IDENTIFYING AND REMOVING BARRIERS TO PRACTICE
FOR NEBRASKA NURSE PRACTITIONERS

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ARTICLE MANUSCRIPT

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Abstract

More than 171,000 Nurse Practitioners (NPs) in the U.S. provide health care services. Despite a 40-year history of providing safe and effective care, 32 states limit NP scope of practice, including Nebraska. The Affordable Care Act will provide an additional 30 million Americans health care coverage in 2014. Demand for health care services will increase while supply of health care providers will decrease. NPs can increase access to care, especially in rural areas. Survey results describing Nebraska NP barriers will help inform stakeholders, including policy makers, health care leaders and providers to improve utilization of NPs in Nebraska’s workforce.

Keywords: nurse practitioner, scope of practice, full practice authority, barriers to practice, access to care

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**Introduction**

Nurse Practitioner’s (NPs) are identified by the Institute of Medicine (IOM) as a critical workforce solution to address the cost, quality, and access issues of diverse populations.¹ Barriers inhibit or limit health care services provided by NPs across the nation. With the implementation of the Affordable Care Act (ACA), there will be an additional 30 million individuals who require health care services while Medicaid enrollment is expected to grow 25 percent; providing an additional 16 million people access to health insurance coverage by 2019.² This increase will further stress the existing primary care delivery system, already known to be inadequate to support population needs. While national NP barriers to practice have been identified, the differences between rural and urban practice settings are not well described in the literature. Identifying these barriers provides stakeholders, including health care leaders, providers and policy makers, adequate information to influence policy. Strategies to inform policy targeted to eliminate NP barriers need to be developed. In Nebraska, stories regarding practice barriers have long circulated, yet no measureable evidence is available to support this anecdotal information. To develop a deeper understanding of Nebraska NP practice barriers, the following questions were posed: What are Nebraska NP perceptions regarding formal and informal barriers that may limit or inhibit practice? Are there practice barrier differences between rural versus urban settings?

There are over 171,000 NPs practicing in the U.S.³ and over 1,100 in Nebraska.⁴ However, NPs experience a myriad of practice barriers. Removing scope of practice barriers that currently exist in 32 states,⁵,⁶ including Nebraska, is essential to address the unmet needs of diverse populations. The IOM¹ and the National Governor’s Report⁷ has called for state legislatures to make policy changes that ensure NPs function to the fullest extent of their education and training. AANP supports recommendations by the National Council of State
Boards of Nursing Model Practice Act to remove practice barriers so that NPs have “full practice authority.”8-10 Consistent terminology will help decrease misinterpretation of words such as “autonomous” or “independent” practice. NPs consult and refer patients, collaborating with a wide range of professionals, without the requirement of a collaborative agreement. NPs have a four-decade long history of providing safe,1,11-16 cost-effective,11,14,17-27 and high quality,11,22,26,28-31 health care to their patients. NPs have similar patient outcomes13-16,22,23,28,32-35 and patient satisfaction1,14-16,32,36,37 ratings as physicians. A systematic review of the literature identified that NPs working autonomously or in collaboration with a physician have similar outcomes as physicians working alone.10,20

Ensuring access to health care and reducing costs while providing high quality services will be a challenge in the coming years. Currently, 53 million people are uninsured, while Medicare covers nearly 50 million people and Medicaid covers about 55 million individuals.38 Will there be enough primary care providers (PCPs) to meet the growing health care needs of the nation? Nearly 25 percent of the nation’s population lives in rural areas, but only 10 percent of physicians practice in these areas.39 The lack of primary care physicians will continue to threaten accessibility of health care services40. It is estimated that by 2020, there will be a national physician shortage of 91,500, with nearly half of those in primary care.41 Over 87% of NPs are prepared in primary care and 75% practice in at least one primary care setting.3 A creative and innovative approach is necessary to keep pace with the rapid changing health care environment and in the delivery and accessibility of those services.

