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DAKOTA NURSE CONNECTION

The Nurse Licensure Compact: The Latest Information

Virtual Nursing Care for School Children with Diabetes

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DAKOTA NURSE CONNECTION

SUMMER 2014
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A message from the Executive Director

Gloria Damgaard, RN, MS, FRE
South Dakota Board of Nursing

Dear Readers,

Welcome to the summer edition of the Dakota Nurse Connection. As I write this message, the trees outside my window are bending and swaying in the wind and the weather forecasters have started using the "polar vortex" phrase again. It is a reminder that change is ever present in our lives.

On behalf of the Board of Nursing, I am happy to announce that the Board's proposed rule changes will be final as of July 28, 2014. These rules allow for the delegation of insulin administration to trained unlicensed assistive personnel by qualified RNs in accordance with a written protocol. The rule change is supported by evidence from the "Virtual Nursing Care for Children with Diabetes in the School Setting" project. In this edition of the DNC, we reprinted the results of this research project that appeared in the January 2014 edition of the *Journal of Nursing Regulation.*

Arriving at this change was an interesting process. I thought I would share with you one of the many things that I personally learned about the change process through this experience. Authors Bernard Ross and Clare Segal write about responses to change in their book titled: ***Breakthrough Thinking for Nonprofit Organizations: Creative Strategies for Extraordinary Results.*** They answer the question: "Why didn't they all stand up and cheer?" To answer this question, Ross and Segal (2002) describe The 5 C's of response to change. Specifically, the authors identify five categories of responders to change. First are the **C**hampions, the people that are out in front and run with an idea. They make up about 5-10% of the total. They are few in number but own whatever happens. Next are the **C**hasers, who don't respond to a new idea in a positive way immediately, but need more time to reflect on who else might be in favor. They can see the advantages of the change. This group is larger in number and represent about 15-20% of the total. **C**onverts are the third group of responders and represent the largest group. These responders require solid evidence in order to favor the change. The fourth group identified by Ross and Segal are the **C**hallengers. They ask the tough questions. They resist or challenge the change from the very start. It is very important to listen to the challengers as they are the ones that need to be convinced that a change is needed. Once they are convinced, they stop opposing the change. Lastly, are the **C**hange-Phobics. They represent about 5-10% of the responders and you will never get them to change. These responders usually have a stake in the outcome and will attempt to derail your change. They are essentially immovable. Ross and Segal offer suggestions on managing change and dealing with all five categories. The authors helped me put into perspective, many of the positive and negative encounters that we experienced throughout the process of changing the administrative rules to allow for the delegation of insulin administration. The goal of our work over the past few years has been to ensure that our citizens living with diabetes have access to the safest care possible, especially when a nurse is not present to deliver that care. One would think that everyone would stand up and cheer for that goal.

In conclusion, I would like to extend our gratitude and sincere appreciation to everyone involved with the "Virtual Nursing Care" project. Our champions are the virtual nurses and the trained unlicensed assistive personnel that provided many hours of safe nursing care to children in the school setting. The SD Diabetes Coalition is now championing the sustainability of this model of care in our state. It has been a source of professional pride and accomplishment for the Board of Nursing to design and implement a research study that would answer the questions of the Challengers, Converts and Chasers. We are better informed because of the role that you played in the process. Lastly, to the Change-Phobics, we will assist you with this change to the best of our ability.

I will be in touch with you again in the Fall edition of the DNC.

Sincerely,

Gloria Damgaard

Gloria Damgaard, RN, MS
Executive Director

A message from the Executive Director

Constance Kalanek, Ph.D., RN, FRE
North Dakota Board of Nursing

Greetings, and welcome to the ***Dakota Nurse Connection,*** the official publication of the North Dakota Board of Nursing. This magazine is another way, in addition to our website, to keep consumers and licensees apprised of the changes and news events occurring at the North Dakota Board of Nursing. The Board just recently rolled out a new website- visit the site at www.ndbon.org . It has a totally new look highlighting the ND landscape. We have tried to make the information easily accessible and useful, so let us know your thoughts or if you have suggestions for improvements to the site.

The North Dakota Board of Nursing will be celebrating 100 years of nursing regulation and licensure in 2015. The board has partnered with the North Dakota Center for Nursing to plan the celebration. This event marks an exciting year in nursing regulation in our state. The Board's purpose changed as each decade passed. This is the historical highlight for this issue. Enjoy!

"**In *1939, the purpose of the Board was to provide for exams, to grant and issue certificates of registration, and to inspect and accredit schools of nursing. A change in legislation in 1939 (S. L. 1939, Ch. 187) required Board members to have five years of experience in nursing education or related experiences. The Board hired a registered and qualified nurse as an inspector of the schools. The inspector could also serve as a member of the Board (S. L. 1939, Ch. 187). The Board accredited a school after inspection, collected a fee for accreditation, and set requirements for the schools. The Board also determined the qualifications for applicants of the nursing schools." The sources for this information are the Gray, David P. Guide to the North Dakota State Archives, 1985.***

So mark your calendars for May 21, 2015. A conference will be held to mark this occasion at the ND Heritage Center, Bismarck, ND. The title of the conference is: Celebrating 100 years of Nursing Excellence- Past, Present and Future. The initial plans indicate a one-day conference with a keynote speaker and a celebration to follow.

The board said farewell to Julie Traynor RN and Melisa Frank LPN. We thank them for their service to nursing regulation in our state. At the same time, the board will be welcoming two new board members in July or shortly thereafter. Melissa Hanson RN has been appointed as an RN Board Member with expertise in nursing education. We await the appointment of an LPN member.

The Board continues to strive to proactively regulate the practice of nursing by providing timely information that gives registered nurses, licensed practical nurses, unlicensed assistive persons and medication assistants the knowledge they need to remain compliant with the laws and rules. Let us know what you think! Please feel free to use the "Contact Us" on the website or call the office direct.

The Board will be in touch with you again in the Fall publication. Remember as caretakers, we need to take time out for ourselves and relax and enjoy life. Hope you are having a great summer!

Best Regards,

Constance B. Kalanek PhD, RN, FRE

Mission
The mission of the North Dakota Board of Nursing is to assure North Dakota citizens quality nursing care through the regulation of standards for nursing education, licensure and practice.

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You can contact anyone at the Board of Nursing by e-mail.

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NORTH DAKOTA BOARD OF NURSING 2014 BOARD MEETING DATES

July 17, 2014 Annual Meeting

September 24, 2014 Board Retreat

September 25, 2014

November 20, 2014

January 15, 2015

March 19, 2015

May 22, 2015

July 16, 2015 Annual Meeting

As a service to the citizens of North Dakota, the Board of Nursing provides a PUBLIC FORUM during each board meeting. This is a time when anyone may address the board about any issue regarding nursing. Prior notification is not necessary. Individuals will be recognized in the order of their signature on a roster available at the board meeting. The time of the Public Forum for the 2014-2015 board meetings is 11:00 a.m. of the first day of each board meeting.

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Constance Kalanek, Ph.D., RN, FRE
Karla Bitz, Ph.D., RN, FRE
Patricia Hill, RN, BSN
Stacey Pfenning, DNP, APRN

Length of Presentation(s): 60 minutes each. Fee: $100 per presentation plus mileage.
Contact Hours: One contact hour each, except Standards of Practice and Code of Ethics is 2.3 contact hours.
Approved by the North Dakota Board of Nursing.

