonly identified APN roles are [Clinical Nurse Specialist] and NP." 4

Although there is some overlap in role function, a major area of differentiation is the focus by NPs on direct patient care as contrasted with indirect care supporting clinical care at a systems level. 4

Hamric’s model of advanced nursing practice defines the scope and standards of practice to include seven core competencies: i) direct clinical practice, ii) guidance and coaching, iii) consultation, iv) leadership, v) evidence-based practice, vi) collaboration, and vii) ethical decision-making. 5 These extended competencies enable a holistic person approach to patient situations with consideration of physical and emotional well-being within a social/cultural context. This approach facilitates a care approach that educates, empowers, and advises the patient and family, which is essential for promoting self-management of patients with chronic diseases.

The NP role was initiated in the 1960s in the USA and Canada, and both countries have a strong tradition of integrating NPs into health care. In the USA, 85% of the 192,000 credentialed NPs are practicing in primary health care. In rural areas, this consists of approximately one-fourth of all primary health care providers. 6 Other countries, such as The Netherlands, Australia, New Zealand, Ireland, Finland, and the United Kingdom subsequently developed NP/APN practice with a broad scope. In the past two decades, many Organization for Economic Cooperation and Development countries have grappled with the need to improve access to primary care, improve quality of care, and reduce costs. To this end, many of these countries have implemented educational, regulatory, and/or payment reform in order to effectively integrate advanced roles for nurses in the primary care workforce and are considered to have emerging and more restricted scopes of practice. 7 Switzerland and Germany are among these emerging countries.

Although there is a growing trend to use NPs in primary care, there is considerable variation in roles, skills, and responsibilities. Due to the different role development processes, NP competencies and their legally recognized scope of practice vary greatly internationally. 7,8 In some countries, NPs often work as a substitute for family doctors after successful implementation into the role in primary health care. 3 They have the competence to independently make diagnoses, order diagnostic tests, and interpret the results. In addition, NPs independently prescribe medication within the legally defined framework of their respective country. 6,8 A review of the work of NPs in primary health care settings in developed countries by Grant et al. 9 found that role activities were spread out on a continuum ranging from focusing on a specific disease process to addressing individual health and well-being needs holistically. The quality of the studies included in this review is rated from moderate to high according to the Critical Appraisal Skills Programme. 9

A recent review by Chan et al. 10 examined practice activities of NPs and compared these activities to current NP competencies established by U.S. education and practice organizations. They reported that NP activities mainly comprise the provision of direct patient care. Although the studies defined direct patient care differently, the activities encompassed direct interactions between NPs and patients to provide holistic care, to obtain histories, perform physical examinations, develop management/treatment plans, and educate patients and families. Indirect care activities, or activities that go beyond providing direct patient care, included documentation, care coordination, advocacy, and evidence review. In comparing these practice activities to the competencies put forth by professional organizations, only 14% of the listed competencies focused on activities related to direct patient care. The authors called for “research aimed at understanding the core competencies necessary for NPs to be able to provide safe and quality direct patient care,” 10 and for NP core competencies to be developed that are relevant, measurable, and reflective of the current state of health care.

Clarifying professional competencies and boundaries is important to ensure successful implementation of the NP role. A mixed methods study from the USA, where the role is long-standing, showed that
only 10% of the participating NPs reported that their roles were unclear. About 16.3% of the NPs reported that their competencies were misunderstood by the health care team. Although the role seemed clear and generally understood, lack of clarity existed, which resulted in NPs taking on tasks that are traditionally performed by RNs or medical assistants. Concerns arose about not effectively using NPs’ advanced skill sets and undermining their productivity and efficiency.