Nebraska Health Care Overview

In 2010, nearly 12% of Nebraska’s population lacked health insurance.20 The overall health care spending in Nebraska is estimated at $8.4 billion, accounting for nearly 11.5 percent
of the state’s total economic output. With health care costs rising and expected health care utilization to increase substantially, increasing the access to NPs with full practice authority will not only save money for Nebraska, but increase access to care that may not otherwise be available. The Perryman Group, an economic research and analysis firm based out of Waco, Texas, identified the economic benefits of NPs practicing with full authority. Fully utilizing APRNs more efficiently in Texas would lead to state and local fiscal revenue gains of $722.7 million and $322.3 million per annum by 2030. Based on these reports, it is logical to conclude that increasing NP barrier-free practice could potentially save money for the people of Nebraska.

In Nebraska, 84 of the 93 counties are considered rural. Of those 93 counties, 16 do not have a practicing physician as compared to 28 counties without a practicing NP. In 2011, there were 64.8 active primary care physicians per 100,000 population with only 15.9 active NPs per 100,000 population. Within Nebraska, 45% of NPs are practicing in primary care, as compared to nearly 38% of physicians. Nearly 18% of primary care physicians are over the age of 60 years as compared to only 9% of NPs. These data supports continued concern about subsequent decreased access to declining numbers of physician providers.

Literature Review

Rural Considerations

Rural regions are unlike their urban counterparts in many areas. Lower reimbursement rates, lack of transition to practice programs in rural communities, decreased salary as compared to their urban counterparts or specialty practice, the complexity of primary care, perceived isolation, and expenditures to maintain a rural clinic and being independent of a larger health care facility may all be contributing factors for lack of physician presence in rural
communities.\textsuperscript{45,46} Besides this broad list of health care access obstacles, rural communities have been shown to contain a disproportionate amount of elderly and higher prevalence of chronic disease such as heart disease, hypertension, pulmonary disorders such as asthma, and psychiatric illnesses.\textsuperscript{47,48} NPs with expertise in chronic illness can help alleviate this burden in rural communities. Rural and critical-care access hospitals often utilize and hire NPs to increase access to primary, acute, and emergency care and are considered more cost-effective or more economical than physicians.\textsuperscript{49}

**Barriers to NP Practice**

For purposes of this article, formal barriers to NP practice include statutory and regulatory barriers, collaborative and supervisory agreements, administrative policies including credentialing and hospital privileges, order limitations and requirement for physician co-signatures, prescribing privileges, reimbursement issues, and malpractice insurance caps. An informal barrier, while not codified, can inhibit practice because of its perception as a barrier. Some examples include interpretations of legislation and policy\textsuperscript{50}, reluctance to change from historic patterns\textsuperscript{1,50,54}, “power over” perceptions,\textsuperscript{50-52} perpetuation of dysfunctional relationships,\textsuperscript{1,53} and the use of derogatory language\textsuperscript{50}. Formal and informal barriers may present differently for NPs based on the type of service and practice environment.

It has been concluded that the nationwide variation in states’ rules and regulations are not supported or substantiated by evidence-based research and seem arbitrary to the point of confusion about scope of practice.\textsuperscript{1,7,55} Barriers, such as mandated written collaborative practice agreements and required physician supervision, limit the NP’s ability to practice and provide access to health care. As early as 1988, physician supervision has had an overall negative impact on rural NP distribution; states with less restrictive regulations and reimbursement policies
attract more NPs. Varied interpretations of terms like “physician direction”, “supervision”, and “collaboration,” as well as distinguishing clarification between “general”, “direct”, and “immediate” supervision, are problematic.