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LICENSURE VERIFICATION

North Dakota License Verification Options

The North Dakota Board of Nursing provides the following options for individuals attempting to verify a ND nursing license:

- North Dakota Board of Nursing Website – go to www.ndbon.org. and choose "Verify."
- Nursys® Nurses' Verification. For participating states, go to www.nursys.com. Choose Licensure QuickConfirm.
- E-notify – database for verification of licensure at nursysenotify@ncsbn.org

NORTH DAKOTA BOARD HIGHLIGHTS

May 2014

- Continue the requirement for 500 hours of Nursing Practice per year while under a board order for encumbrance.
- Found Turtle Mountain Community College Associate of Applied Science Practical Nurse (AASPN) program in substantial compliance with ND administrative code 54-03.2; and
- Placed Turtle Mountain Community College AASPN program on full approval status May 2014 through May 2016; and
- Turtle Mountain Community College AASPN program may not admit more than 12 students per Cohort. Program may request to the board to expand enrollment if faculty resource requirements are met and evaluation plan is in place.
- The Turtle Mountain Community College AASPN Program Administrator must submit the 2013-2014 annual report by October 15, 2014; in addition, a compliance report will be submitted by May of 2015 addressing the deficiencies of the "non-compliance" 54-03.2-02-05 Nursing Program evaluation and "partial-compliance" 54-03.2-04-01 faculty responsibilities standards for Nursing Program approval as cited in this survey report.
- Approved the request from Sanford College of Nursing BSN Program for voluntary closure effective June 30, 2014 as they have met the requirements according to NDAC 54-03.2-09-02 pending successful acquisition June 30, 2014.
- Recommended the board approve the ND State University major programmatic changes of the BSN program related to the acquisition/ merger with Sanford College of Nursing as the program has full approval from the ND Board of Nursing and the programmatic changes are in compliance with NDAC 54-03.2-06-02.
- Accepted notification of the name change of Sanford College of Nursing to ND State University at Sanford Health; and the report on the plan for storage of the academic records according 54-03.2-01-04 upon successful acquisition June 30th, 2014.
- Approved the request to extend the Practical Nurse Program at Lake Region State College, partner in Dakota Nursing Program, to Grand Forks, ND in Fall 2014, admitting no more than 16 students, as the program has full approval from the ND Board of Nursing and the programmatic changes are in compliance with NDAC 54-03.2-06-02.
- Approved the Dickinson State University's notification of major programmatic changes for the AASPN and BSN completion program as the programs have full approval from the ND Board of Nursing and the programmatic changes are in compliance with NDAC 54-03.2-06-02.
- Approved the University of Mary's notification of major programmatic changes for the LPN to BSN (RN) program as the program has full approval from the ND Board of Nursing and the programmatic changes are in compliance with NDAC 54-03.2-06-02.
- Approved the Minot State University's major programmatic change for the BSN program as the program has full approval from the ND Board of Nursing and the programmatic changes are in compliance with NDAC 54-03.2-06-02.
- Approved the ND State University's Fargo campus major programmatic changes for the BSN program as the program has full approval from the ND Board of Nursing and the programmatic changes are in compliance with NDAC 54-03.2-06-02.
- Affirmed the nurse refresher course policy and requirement of 120 hours of clinical experience for ND programs.
- Approved the guidelines for recognition of distance education nurse refresher course requirements according to NDAC 54-02-05-05 as programs are board approved within the state the program is headquartered with a minimum of 80 clinical hours.
- Accepted certificates of completion from board approved nurse refresher courses with a minimum of 80 clinical hours that meet requirements of the board's guidelines.
- Accepted the continuing education audit results report
- Direct staff to review the policy addressing continuing education providers request to be displayed on ND Board of Nursing web site and report back at the July 2014 board meeting.
- Direct staff to notify nurses regarding the exemption in NDCC 43-48-03 (2) that allows nurses to complete waived laboratory tests, i.e. whole blood glucose; and that the waived tests cannot be delegated to unlicensed personnel.
- Establish a task force to study the practice questions posed by the aesthetic nurses and review the current practice statements related to aesthetic nursing and report back at the July board meeting.
- Interpret NDAC 54-05-01-08 (10): health teaching of clients and their

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families may be implemented by the LPN utilizing an established teaching plan/protocol as assigned by the RN, APRN, or licensed practitioner. The LPN is participating in health teaching to promote, attain, and maintain the optimum health level of clients.

- Approved the changes to the disciplinary statistics/case activity documents and related agenda items to be congruent with the revised administrative rules that took effect April 1, 2014.
- Approved the proposed position descriptions for board president, vice president and treasurer.
- Approved development of policies and guidelines for web-streaming as a charge for the technology committee for FY 2014-2015
- Approved Dr. Karla Bitz as co-chair of the joint planning committee of the North Dakota Board of Nursing and North Dakota Center for Nursing for 100th year celebration which is to include a conference and gala.
- Approved the following dates for Board Meetings in 2014-2015:

  July 17, 2014
  September 24, 2014 board retreat
  September 25, 2014
  November 20, 2014
  January 15, 2015
  March 19, 2015
  May 22, 2015 (CFN/BON conference date May 21)
  July 16, 2015 annual meeting

- Approved Char Christianson RN, board member & Patricia Hill RN, staff as the representatives of the board of nursing to the community paramedic pilot project.
- Approved $27,000 fixed assets for FY 2014-2015 be taken from reserve funds.
- Approved $25,000 from reserve funds for the NDBON 100th anniversary celebration.
- Direct staff to review the current and proposed contract with Pearson Vue and NDDOH for NNAAP testing.
- Approved the proposed 2014-2015 budget of $1,350,065 projected income and $1,418,420 budgeted expenses, which includes $77,000 designated for nursing education loans and $259,800 designated for the ND Center for Nursing.
- Elected by unanimous ballot:
  President- Dan Rustvang RN
  Vice President – Jane Christianson RN
  Clara Sue Price - Treasurer

2012-2013 NURSING EDUCATION ANNUAL REPORT

Executive Summary

Nursing Education Programs in North Dakota:

In fiscal year 2012-13, nineteen nursing education programs held approval by the North Dakota Board of Nursing. There were three graduate level nursing education programs designed to educate for advanced practice registered nursing (APRN) licensure. There were eight approved baccalaureate nursing education programs and two associate degree nursing education programs designed to prepare individuals for registered nurse (RN) licensure. Additionally, there were five approved associate degree programs and one certificate program providing educational preparation for practical nurse (PN) licensure.

Nursing Program Approvals

In fiscal year 2012-13, the ND Board of Nursing conducted onsite surveys and approved the following recommendations for these existing programs:

- Sitting Bull College ASPN program
  1. Find the Sitting Bull College Associate of Science Practical Nursing Program in substantial compliance with North Dakota Administrative Code 54-03.2 Standards for Nursing Education Programs; and
  2. Continue full approval of the Sitting Bull College ASPN program through November 2015; and
  3. Require an addendum to accompany the FY 2012-13 Nursing Education Annual Report, verifying: a) the presence of adequate and dedicated clerical/assistive support for the Sitting Bull College Division of Nursing; and b) incorporation of additional adjunct nursing faculty as deemed appropriate and necessary.
- Turtle Mountain Community Technical College AASPN Program
  1. Find Turtle Mountain Community College Associate of Applied Science Practical Nurse (AASPN) program in continued partial compliance with ND Administrative Code 54-03.2; and
  2. Place Turtle Mountain Community College AASPN program on conditional approval status until January 30, 2014, at which time the ND Board of Nursing will determine whether stated deficiencies have been sufficiently corrected; and
  3. If a level of substantial compliance is not demonstrated by January 30, 2014, the ND Board of Nursing will determine a course of action, which will include withdrawal of board approval and the setting of a date to discontinue the program; and
  4. Turtle Mountain Community College AASPN program may not admit a new cohort of AASPN students until the program has achieved substantial compliance. A date for further admission of AASPN students must be mutually agreed upon by the ND Board of Nursing and Turtle Mountain Community College.
  5. The Turtle Mountain Community College AASPN program administrator must submit the 2012-13 Annual Report by October 15, 2013. In addition, a compliance report will be submitted by December 13, 2013 addressing the deficiencies of the "non-compliance," "partial-compliance," and "met progressing" standards for Nursing Program Approval as cited in this survey report.