Clearly, for those countries that are new to team-based care with NPs in provider roles, clarifying professional competencies and role boundaries is critical to ensure successful implementation. Often, a consensual definition of the NP role is missing in respective teams, and expectations concerning the areas of responsibility of NPs vary. These uncertainties between the different professional roles regarding competencies and the scope of practice lead to difficulties in interprofessional collaboration. Nurse practitioners tend to struggle with negotiating and clarifying their scope of practice. Also, a lack of trust and self-doubt by NPs regarding their competencies can constitute an additional barrier to implementation. Further obstacles encompass a lack of awareness or acceptance of the NP role by the medical profession and other health professionals. According to a scoping review by Torrens et al., a positive attitude by medical professionals towards the competencies of NPs promotes role implementation. Continuous collaboration between NPs and family doctors as well as other health care professionals builds trust. However, in practices where the role and competencies of NPs are less clear to family doctors, there is often more skepticism leading to fewer referrals. Aerts et al. report that many family practice teams have difficulties with clarifying the NP role and determining the competencies and scope of practice; therefore, family doctors continue to have concerns about trust, responsibility, and accountability. Consequently, important information about the treatment process is omitted or referral to NPs is avoided. This is of special concern in countries with only a short history of graduate-level preparation of NPs and where integration of NPs into primary health care is in its inception.

The objective of this scoping review is to explore existing literature related to NP competencies and scope of practice in primary health care in order to examine and conceptually map the evidence. Any gaps in the literature regarding NP competencies and scope of practice in direct patient care will be identified. The JBI methodology will be used to complete this scoping review. A preliminary search of PROSPERO, MEDLINE, the Cochrane Database of Systematic Reviews, and JBI Evidence Synthesis was conducted. No existing or ongoing scoping reviews or systematic reviews on the topic were identified.

**Review question**

What are the competencies and scope of practice of NPs in primary health care?

**Inclusion criteria**

**Participants**

This scoping review will consider studies that include NPs in primary health care practices globally, irrespective of age, gender, or race. We will include NPs who have a master’s degree according to the ICN definition and work in direct patient care.

**Concepts**

The concepts to be examined in this scoping review are NP competencies and scope of practice. Competencies may include, but are not limited to, core competencies of advanced practice such as those defined by Hamric and practice activities specifically performed by NPs (skills and knowledge). Scope of practice may include, but is not limited to, areas of responsibility of NPs working in primary health care and legally defined professional boundaries of NP practice.

**Context**

This scoping review will consider studies that have been conducted in the primary health care setting in rural, urban, and suburban regions (global context) where NPs are employed. The focus is on primary health care for adults. The setting of primary health care refers to general practice and the provision of ambulatory or first level of personal health care services, including health promotion, prevention, diagnosis, treatment, rehabilitation, and palliative care.

**Types of sources**

This scoping review will consider experimental and quasi-experimental study designs, including randomized controlled trials, non-randomized controlled trials, before and after studies, and interrupted time-series.
studies. In addition, analytical observational studies including prospective and retrospective cohort studies, case-control studies, and analytical cross-sectional studies will be considered for inclusion. This review will also consider descriptive observational study designs including case series, individual case reports, and descriptive cross-sectional studies for inclusion. Qualitative studies will also be considered, including, but not limited to, designs such as phenomenology, grounded theory, ethnography, qualitative description, action research, and feminist research. Dissertations, theses, and websites of national nurse practitioners’ organizations (eg, expert opinions) will also be considered for inclusion in this scoping review.

**Methods**

The proposed scoping review will be conducted in accordance with JBI methodology.  

**Search strategy**

The search strategy will aim to find both published and unpublished studies. A three-step search strategy will be utilized in this review. An initial limited search of MEDLINE (PubMed) and CINAHL (EBSCO) will be undertaken to identify articles, followed by an analysis of the text words contained in the title and abstract and of the index terms used to describe the article. A second search using all identified keywords and index terms will then be undertaken across all included databases. In the third search, the reference lists of all included reports and articles after full-text screening will be examined to identify additional studies. A proposed search strategy for PubMed is detailed in Appendix I.