Currently 17 states and the District of Columbia have regulations that do not require physician oversight. Restrictive state and outdated scope of practice laws prevent NPs from practicing to the fullest extent of their education and training. There is no evidence that suggests maintaining a collaborative or supervisory agreement increases patient safety or improves the quality of care given to a patient. Nebraska currently requires an Integrative Practice Agreement (IPA), which is a collaborative agreement between a physician and NP. According to Nebraska’s Nurse Practitioner Practice Act, supervision is defined as the “ready availability of the collaborating physician for consultation and direction of activities of the nurse practitioner within the nurse practitioner’s defined scope of practice” Despite the statutory definition of supervision as “ready availability” it has been subject to individual or facility interpretation.

The legal authority for NPs to practice in Nebraska is more favorable than many other states however, recently anecdotal information has surfaced regarding physicians charging exorbitant fees for an IPA. During testimony for removal of the IPA in 2008, a NP revealed she was paying $15,000 a year until a physician left the practice; the replacement physician required $36,000 annually to maintain the IPA. A Nebraska senator on the Health and Human Resource Committee identified IPA fees as a form of “extortion.”

Administrative policies can impose additional barriers that prevent full utilization and patient access to NP providers. Facilities often group NPs with physician assistants (PAs) in the same administrative policies, lending to confusion of roles and educational preparation. These can further compound barriers in clinical and hospital privileges. Nearly 45% of NPs
hold hospital privileges and 15% have long-term care privileges. The IOM recommends NPs be eligible for hospital clinical and admitting privileges. Including NPs in hospital privileges may decrease readmission rates, improve overall health for patients, and decrease errors. Further recommendations include hospital medical staff membership with full rights associated with the position and inclusivity of NPs on credentialing committees.

As of 2013, physician co-signatures on NP charts for Medicare patient’s initial hospital examinations are no longer required, however, some facilities still require a physician co-signature. Although Medicare limits the ability to order home health care, NPs can re-certify and be reimbursed for patients in hospice care. In 2014, NPs will need physicians to document the NP’s a face-to-face occurrence within the last six months with Medicare patients to order DME. This requirement will create yet another barrier for NPs owning their practice or for those without an on-site physician.

While Medicare acknowledges NPs expertise to provide certifying services, there still exists the requirement of a physician signature in multiple venues. NPs hold prescriptive authority in all 50 states. Physician co-signatures are not required by any state to be listed on a prescription written by an NP, although some organizations may require a physician name before a prescription can be filled delaying access to health care services. Removing physician co-signature requirements may have wide-spread cost savings.

The ability for NPs to bill using their National Provider Identification (NPI) number varies from state to state and is often dependent on Medicaid and third-party insurance reimbursement. Only 33 states and the District of Columbia recognize NPs as primary care providers under the federal law of Medicaid managed care models. Some states have mandated direct reimbursement to NPs for services provided and enacted laws to prohibit NP
discrimination as a primary care provider by third-party payers.\textsuperscript{7} NP Medicare reimbursement rates are standardized across the nation and generally reimburse NPs at 85\% of the Medicare Physician fee schedule.\textsuperscript{65} NPs must be able to bill in order to create transparency of actual services being provided and demonstrate outcomes specific to NPs.

An alternative to fee-for-service payment programs through bundling of health care services would encourage transparency of health care costs and same service reimbursement equity\textsuperscript{21} through standardized quality and cost measures based on outcomes. Federal monetary incentives have been suggested to reward states that meet the IOM guidelines in removing SOP barriers for NPs\textsuperscript{1,21} These approaches would expand access to the NP workforce supply and increase competition, thereby lowering health care prices.

NPs are rarely cited for operating outside of their scopes of practices in liability claims.\textsuperscript{5,71-73} In a National Services Organization (NSO) survey, 87\% of respondents were more likely to have had a liability claim if they were mentored by a physician within their first two years of practice.\textsuperscript{71} In addition, average claims paid out were 3.88 times higher for NPs if they were mentored by a physician rather than another health care provider.\textsuperscript{71} The National Practitioner Data Bank has identified 0.3\% of NPs reporting malpractice cases since 1990 as compared to 45.1\% of MDs\textsuperscript{72}. Malpractice cases have changed little over the last 20 years for NPs, even though NP providers have increased.\textsuperscript{73} No difference in physician income or malpractice rates has been shown within states that don’t require physician oversight.\textsuperscript{5,74} Despite historic penalties for physicians purchasing malpractice insurance to include NPs and PAs, recent literature has recorded income practice increases have tripled.\textsuperscript{75}