The TMCC representatives requested reconsideration upon meeting noncompliance and partial compliance issues and requested to bring evidence of compliance to the July 2013 board meeting for reconsideration of recommendation #4 which mandated no admittance of a Fall 2013 cohort.

Board of Nursing Program Approval and Accreditation:

The NDBON developed a table to describe the approval and accreditation status of ND nursing education programs. Information obtained from program surveys and the CCNE and NLNAC websites revealed 9 ND programs with CCNE accreditation and 6 programs with ACEN accreditation (formerly NLNAC).

Admissions:

As national authorities struggle to capture admissions information with precision, a mechanism for acquiring this data accurately certainly continues to be challenging here in North Dakota as well. As with any summation of admissions data, the following summary must be viewed with a degree of caution, and the reader must remain cognizant that the report does not account for applicants who have applied for admission at multiple programs. However, the Board continues to acknowledge the importance of this somewhat elusive information.

For FY 2012-13, the baccalaureate programs reported 451 slots for admission, which is 71 less than reported in FY 2011-12. Admissions to baccalaureate nursing programs designed as preparation for RN licensure totaled 503, which was 23 less than last year. The two associate degree nursing (ADN) programs for RN licensure, which are structured via the ladder concept, reported 137 slots for the program. Of the 191 basic and advanced standing applicants, 132 qualified for admission. Of the 121 applicants accepted, 115 enrolled. Essentially, 87% of the qualified applicants proceeded to enrollment, depicting a 2% increase over FY 2011-

12. In total, admissions to educational programs which qualify graduates for RN licensure was 578, which is a decrease of 22 students.

The Associate in Science Practical Nursing (ASPN), Associate in Applied Science in Practical Nursing (AASPN) and Certificate Practical Nurse programs reported 272 available admission slots, 26 less than last FY. The programs reported 607 basic applicants, 55 less than last fiscal year. Of the applicants, 404 (67%) were qualified for admission. Of those individuals who were qualified for admission, 303 were accepted and 241 proceeded to enrollment. The total number of applicants admitted (n=241) represents a decrease of 25 from last fiscal year.

Enrollment:

FY 2012-13 marked a grand total enrollment in all programs of 1,948, which is 461 students less than FY 2011-12. Enrollment trends from 2008-2012 reflected increases in each year; however, FY 2012-13 demonstrated a substantial decrease (19%). Practical nurse (PN) programs' enrollment decreased by 64 students. The nursing programs for RN licensure saw an enrollment increase of 2 students in FY 2012-13. The enrollment numbers in pre-licensure master's degree programs decreased from 639 in FY 2011-12 to 239 in FY 2012-13. A report from one master's program stated that data from previous FYs was inclusive of all programs (including the nurse education and administration programs) which contributed to the abrupt decrease in enrollment numbers. There were 33 doctorate of nursing practice students enrolled in North Dakota programs, which is one student more than last year.

Similar to the past fiscal year reports, non-minority females comprised the majority of students enrolled in all types of nursing programs. There were 74 minority students reported in PN programs, thereby making up 24% of the students (up 2% from 2011-12 FY). Seven minority students were enrolled in ADN programs, comprising 9% of the students (down from 16% FY 2011-12). The 123 minority students in baccalaureate programs accounted for 10% of the enrollees, similar to last FY. The 26 minority students in the graduate programs represented 10% of the student population.

Male students (n=17) constituted 6% of the students enrolled in PN programs (up 1% from 2011-12 FY). The ADN programs had 1 male enrolled, which represented only 1% of the students (down from 10% in the 2011-12 FY). Baccalaureate program enrollment of males (n=149) comprised 12% of the student population (same as 2010-11 and 2011-12 FY). Male student numbers (n = 39) in graduate-level programs reflected 14% of the total graduate program enrollment (an increase of 6%).

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Graduates:

There was a total of 206 graduates from the state's PN programs, an increase of 25 students from the previous year. The only certificate PN program, offered through a consortium of five academic institutions, graduated a class of 109, which reflected 23 more graduates than the previous year.

A total of 125 ADN students graduated, thus qualifying for RN license by examination. An additional 479 individuals graduated from baccalaureate programs (65 more than 2011-12 FY), creating a combined 604 graduates from all programs preparing for RN licensure.

The most prominent age group represented in all the undergraduate programs consisted of those aged 24 and below (50%). The basic baccalaureate programs provided the largest numbers of graduates in the age 24 and below group (72%), in contrast to the age 41 and above group (2%). Within the PN graduate group (n=206), the 24 and below age group was calculated at 44% and the 25-30 age group was at 28%. Age trends are not reported for graduates of the master's or doctoral level programs. Master's program graduate data decreased from 264 in FY 2011-12 to 84 in FY 2012-13. Again, this decrease is partially contributed to the reported information from one master's program which was inclusive of all programs (education and administration. The doctorate of nursing practice programs decreased graduates by 4 as compared to the previous year.

NCLEX® Examination Pass Rates for First-Time Candidates:

The overall FY 2012-13 North Dakota NCLEX-PN® pass rates were 87.36%, which portrays a decrease of 7.67% from last fiscal year. The ND pass rates were 2.85% higher than national average.

The overall FY 2012-13 North Dakota NCLEX–RN® pass rates were 88.05%, which portrays a decrease of 1.4% from last fiscal year. The ND pass rates were 1.02% higher than national average.

Faculty:

In FY 2012-13, the state's nursing education programs employed 153 full-time and 180.39 part-time faculty with a total calculated FTE of 242.84. In FY 2011-12, total FTE's equaled 189.28. Of the FY 2012-13 totals, the following figures represent the highest level of academic preparation:

- 42.14 FTE's are prepared at the bachelors level (33.27 FTE's in FY 2011-12)
- 131.61 FTE's are prepared at the master's in nursing level (108.16 FTE's in FY 2011-12)
- 1.00 FTE's are prepared at the non-nursing master's level (00.75 FTE's in FY 2011-12)
- 40.26 FTE's are prepared at the doctorate in nursing level (24.86 FTE's in FY 2011-12)
- 27.83 FTE's are prepared at the non-nursing doctoral level (22.24 FTE's in FY 2011-12)

Faculty position openings, reported as the total of all ND Nursing Education Programs as of December 2013, are listed as follows:

- Number of openings = 14.09 (was 15.5 December 2012)
- Total vacancies being actively recruited as of December 2013 = 9.67

Nursing education programs continue to be highly committed to the advancement of their faculty within their respective graduate programs, in an effort to increase the percentage of academically qualified faculty. The Faculty Developmental Program (NDAC 54-03.2-04-08.1) provides the ND Board of Nursing with an ongoing mechanism for tracking the progress of faculty individuals. The following information reported by the programs is reflective of the progress of faculty in the development program.

- Total faculty FTE's filled by academically unqualified individuals:
  - FY 2012-13 = 9.63 FTE
  - FY 2011-12 = 4.75 FTE
  - FY 2010-11 = 26.4 FTE
  - FY 2009-10 = 19 FTE

Faculty demographic data was initiated FY 2010-11. The FY 2012-13 data indicated 286 female and 15 male faculty serving the state's nursing education programs. Data on age range of faculty were also collected. The 51-60 age range accounted for the highest percent (34%) of nursing faculty. The 61 and above age range accounted for 11%; 41-50 accounted for 28%; 31-40 accounted for 22%; 25-30 accounted for 6%, and the 24 and below accounted for 0% of faculty. Nursing programs reported faculty in North Dakota as almost exclusively Caucasian (98%), with 5 Native American faculty individuals.

Distance Nursing Education Program Recognition

The ND Board of Nursing continues to collaborate with pre-licensure distance nursing education programs seeking to place students in ND facilities for clinical experiences. In FY 2012-13, the board recognized 25 distance programs with a total of 709 placements of students in clinical settings in ND throughout the academic year. The distance nursing education students from PN programs represented 73.9% of student placements in ND facilities. The ADN/ASN programs accounted for 11.9% of the student placements. In Fall 2012, there were 301 distance education student placements in ND facilities. In Spring 2013, there were 295 student placements in ND. In Summer 2013, there were 113 student placements in ND facilities. The ND facilities included various clinical, hospital, and long term care settings in Bismarck, Fargo, Minot, Valley City, Harvey, Grand Forks, and Langdon and other rural areas.