Articles published in English, German, and French will be included. The focus is on adult care, so the search will be limited to adults 19 years or older. Studies published from 1965 to the present will be included, as this was the year that the first NP program was developed and implemented by Loretta Ford and Henry Silver at the University of Colorado.

The databases to be searched include MEDLINE (PubMed), CINAHL (EBSCO), Web of Science (Clarivate), and PsycINFO (Ovid). Sources of unpublished studies and gray literature to be searched include ProQuest Dissertations and Theses, OpenGrey, and various websites of national NP organizations (eg, American Association of Nurse Practitioners or Canadian Nurse Association). To narrow the organization websites search, only websites in English, German, and French, which are still actively maintained in 2021, will be considered.

**Study selection**

Following the search, all identified records will be collated and uploaded into EndNote X8 (Clarivate Analytics, PA, USA) and duplicates removed. Titles and abstracts will then be screened by two independent reviewers for assessment in accordance with the inclusion criteria. The full text of selected studies will be retrieved and assessed in detail utilizing the inclusion criteria. Full-text papers that do not meet the inclusion criteria will be excluded, and reasons for exclusion will be provided in an appendix in the final scoping review report. The results of the search will be reported in full in the final report and will be presented in a Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Scoping Reviews (PRISMA-ScR) flow diagram. Any disagreements that arise between the reviewers will be resolved through discussion or with a third reviewer.

**Data extraction**

Data will be extracted from papers included in the scoping review by two independent reviewers using a data extraction tool developed by the reviewers. The data extracted will include the following specific details: participants, concept, and context. A draft extraction tool is provided (see Appendix II). It will be modified and revised as necessary during the process of extracting data from each included paper. Modifications will be detailed in the full scoping review. Any disagreements that arise between the reviewers will be resolved through discussion or with a third reviewer. Authors of papers will be contacted to request missing or additional data, where required.

**Data analysis and presentation**

The extracted data will be presented in tables or graphs in a manner that is most suitable to the objective and scope of this scoping review. The tables and graphs will report on the distribution of studies according to year or period of publication, countries of origin, participants, and the context. Competencies and scope of practice will be assigned to countries, which will be ranked into well-established, established, and emerging NP roles. The classification will be based on the criteria of Maier et al. In addition, the change over time in the scope of practice and competencies will be recorded. Data synthesis of the textual data will be presented.
data from the studies will include three steps: identifying findings, grouping findings, and grouping categories. A narrative summary will accompany the tables or graphically depicted results, and will describe how the results relate to the review objective and questions. The findings will be discussed as they relate to practice and research.

Funding

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References

5. Hamric AB, Hanson CM, Tracy MF, O’Grady ET. Advanced practice nursing: an integrative approach. 5 ed. USA: Elsevier Health Sciences; 2014.
Appendix I: Search strategy

MEDLINE (PubMed)
Search conducted on November 4, 2020.

<table>
<thead>
<tr>
<th>Search</th>
<th>Query</th>
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<td>#1 AND #2 AND #3</td>
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Limited to English, German, French, Abstract available, Humans, Adult: 19+ years 236
## Appendix II: Data extraction instrument

<table>
<thead>
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<tr>
<td>Author(s):</td>
<td></td>
</tr>
<tr>
<td>Year:</td>
<td></td>
</tr>
<tr>
<td>Country(ies):</td>
<td></td>
</tr>
<tr>
<td>Participants:</td>
<td></td>
</tr>
<tr>
<td>Context:</td>
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### Data relevant to the concept

<table>
<thead>
<tr>
<th>Nurse practitioner competencies:</th>
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<tbody>
<tr>
<td>well-established</td>
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</tr>
<tr>
<td>established</td>
<td></td>
</tr>
<tr>
<td>emerging</td>
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| Nurse practitioner scope of practice: |  |
| well-established                  |  |
| established                       |  |
| emerging                          |  |

| Changes over time:                |  |
| competencies                      |  |
| scope of practice                 |  |