NP and physician perceptions may not always align, and in some cases, increase barriers and promulgate negative relationships.\textsuperscript{53,76,77} Perceptions by physicians, health care
organizations, media, and patients account for informal barriers that are based on a lack of understanding of NP education and role competencies. This lack of understanding is exemplified in a Veteran’s Administration study\(^5\) of NP/MD perceptions of working relationships.

Ironically, most NPs viewed their role as autonomous with physician back-up available for more complicated health care issues, while physicians viewed NPs as “physician extenders” requiring oversight and supervision, citing that NPs were “unsuited to the role of primary care provider” and were to be utilized as “someone to reduce their workload without usurping their professional territory.”\(^5\)

Although 96% of NPs and 76% of physicians agree with the IOM recommendations to have NPs practice at their fullest extent of their education and training;\(^7\) a lack of understanding of NP roles within practice settings persist. Divisive tactics have been used to prevent and prohibit full practice authority for NPs. The American Medical Association (AMA) published the *AMA Scope of Practice Data Series: Nurse Practitioners,*\(^5\) which provided inaccurate and misleading information regarding an NP’s educational preparation, licensing, and certification. AMA’s position held that “the health and safety of patients may be threatened as a result of unwarranted scope-of-practice expansions sought by non-physician health care providers.”\(^5\)

Several studies have shown NPs have no significant differences in health outcomes or patient satisfaction rates while performing many of the same services their physician colleagues provide.\(^1,15,23,31,33,77\)

**Methodology**

*Study Design and Survey Methodology.* An exploratory, descriptive, cross-sectional study of NPs in the state of Nebraska was conducted to understand the NP’s perceived barriers to practice. A questionnaire was developed after a comprehensive review of NP barriers in the
literature, and administered to the listing of licensed NPs from the Nebraska Department of Health and Human Services (DHHS) Licensing and Credentialing Division. The questionnaire included demographic characteristics of the respondents and 38 items representing three main categories of content areas of interest: (a) respondent demographics (9 items); (b) practice demographics (11 items); and (c) barriers (18 items). Both open- and close-ended questions were constructed. Open-ended questions asked for short answer responses and closed-ended questions included nominal, ordinal, rank order, and multiple response options. The survey was designed to minimize respondent burden using branching to assure respondents only answered items relevant to their situation. Items were reviewed by the investigative team, two statisticians, and NPs within Nebraska, Iowa, Washington, and Hawaii to establish content and face validity. Items were refined to reduce ambiguity and improve readability and ease of completion. A pilot test of five NPs was used to test logistics of data collection, coding, and entry. The survey was estimated to take 15-20 minutes to complete.

Survey Distribution and Data Collection. A modified Dillman’s technique using Dillman’s Total Design Method was used to maximize response rates. Six mailings were performed to NP’s licensed in Nebraska over an 8 week period. The first mailing included a cover letter providing the purpose and instructions for questionnaire completion, a questionnaire, and a business reply postage paid envelope. A follow up post-card was sent one week later to non-respondents reminding them to complete the questionnaire. This cycle was repeated two more times. While no incentives were provided, thank you post-cards were mailed to all respondents that completed the questionnaire. Consent to participate in the study was indicated by the participant’s willingness to complete and return the questionnaire and/or to be interviewed of share stories of personal experiences.
Data Analysis. Descriptive statistical analysis of demographic characteristics of respondents and their responses to closed ended questions were conducted. Data was entered into a Microsoft Access database and exported to SPSS software (version 16, SPSS Inc.) or SAS software (version 9.3, SAS Inc.), cleansed and verified through a quality assurance process applied to the data records. Survey respondent data were de-identified and linkable only through a unique identification number assigned to the respondent initially with the first survey distribution cycle. Chi square, Fisher’s exact test, and odds ratio were used for statistical analysis. For all statistical tests, a two-sided p-value < 0.05 was adopted as the significance criteria. For odds ratio (OR), an OR <1 was statistically significant. Zip Code Tabulation Areas (ZCTAs™) were used to categorize rural versus urban zip codes. Zip codes are based on USPS mail delivery routes while ZCTAs are generalized areal representations based on Census block information and used to tabulate geographical summary statistics.80