Summary compiled by:
Stacey Pfenning, DNP, APRN,
Associate Director of Education and APRN Practice

2013 CONTINUING EDUCATION AUDIT

2013 – 2014 Licensure Cycle

	LPN	RN	APRN	APRN (RX)	TOTAL
Number Audited	48	133	4	7	192

Continuing education was mandated in 2003 for license renewal in North Dakota. Nurses are randomly selected for audit annually. During the 2013 renewal period, a request for audit was generated through the online renewal process to obtain a random sample of 192 nurses who renewed for the 2014 – 2015 licensure period and verified completion of 12 contact hours of continuing education. The 192 nurses were asked to submit documents to verify completion of the required contact hours for the previous 2 years by furnishing a copy of the verification of attendance for the earned contact hours. This number also reflected several license by examination renewal applicants. The majority of nurses chose to meet the continuing education requirements by obtaining the appropriate number of contact hours. The table above illustrates the compliance of the North Dakota nurses with the CE requirement. One hundred and ninety-one fully met the requirements.

Professionals In Recovery Together

March 22, 2014

Re: Professionals in Recovery Together (PIRT), North Dakota

Greetings!

We are writing this letter to inform you, as a professional, that we are starting a new group in the Bismarck and Mandan area. Currently, there is not a group in our region that addresses issues that surround the differing topics in the professional setting related to recovery. Numerous groups throughout the country revolve around professionals and their unique issues in recovery, such as the caduceus group. The proposed group will follow the 12-step program of alcoholics anonymous, and guidelines set forth by the IDAA (International Doctors in Alcoholics Anonymous). Our plan is to meet every Wednesday at 6:30 pm, at Trinity Lutheran Church located in downtown Bismarck. The group will be open to any professional whom is in recovery or wants to begin the journey to a healthier, more manageable way of life. This will include physicians, nurse practitioners, physician assistants, nurses, attorneys etc. We personally are in recovery, and fully believe in the 12-steps to facilitate this. With this style of a group, we are certain we can help address the paradox of healthcare and other professionals who are in recovery and provide the resources and discussion to meet our specific needs. The group will be self-sustaining as any AA chapter, so no dues will be in place. And as with all recovery meetings, anonymity will be respected with the utmost importance. Should you have any questions or need more information, please feel free to call or email us at any time. We look forward to seeing you!

In recovery,

Mike S, M.D.
Bismarck, North Dakota
701-425-4983 or scorchrott@live.com

Rich N, M.D.
Bismarck, North Dakota
701-527-1344 or rnybakken2@bis.midco.net

The Nurse Licensure Compact:
The Latest Information

The Nurse Licensure Compact allows a nurse to have one license in his/her state of residency and to practice electronically and physically in other states that have enacted the Compact. Under the Compact license the nurse may practice across state lines unless restricted by the state of residence.

The Nurse Licensure Compact includes registered nurses (RN) and licensed practical nurses (LPN). The North Dakota Board of Nursing implemented the compact January 1, 2005. Twenty-four states have implemented the compact. The nurses must become familiar with the requirement of the Compact. An excellent resource is the National Council State Board of Nursing website at www.ncsbn.org. Click on Nurse Licensure Compact (Lower right section) under Nursing Regulation in the U.S. There are many fact sheets and helpful resources at https://www.ncsbn.org/nlc.htm.

Substance Abuse Epidemic Reaches Deep into the Health Care Provider Community

Across the U.S., more than 100,000 health care providers and other health care professionals struggle with drug abuse, mostly involving narcotics such as oxycodone and fentanyl. Approximately 8,000 people in eight states were tested for hepatitis after David Kwiatkowski, a medical technician, was found injecting himself with patients' pain medicine and refilling syringes with saline. He infected at least 46 patients. This hepatitis outbreak was the third since 2009 linked to a health care worker using patients' syringes (the others were in Colorado and Florida).

Many states do not yet have mandatory reporting requirements to ensure that medical facilities alert regulatory agencies or law enforcement if they catch employees diverting or abusing drugs. As a result, disciplinary action for drug abuse by health care providers, such as suspension of a license to practice, often does not occur until a practitioner has committed multiple transgressions. Although there are national databases to track misconduct by doctors and nurses, there is no national database to track misconduct by medical technicians, as in David Kwiatkowski's case.

Health care practitioners engaging in drug diversion rarely are prosecuted. USA TODAY reviewed more than 200 federal and state prosecutions since 2008 for drug diversion by health care providers, finding just 15 percent of cases involving practitioners stealing drugs for personal use. A USA TODAY analysis of the National Practitioner Data Bank indicated that, from 2010 to 2013, only about 750 physicians nationwide lost hospital privileges or had their licenses restricted for drug or alcohol abuse related misconduct.

The latest data released by the U.S. Substance Abuse and Mental Health Services Administration in 2007 indicated that an average of 103,000 doctors, nurses, and other health care professionals a year were abusing or dependent on illicit drugs. The USA TODAY authors indicate that various other studies suggest the number could be far higher.

Some states offer special rehabilitation programs for health care practitioners, typically run under the auspices of state licensing boards or medical professional societies. These programs typically aim to enroll 1 to 3 percent of the state's health care practitioners, but data suggest that these programs are not reaching the minimal estimates of the populations needing assistance. Many addiction experts and policymakers believe that immediate progress could be made by addressing the health care practitioner community's substance abuse problem by better educating practitioners on preventing addiction and detecting potential impairment in colleagues.

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2014 NCLEX-PN Test Plan and New NCLEX-PN Passing Standard Are Now Effective

The 2014 NCLEX-PN Test Plan, based on the results of the 2012 PN Practice Analysis, is now in effect. The new PN test plan went into effect April 1, 2014. The test plan, available in a basic format, as well as detailed formats for candidates and educators, can be accessed on the NCLEX Test Plans page of ncsbn.org.

In conjunction with the release of the new PN test plan, the new NCLEX-PN passing standard also went into effect on April 1, 2014. In December 2013, the NCSBN Board of Directors (BOD) re-evaluated the PN passing standard and determined that safe and effective entry-level licensed practical/vocational nurse (LPN/VN) practice requires a greater level of knowledge, skills, and abilities than was required in 2010. The passing standard has been revised from -0.27 to -0.21 logits*.

Further information about how the BOD determines the passing standard can be found on the NCSBN website.

*A logit is defined as a unit of measurement to report relative differences between candidate abilities estimates and item difficulties.

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*Agenda items due
August 27th, 2014

All licensure forms, the Nurse Practice Act and contact information is available on the South Dakota Board of Nursing Website at www.sdnursing.gov

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Licensure Information

License Verification
Licensure status for all nursing professions can be verified online, https://www.sdbon.org/verify/
Registry status for Certified Nurse Aides can be verified online, https://ifmc.sd.gov/lookup.php
The verification report generated is considered primary source verification from the South Dakota Board of Nursing.

Criminal Background Checks Required
Criminal background checks (CBC) must be submitted to the SD Board of Nursing for all new applications for licensure by examination or endorsement on the South Dakota Board of Nursing cards. Please note: Cards from other agencies are not accepted.

Verification of Employment:
The Board will periodically audit and request a completed employment verification form.

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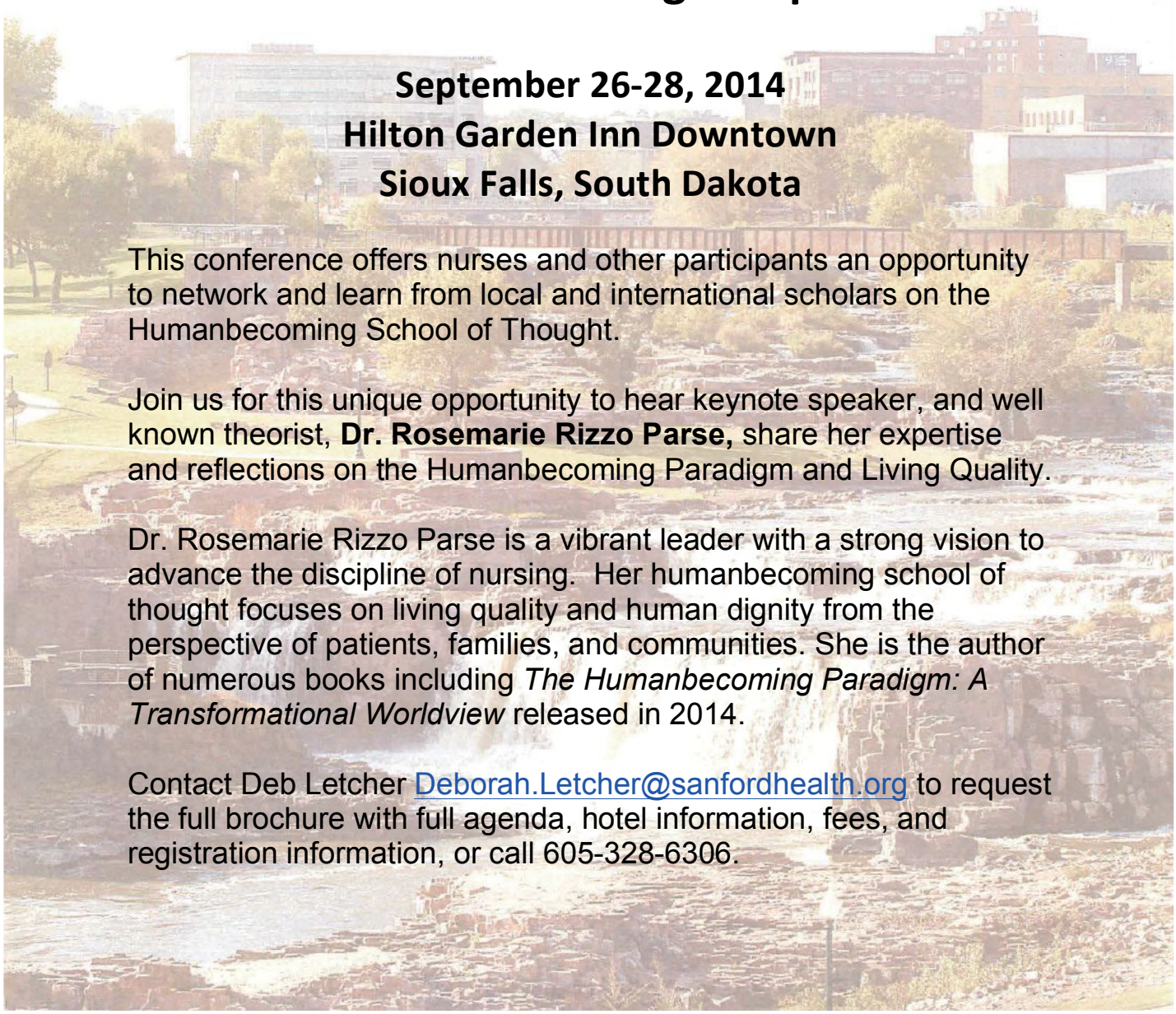

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Virtual Nursing Care for School Children with Diabetes

Gloria Damgaard, MS, RN, FRE, and Linda Young, MS, RN, FRE, BC

"Reprinted with permission from the Journal of Nursing Regulation". Citation: Damgaard, G. & Young, L. (2014). Virtual nursing care for school children with diabetes. Journal of Nursing Regulation (4),4, 15-24.

Access to safe health care when a nurse is not present is a public protection issue facing many boards of nursing. This is especially true in schools where a nurse is not present to provide care for children with diabetes. This study examined the safety and effectiveness of a model of care that linked trained unlicensed school personnel to registered nurses (RNs) via telehealth technology to delegate and supervise diabetes care tasks, including insulin administration. The study took place from December 2010 to May 2013, and 5,568 doses of insulin were administered safely by unlicensed personnel. Surveys taken before and after implementation measured the perceptions of parents and school personnel regarding the safety and efficacy of the model of care. Statistical results showed large degrees of effectiveness. This study provides preliminary evidence supporting regulatory changes for the delegation of insulin administration and other diabetes care tasks by RNs.

The Virtual Nursing Care for Children with Diabetes in the School Setting project is a model for having a virtual nurse presence in settings where a nurse is not present or needs help to meet the health care needs of the population. The Virtual Nurse project was inspired by three major concerns for the citizens of South Dakota: access to care for individuals with diabetes in settings where a nurse is not always present, legal barriers to the delegation and supervision of insulin administration, and the cost of sustaining the current model of care.

The model was based on the nursing principles of delegation and supervision of trained unlicensed personnel by licensed nurses in South Dakota (South Dakota Legislature, 2013). The literature shows several critical factors that influence the effectiveness of nursing delegation. Boards of nursing (BONs) have jurisdiction over licensed nurses and the nursing care they provide, including the care they delegate (Mueller & Vogelsmeier, 2013). Nurse practice acts (NPAs) define the legal limits of nursing practice and, in most jurisdictions, NPAs or administrative rules refer to delegation, though not all NPAs authorize delegation by registered nurses (RNs) (Corazzini et al., 2011).

The RN's obligation to provide safe, quality care creates distinct challenges when delegating care to unlicensed personnel. These challenges are amplified for school nurses by budgetary constraints, the lack of qualified nurses, and the increased use of unlicensed personnel (Gordon & Barry, 2009). Compounding the issue are federal and state requirements of the Individuals with Disabilities Education Act that mandate school services for complex student health needs as well as state and school administrators' directives requiring school nurses to delegate to unlicensed personnel (Resha, 2010). Thus, delegation to unlicensed personnel in schools has become a necessary and challenging practice, and school nurses struggle to meet the expectations of their role, maintain their standards, and comply with their NPAs and other regulatory statutes.

School Children with Diabetes

South Dakota, like many other states, has been examining the management and treatment of children with diabetes in schools. Numerous concerns regarding less-than adequate care have been cited by parents of children with diabetes attending schools where a nurse is not present. Parents reported that some school children have been transported to nursing homes for insulin administration during the school day. Other reports indicated that some schools required a parent to come to the school to administer insulin. Given the rural nature of South Dakota, this requirement presented several challenges for parents. In one instance, school officials administered insulin to children, citing their authority as an exemption to the NPA for gratuitous care of family and friends. These concerns as well as proposed legislation allowing unlicensed personnel to administer insulin were the basis for the South Dakota BON to examine the delegation of diabetes care in schools.

In 2008, a state bill (HB 1152) was drafted to provide diabetes management and treatment for school children (South Dakota Legislature, 2008). The bill stated that in the absence of a school nurse, trained diabetes personnel could administer insulin and perform other diabetes care. The School Nurses Association in South Dakota strongly opposed allowing unlicensed personnel to administer insulin, while the South Dakota Diabetes Educators Association strongly supported the proposed legislation and formally requested that the BON support it. The sponsoring legislator did not introduce the bill in committee because of the lack of consensus in the nursing community. The BON agreed the issue would be studied and methods for meeting the needs of children with diabetes in the schools would be examined.

At the same time, assisted living centers and residential care facilities were seeking ways to help those with diabetes receive care when a nurse was not present. Clients who could not administer their own insulin had to be admitted to a skilled nursing facility. One client was taken to the emergency department of a local hospital to

receive insulin because a nurse was not present. These methods were neither desirable nor economically sustainable. As a result, the BON was challenged to find ways to overcome barriers to the provision of diabetes care in settings where a nurse is not always present.