Results

There was a 54.3% (n=619) response rate overall, with questionnaires mailed to 1,140 licensed NPs in the State of Nebraska. NPs actively practicing in Nebraska accounted for 88% (78.4% urban and 17.4% rural) of respondents. Nationally, 27.8% of primary care NPs work in rural or remote practice environments.81 Eighty-three percent (n=453) of participants listed Nebraska as their only state of practice, with 16.8% (n=92) identifying they practice in more than one state, including Nebraska. Table 1 identifies national certification of Nebraska practicing NPs. Similar distribution of national certification was found nationally.3

The average age of currently practicing NPs in Nebraska (n=546) was 45.4 years old. There was no difference (p=.931) in age within an urban (M_age= 45.27 years) or rural (M_age=45.27 years)
45.38 years) practice setting. Study respondent ages ranged from 27-72 years old (Std. dev. 40 years). Of those survey respondents that are currently practicing as NPs in Nebraska, females accounted for nearly 96% (n=590) and 96% (n=523) self-identified themselves as white. There were no statistical differences (p=.514) in average years of practice as a NP in urban (8.899 years) versus rural (8.428 years) setting. Ranges were from new graduate to 35 years of practice (M_diff = .471). The national average years as a NP was 11.7 years. Study participants, on average identified themselves as being a registered nurse (RN) for 19-20 years; with no difference (p=.457) in urban or rural settings. It is difficult to determine within this study as to whether RN years included NP practice. The average salary was $82,113 of those respondents practicing in Nebraska (n=496) with no difference (p=.805) in urban or rural settings. The national salary average for full-time NPs was $98,760. Seventy-five percent (n=413) of NPs found salary as a

Table 1
National Certification of Nebraska Practicing Nurse Practitioners

<table>
<thead>
<tr>
<th>Certification</th>
<th>Frequency n</th>
<th>Percentage</th>
<th>Urban %</th>
<th>Rural %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Practice</td>
<td>271</td>
<td>49.6</td>
<td>76</td>
<td>24</td>
</tr>
<tr>
<td>Adult Health</td>
<td>79</td>
<td>14.5</td>
<td>87</td>
<td>12</td>
</tr>
<tr>
<td>Acute Care</td>
<td>58</td>
<td>10.6</td>
<td>86</td>
<td>14</td>
</tr>
<tr>
<td>Adult or Family Psychiatric and Mental Health</td>
<td>54</td>
<td>9.9</td>
<td>94</td>
<td>6</td>
</tr>
<tr>
<td>Women’s Health</td>
<td>47</td>
<td>8.6</td>
<td>96</td>
<td>4</td>
</tr>
<tr>
<td>Neonatal</td>
<td>37</td>
<td>6.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pediatrics</td>
<td>40</td>
<td>7.3</td>
<td>77</td>
<td>23</td>
</tr>
<tr>
<td>Gerontology</td>
<td>28</td>
<td>5.1</td>
<td>80</td>
<td>20</td>
</tr>
<tr>
<td>Oncology</td>
<td>4</td>
<td>0.7</td>
<td>75</td>
<td>5</td>
</tr>
</tbody>
</table>
barrier, with almost 29% of those identifying their salary significantly effected or greatly inhibited their practice.

Nearly 58% (n=315) of NP participants bill with some or all insurance carriers in Nebraska, while 12% (n=65) bill under the physician collaborator or supervisor. Twenty-eight percent of respondents identified that they did not know if their NPI number was used for billing of the services they provided. There was no difference (p=.378) in urban versus rural settings in billing practices.

NPs identified they were “somewhat” or “very satisfied” with their primary practice location (91.1%), collaborative physician (88.5%), and administrative personnel (78.4%). NPs practicing in an urban (18.2%) environment were more likely to experience a physician that has limited or decreased their scope of practice (p=.046) as compared to their rural (9.6%) colleagues (Table 2).

Almost 42% of NP respondents identified having an IPA with a physician was a barrier, with nearly 12% of those stating that it significantly affected or greatly inhibited practice. Study participants currently practicing in Nebraska stated that NPs should not have a written IPA with a physician (41.6%, n=227) or with a NP (77.5%, n=423). Fifty-two percent (n=284) stated that NPs should have a written IPA with a physician; of those NPs, 63% stated the IPA should be for a limited time frame. Conversely, 16% (n=88) stated NPs should have a written IPA with a NP; of those 75% stated the IPA should be for a limited time frame. Significant variability in NP (n=104) recommended time frames were found. Twenty-nine percent (n=30) of respondents identified an IPA should last the first 5 years, 12% (n=13) for the first 2,000 hours of practice, and 12% (n=13) for less than a year.
Table 2
Occurrence of Physician or Administrator Imposed NP Limitations or Decreased Scope of Practice

Note: Physician, p=.046; Administration, p=.544

Eighty-three percent identified the cost of an IPA was not a barrier. Interestingly, 89% of those identifying cost as not a barrier, did not actually pay to have an IPA within their practice. Of all Nebraska practicing NP survey respondents, 82% (n=448) did not pay to have an IPA. Some NPs (3.1%, n=17) and organizations (11.55, n=63) paid a physician to have an IPA. The average cost of an IPA was $582 per month (ranges $100 - $2,000 per month). Rural practice areas were more likely to experience cost of an IPA as a barrier (OR .463).

NPs identified additional barriers that affected their practice: decreased or limited reimbursement (70.3%), inability to order DME (60.8%), required physician co-signature (56%), order limitations (52.5%), pharmacy requirements for physician co-signature (50.5%), joint protocols (46.3%), and difficulty in obtaining hospital privileges (39.4%). Rural areas were more likely to experience joint protocols (OR .830) and malpractice caps (OR .829) as barriers than their urban counterparts.
Eighty-one percent (n=445) of NP respondents perceive health care professionals lack understanding of NP education and practice, with nearly 31% of NPs identifying this lack of understanding as significantly effecting or greatly inhibiting their practice. In addition, 86.3% (n=471) of NPs perceive the public as not understanding NP education and practice, with nearly 30% identifying a significant effect on or greatly inhibiting their practice. Public understanding was more likely to be a barrier to NPs in rural practice settings (OR .849).

The top five reason NP study respondents that were not working in Nebraska as a NP or not currently working in Nebraska were: 1) currently working as a NP in another state with less barriers, 2) no NP jobs are available in NP’s specialty area, 3) no NP jobs are available in NPs geographical area, 4) new NP graduate, and 5) NP education and practice is not well understood by health care professionals.

Discussion

Barriers limit health care access to services provided by NPs. National formal barriers, such as physician oversight, resonated in Nebraska with 42% identifying the IPA as a barrier. The findings that 88.5% of NPs were either somewhat or very satisfied with their physician collaborator underscores that NPs have adapted and forged collaborative working relationships within the constrained IPA practice environment. A perplexing finding was the number of individuals that indicated the IPA as a barrier, yet still recommended an IPA with a physician. Follow-up interviews have already been requested by participants to delve deeper into this seemingly contradictory finding. Further analysis may provide additional insight as well.