In response to these challenges, the BON and the South Dakota Center for Nursing Workforce hosted conversations on diabetes care in two locations. Key stakeholders participating in the conversations were school administrators, policy makers, physicians, diabetes clinical nurse specialists, school nurses, and concerned parents. The overall question was: "What possibilities exist to enhance diabetes management when a nurse is not present?" The findings of these two conversations were used to convene a task force to begin planning a pilot project. What emerged was a model linking trained unlicensed personnel with a virtual RN by means of technology to manage the care of school children with diabetes.

South Dakota Demographics

The geography of South Dakota lends itself to a model of care using virtual RNs. South Dakota is a large state with an estimated population of 833,354 (U.S. Census Bureau, 2012). Of the 38 counties in western South Dakota, 33 are considered frontier (having fewer than 7 people per square mile). South Dakota is one of the least urbanized states with more than 50% of South Dakotans living in rural areas. Only four counties have more than 30,000 people.

Though South Dakota has the highest RN-to-resident ratio in the country, 1,247.7 RNs per 100,000 residents (U.S. Department of Health and Human Services [HHS], 2013b), most of the state's rural and frontier counties are experiencing shortages of nurses and other health care professionals. According to the Health Resources and Services Administration (HRSA), 55 of South Dakota's 66 counties (83%) are listed as primary care health professional shortage areas. Furthermore, 47 entire counties are considered by HRSA to be medically underserved, meaning these areas cannot support sufficient health care services. This represents 71% of the counties (HHS, 2013a). Because of South Dakota's rural nature, nurses cannot be present 24 hours a day in all settings where people with diabetes need assistance.

Testing the Model

The current study was intended to determine whether diabetes care tasks including insulin administration could be safely delegated to trained unlicensed personnel by a virtual RN. The study received approval from the Avera Health Institutional Review Board. RNs certified in diabetes education were linked with unlicensed personnel via telehealth technology to implement the diabetes medical management plan. The virtual RNs could clearly see and speak to the unlicensed personnel and the school children by means of the technology.

The main purpose of the study was to answer the following question: *"To what extent is a model of nursing care utilizing a virtual RN linked to a trained unlicensed provider through telehealth technology safe and effective in the care of school children with diabetes, including insulin administration?"* The study objectives were as follows:

- Implement and test a model of virtual nursing delegation to and supervision of trained unlicensed providers caring for school children with diabetes, including insulin administration.
- Develop evidence-based quality indicators of safety for virtually managed care of school children with diabetes through the evaluation of clinical case management records.
- Measure the difference in perceived levels of satisfaction, timeliness, communication patterns, responsiveness, and use of technology in the care of school children with diabetes before and

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after model implementation.
- Formulate a resource guide for school nurses, administrators, and unlicensed providers who deliver care to school children with diabetes.
- Discover the implications of virtual nursing care delivery for regulatory infrastructure expansion through analysis of research data.

Method

An exploratory pilot project was performed in which clinical data were collected and a survey was conducted before and after model implementation. The project was implemented from December 1, 2010, through May 31, 2013. The sample population included school administrators, parents or guardians of children with diabetes, virtual RNs, and trained unlicensed personnel. Survey tools were designed to measure multiple variables, including satisfaction, safety, timeliness, communication patterns, responsiveness, and technological proficiency. Clinical diabetes outcome measures were collected by the virtual RNs and analyzed by the primary investigators.

Advisory Council

A core consultant panel, including the principal investigators, a clinical nurse specialist certified diabetes educator, technology experts, school nurses, and a research consultant provided the expertise for project implementation. This panel met monthly. Additionally, an advisory stakeholder council was appointed by the investigators.

The advisory council met face-to-face three times during the course of the project: initially, at the midpoint, and at the conclusion. The council consisted of the core consultants of the project; parents or guardians of children with diabetes; primary care providers; school administrators; nursing administrators; and representatives of the South Dakota Diabetes Coalition, South Dakota Certified Diabetes Educators Association, South Dakota School Nurses Association, South Dakota BON, South Dakota Department of Health, and South Dakota Nurses Association. The role of the advisory panel was to guide and assist the investigators in the implementation of the project and to identify and support policy recommendations for regulatory changes to the BON.

Participants

A convenience sample was utilized for the study. In the first year, administrators of public and private schools in the central, northeast, and southeast regions of South Dakota were sent a letter of invitation to participate. Administrators interested in participating contacted the principal investigators, and face-to-face meetings were conducted.

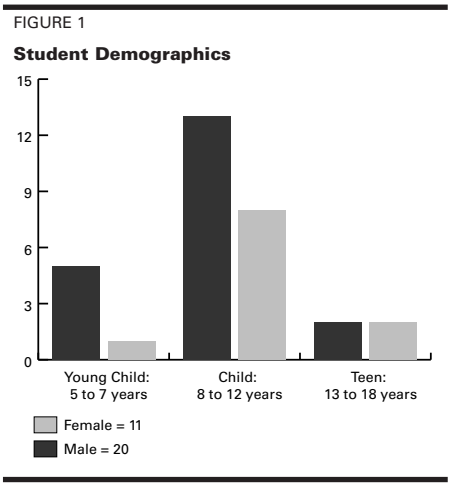
A second method of recruiting participants was used for the remainder of the study. The certified diabetes educators invited parents of children who were their clients and who met study inclusion criteria to participate. At the start of the study, the principal investigators were contacted by other parents and school administrators to request participation. In some cases, administrators were willing to participate, and the parents were not interested. In other cases, parents wanted their children to participate, but the schools declined to participate.

A total of 31 students participated: 20 males and 11 females. (See Figure 1.) Six students were ages 5 to 7; 21 were ages 8 to 12; and 4 were ages 13 to18.

Inclusion Criteria

The following criteria were established for inclusion in the study:
- The school in South Dakota must have students diagnosed with type 1 or type 2 insulin-dependent diabetes.
- The student must require insulin administration by injection or pump on a regularly scheduled or sliding-scale basis during the school day.
- The school must not have a licensed nurse present every day to assist children with diabetes during lunch time.
- The school must have the appropriate technology to connect to the virtual RN.
- The school must be able to identify an unlicensed person who can partner with the virtual RN for the management of students with diabetes during the school day.
- Informed consent must be obtained from the student and his or her parents or guardian before participation in the project.

FIGURE 1



Parents and guardians of children meeting the inclusion criteria received the consent form, and the children received an age-appropriate assent form. By signing the document, the parents or guardians voluntarily consented to their children's participation.

Measures

The measures used to evaluate the safety and effectiveness of the nursing model of care were insulin administration, blood glucose monitoring, carbohydrate counting, activity monitoring, and the survey before and after implementation. The trained unlicensed personnel documented the care provided in a weekly diabetes care log. The logs were submitted to the virtual RNs at the end of each week and were the basis for clinical data collection for the study.

Virtual RNs calculated the total number of insulin doses administered by unlicensed personnel and the number administered correctly according to the six rights of medication administration (Potter & Perry, 2005).

Unlicensed personnel recorded the dates, times, and results of blood glucose monitoring tests. These records were evaluated by the virtual RNs to determine if the times and results of the routine tests were recorded. The virtual RNs also evaluated the extra blood glucose monitoring tests performed and the actions taken in response to the results.

The documentation of carbohydrate counting by unlicensed personnel was evaluated by the virtual RNs for accuracy. Virtual RNs also determined whether unlicensed personnel performed the task independently or needed assistance from a virtual RN.

Activity monitoring was evaluated based on blood glucose testing before and after physical education classes or other physical activity as directed by the diabetes medical management plan (DMMP).

The survey tool measured participants' perceptions about safety, satisfaction, timeliness, communication patterns, responsiveness, and the use of technology for the virtual care of school children with diabetes before and after implementation. The surveys were developed by the research consultant, and the content was validated by the diabetes clinical nurse specialist consultant. Each parent was asked to rate the school's level of ability to care for his or her child with diabetes; school administrators were asked to rate the school's ability; and unlicensed school personnel were asked to rate their own ability to provide care to the children. Respondents rated their ability according to a five-point Likert scale with 1 as "not at all" and 5 as "very well" in seven categories:

- Provide safe, quality care.
- Obtain immediate assistance if a child experiences complications or conditions calling for instant decisions.
- Communicate with an RN who will supervise medication administration.
- Respond appropriately to questions about diabetes care.
- Make sound evidence-based decisions in a timely fashion within policies, procedures, and standards.
- Use technology to assist with the care of children with diabetes.
- Experience a level of satisfaction that the best care is provided to children with diabetes.

Additionally, respondents were asked to identify personal goals for the Virtual Nursing Care project.

Procedure

Essential components of the study included the technology, the virtual RNs, diabetes education for unlicensed personnel, clinical interventions, and the survey.

Technology

Each school that met the inclusion criteria was evaluated by technology consultants for sufficient network access and equipment. It was anticipated that most schools would meet the technology demands because a statewide project in the 1990s provided Internet access and computer capability to all public school districts. Unfortunately, almost all the schools were at capacity with network utilization, and broadband width was not available for the required clarity of the virtual RN connections. Therefore, separate Internet connections were installed. The technology consultants ordered and installed identical hardware and software for the schools and virtual RNs. The technology included desktop video units, laptop computers, Logitech Quickcam Pro 9000, Polycom PVX v8.0 Conferencing Application, Cisco VPN, and VPN Appliance.

The software ensured a secure internet connection to the virtual RN at the hub site. The hardware and software were designated for exclusive use with this study, and computers were locked, so no other access was allowed. Training on the use of the hardware and software was provided to the virtual RNs and unlicensed personnel by the technology consultants. Mock calls were conducted between the virtual RNs and the schools to test the technology and network connections. Backup protocols were established in case the technology did not work as intended. A help desk

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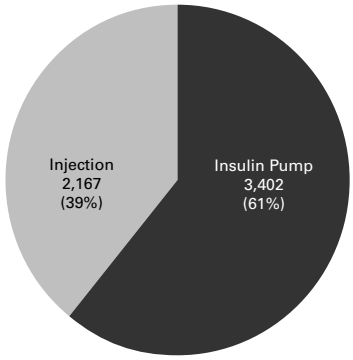
was available for troubleshooting technology-related issues. The virtual RNs could clearly see and speak to the unlicensed personnel and the children by means of the technology.

Virtual RNs

The project had six virtual RNs. All six were certified as diabetes educators. Four held a bachelor of nursing degree, and two were licensed as clinical nurse specialists and held a master of nursing degree. All six were employed in two hospitals that served as the virtual RN hub sites. During the project, the virtual RNs were contracted and paid to provide a total of 2,636 hours for their services. Services included training and competency evaluation, delegation and supervision of diabetes care tasks including insulin administration, assisting with the development of the DMMPs for all 31 students, and evaluation of clinical outcomes on a weekly basis. Virtual RNs were available to unlicensed personnel by telephone and in weekly telehealth consultations.

FIGURE 2

Number of Insulin Doses Administered by Injection and Pump



Diabetes Education for Unlicensed Personnel

Each school in the project selected one or more unlicensed persons to participate. Personnel included teachers, school administrators, and administrative assistants who agreed to be responsible for assisting with the management of children with diabetes. The American Diabetes Association's (ADA) standardized curriculum in *Diabetes Care Tasks at School: What Key Personnel Need to Know* (ADA, 2008) provided the basis for the education of the unlicensed personnel. The curriculum was developed and reviewed by a team of ADA expert volunteers and staff.

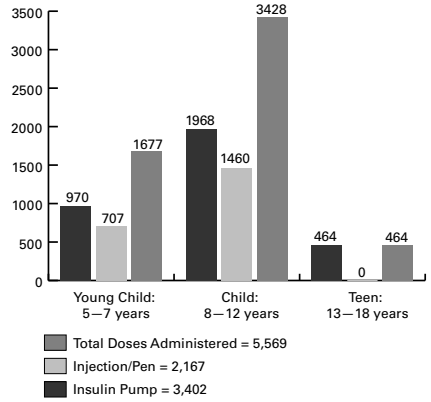
The didactic portion was 10 hours and taught by the clinical nurse specialist, certified diabetes educator who served as the clinical expert for the project. The entire 10-hour program was video and audio recorded, and unlicensed personnel received a DVD copy and a training manual. Additionally, each unlicensed person received a kit of diabetes supplies to use in developing competence in carbohydrate counting and insulin administration by vial and syringe and by insulin pen. Before implementation, one-to-one competency evaluations and return demonstrations were conducted with each unlicensed person on carbohydrate counting, preparing and injecting insulin via syringes, dialing and injecting insulin via an insulin pen, and assisting with entering data and delivering insulin via an insulin pump. Virtual RNs conducted the competence evaluations either in person or through the virtual technology units. In addition, each unlicensed person received a resource manual entitled *Helping the Student with Diabetes Succeed: A Guide for School Personnel* produced by the National Diabetes Education Program (2011).

Clinical Interventions

A DMMP was completed for each student participating in the project. The DMMP detailed the specific needs of the child and formed an agreement among the student's health care team, parent or guardian, and school personnel to meet the child's needs. All schools that received federal funds were required to have a written plan for children with special health needs according to Section 504 of the Rehabilitation Act of 1973 (ADA, 2003). The DMMP form for this project was similar to the example provided by the ADA. The unlicensed personnel were responsible for implementing diabetes care tasks based on the DMMP in consultation with the virtual RN. Virtual consultation dates and times were arranged by the virtual RNs and the unlicensed personnel, and consultations took place once a week or more frequently if necessary. The amount of consultation and supervision needed for each unlicensed person was determined by the virtual RN. The virtual RN

FIGURE 3

Number of Insulin Doses Administered: 5,569



determined the amount of supervision based on an assessment of the child's health status, diabetes management needs, and the unlicensed person's level of comfort and proficiency in providing care. The virtual RN was available during the school day by phone and virtual meeting if an unanticipated consultation was needed. Calls made to the virtual RNs outside the routine consultations were recorded in the clinical care record, which was submitted to the virtual RNs weekly. The trained unlicensed personnel also recorded the number of calls made to parents. These calls were made in compliance with elements of the DMMP.

Insulin Administration

Over the course of the project, 5,569 doses of insulin were administered subcutaneously by trained unlicensed personnel to children enrolled in the project. (See Figures 2 and 3.) The insulin was administered by pen, syringe and vial, or pump and was based on the child's DMMP. The unlicensed personnel entered the grams of carbohydrates consumed into the pumps, and the pumps calculated and administered the programmed doses of insulin. Unlicensed personnel also administered insulin by dialing the dose on an insulin pen and by drawing up insulin from vials into syringes. The virtual RNs reported the vast majority of students used either an insulin pump or insulin pen, not the syringe and vial method.

Diabetes care tasks implemented and recorded by the unlicensed personnel included insulin administration, blood glucose monitoring, carbohydrate counting, activity monitoring, hypoglycemic recognition and treatment, emergency glucagon administration, and hyperglycemic recognition. The unlicensed personnel documented each of the clinical elements and provided the information to the virtual RNs weekly. Data were analyzed to determine the safety and efficacy of the care provided. Of particular concern to the primary investigators was the safety of delegating insulin administration to unlicensed personnel.

Survey of Parents and School Personnel

Parents were mailed a survey and consent form before their children participated in the project. When the project was completed or a child withdrew from the study, parents received a second survey. Nonresponding parents received a second mailing.

School personnel received the survey before the study at their school addresses. Because the investigators then obtained the e-mail addresses of school personnel, the survey following the study was e-mailed. A second request was e-mailed to nonresponders.