Although the cost of a collaborative agreement was not found in the literature, Nebraska NPs did perceive the cost of IPA as a barrier. NPs in rural practice areas were more likely to experience cost of an IPA as a barrier with ranges from $100 - $2,000 per month. These results
support anecdotal stories in NP gatherings and legislative testimony. Exorbitant fees may hamper access to NPs in a variety of settings, especially those NPs wanting to set up practice in rural environments. NPs collaborate with a variety of health care providers, including physician specialists, without a written collaborative agreement. It will be essential for NPs to continue fostering relationships with other health care providers to improve patient outcomes.52,54

The need for understanding of NP education and practice by health care professionals was underscored with the 81% agreement that it as a barrier, with nearly 31% stating it significantly or greatly inhibited their practice. Similarly, 86.3% of NPs identified lack of public understanding of NPs, especially in rural areas. This is both a challenge and opportunity for further strategic communication between NPs, the public, policy makers and stakeholders, and other health care professionals. The trend toward interdisciplinary collaborative teams, will provide a venue for increased understanding of the roles and preparation of NPs.

**Recommendations**

Nebraska’s attempts to obtain full practice authority are representative of other states. In the context of the national literature and these study findings, several recommendations can be made. The recommendations can be conceptualized on several levels.

*National:*

- Acknowledge and identify NPs as full providers of health care services
- Ensure provider neutral and NP inclusive language in federal regulations
- Encourage facilities nationwide to provide hospital privileges to NPs
- Remove ordering limitations:
  - Durable medical equipment
  - Home health
  - Long-term or skilled nursing services
  - Palliative or hospice services
- Ensure full reimbursement for services provided by NPs
- Provide reimbursement incentives for states that meet the SOP standards
Nebraska:

Statutory and Regulatory:

- Remove limitations to NP practice
  - Remove IPA
  - Remove joint protocols
- Provider neutral language; remove language such as "mid-level" and "physician extender"
- Authorize insurance companies to recognize NPs as providers for full reimbursement

Health care facilities:

- Certify NPs for hospital privileges, including admission, discharge, and rounding
- Avoid administrative policies that combine NP and PA providers
- Provider neutral language; remove language such as "mid-level" and "physician extender"
- Inform health care professionals and the public regarding barrier-free NP practice
- Facilitate full utilization of NPs SOP, education and training
- Provide for multidisciplinary health care teams
- Ensure NPs are eligible for hospital or medical board appointments

Academic Institutions:

- Develop transition to practice or residency programs for new NP graduates
- Implement innovative approaches to interprofessional education programs
- Provide NP education within the context of multidisciplinary health care teams
- Educate health care colleagues, administration, and stakeholders regarding NP practice and roles
- Include conflict management and negotiation content in NP programs

Professional nursing organizations:

- Media campaigns to educate members and the public about NP practice and roles
- Inform policy through relationships within the legislative arena, health care facilities, health care professionals, and the public
- Address informal barriers

Future Research

Numerous questionnaire respondents voiced interest in being interviewed to further elaborate on personally experienced barriers; which will provide the basis for additional
qualitative analysis. Additional investigation is necessary to identify barriers experienced by NP-led clinics and NPs who have sought clinic ownership. Further research is also needed to identify physician perceptions of barriers to full utilization of NP providers.

**Conclusions**

Ensuring access and reducing costs while providing high quality health care services will be a challenge in the coming years. Removing barriers to practice for NPs will be paramount to ensuring access to these highly educated and trained providers in every state. NPs need to function at the fullest scope of their education and training. Removing barriers such as regulatory and statutory restrictions, IPA, reimbursement inequalities, and limitations on credentialing and hospital privileges will be essential moving forward. Ensuring use of neutral language in policies and acknowledging NPs as full providers will also be necessary. A creative and innovative approach is necessary to keep pace with the rapid changing health care environment and in the delivery and accessibility of those services. Health care organizations must learn to utilize the existing NP workforce in the most efficient and effective manner in order to meet the challenges of a decreasing primary care provider workforce, especially in rural areas.
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