Clinical Data Results

Clinical data and the survey were analyzed to evaluate the effectiveness of the model. The clinical data included (61.6%) were administered to children ages 8 to 12 (Figure 3). Of these 3,428 doses, 1,968 (57.4%) were administered by insulin pump, and 1,460 (42.6%) were administered by insulin pen. Children ages 5 to 7 received 1,677 (30.1%) of the total doses in the study. Of these doses, 970 (58%) were administered by insulin pump, and 707 (42.2%) were administered by insulin pen or syringe. Only 464 (8.3%) of the total doses were administered to children ages 13 to 18. All were administered by insulin pump.

Only one administration error (wrong dose) was reported; it resulted from the wrong number of carbohydrates being programmed into an insulin pump. This error was discovered by the unlicensed person who then called the virtual RN. Appropriate actions were taken, and the error did not cause a negative outcome.

During the course of the project, emergency glucagon was not administered, and no calls were made to emergency medical services. The records indicated that 59 calls were made to parents during the project. A total of 265 calls were made to the virtual RNs outside of the prearranged consultations.

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Blood Glucose Monitoring

Blood glucose monitoring was performed according to the DMMP, and the weekly records submitted to the virtual RNs indicated that monitoring was completed accurately 92.5% of the time. Records showed that 7.5% of the time the unlicensed personnel did not record blood glucose monitoring accurately or documentation was missing. The weekly logs also tracked the number of blood glucose monitoring tests beyond those required by the DMMP. An additional 1,737 tests were recorded.

Episodes of hypoglycemia and hyperglycemia were also recorded. Each child's primary care provider identified specific indications of a hypoglycemic or hyperglycemic episode for the child on the DMMP. The provider also listed appropriate actions to take in response to the episodes. The unlicensed personnel recorded 708 episodes of hypoglycemia. Of those episodes, 703 (99%) were treated accurately based on the DMMP. In less than 1% of the cases, either the episode was not treated according to the DMMP, or the unlicensed person did not enter the data in the weekly log. Unlicensed personnel recorded 415 episodes of hyperglycemia. Nearly all (99.8%) were recorded as accurately treated according to the DMMP.

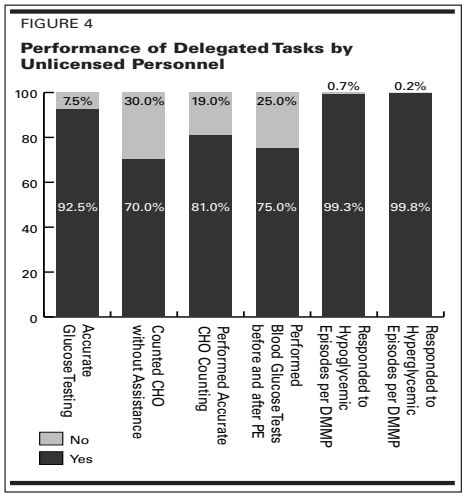
Carbohydrate Counting

The virtual RNs reported that 81% of the time unlicensed personnel performed carbohydrate counting accurately, and 19% of the time they did not. Of the unlicensed personnel, 70% indicated that carbohydrate counting was completed independently, and 30% indicated that they needed assistance from the virtual RN.

Activity Monitoring

The child's blood glucose level was monitored before and after physical education, sports, and other times as specified on the child's DMMP. The virtual RNs reported that blood glucose monitoring was performed by the unlicensed personnel 75% of the time. The investigators believe that activity monitoring was not completed and recorded 100% of the time because it was not required for all children in their DMMPs.

FIGURE 4



Overview of Clinical Data Results

Figure 4 represents the results of the clinical findings with the exception of insulin administration.

Findings from the clinical measures revealed 5,568 doses of insulin over a $2^1/2$ year period were administered safely by unlicensed personnel. Of these doses, 61% were administered by insulin pump. Administration by pen or syringe and vial accounted for 39% of the doses. Only 69 doses were administered by the syringe and vial method.

The performance on carbohydrate counting by unlicensed personnel was of more concern to the investigators than the delegation of insulin administration. Carbohydrate counting is a complex task and is closely connected to insulin administration because the grams of carbohydrates consumed often determine the amount of insulin administered. It is clear from the clinical outcome measures that trained unlicensed personnel had the most difficulty with carbohydrate counting, which is a diabetes care task that nurses may delegate in South Dakota.

In the opinion of the investigators, trained unlicensed personnel should have access to an RN for assistance with all aspects of diabetes care. Such access may require new models of care to enhance the presence of the nurse in settings where a nurse is not routinely present. Overall, the clinical data results suggest that RNs can safely delegate and supervise insulin administration after unlicensed personnel complete diabetes education training and competency validation.

Survey Results

Before the study, 31 surveys were sent to the parent group, and all were returned. Completion of this survey was required to enroll a child in the study. After the study, surveys were distributed to parents with two follow-up requests; the response rate was 32.3% ($N = 10$). Before the study, 50 surveys were sent to the school personnel group, which included administrators and trained unlicensed providers. Completion of this survey was required for inclusion in the study. After the study, 28 surveys were returned for a 56% response rate. Parents were asked to rate their perceived level of ability to trust the school with care of their children with diabetes before and after the study. School personnel were asked to rate their perceived level of ability to provide safe care of a child with diabetes in the school. The questions on the surveys were identical for both groups.

A series of paired-samples t-tests were conducted to examine differences in responses before and after the study. Only participants who completed both surveys were included in the analyses. Effect sizes indicated large differences in responses before and after the study. (See Table 1.)

Despite a small sample size, results of the before and after surveys completed by parents indicated statistically significant differences for all items except the *ability to use technology*, $t(8) = 2.05$, $p = .074$; and the *ability to obtain immediate assistance if a child experiences complications*, $t(8) = 1.79$, $p = .111$. However, these items had large ($d = 1.04$) and medium ($d = .77$) effect sizes. Regarding the technology item, the unlicensed personnel and virtual RNs were the primary users of the technology. Regarding the immediate assistance item, the absence of a significant difference in parent responses before and after the study should be explored further, though it must be noted that no emergency situations arose during the study.

Results of the before and after surveys completed by school personnel indicated statistically significant differences for all survey items. Effect sizes were large ($d > .80$) for most survey items. Every measure for the parent group indicated a large effect size with the exception of *make sound evidence-based decisions in a timely fashion*, which had a medium effect size ($d = .78$). For the school personnel, *obtaining immediate assistance if a child experiences complications* also had a medium effect size ($d = .71$).

continued on page 28

continued from page 27

Overall, survey results showed large changes in parents' perceptions of the school's ability to provide safe care for their children and in unlicensed personnel's perception of their ability to provide safe care for children with diabetes. The survey findings complement the clinical outcome data and lend support to the safety and efficacy of RNs delegating and supervising diabetes clinical care tasks, including insulin administration, to trained unlicensed personnel using the Virtual Nursing Care for Children with Diabetes in the School Setting model of care.

Limitations of the Study

One of the limitations of this study was the small sample size of students with diabetes. The investigators intended the sample size to be between 30 and 32 students to make the project feasible given the human and financial resources available. Safety was also a consideration in keeping the sample size small. A second limitation was the lack of survey data from the virtual RNs. Despite the limitations, the investigators believe that valuable information was obtained for evidence-based decision making by nursing regulators.

TABLE 1

Results of Paired-Samples t-test: Survey Responses of Parents and School Personnel Before and After the Study

	Before	After			
	Parents				
Item	***M (SD)***	***M (SD)***	***t(df)***	***p***	***Cohen's d***
Provide safe, quality care.	3.56 (1.13)	4.56 (.73)	2.68 (8)	.028	1.05
Obtain immediate assistance if a child experiences complications or fast-paced conditions calling for instant decisions.	3.67 (1.22)	4.44 (.73)	1.79 (8)	.111	.77
Communicate with registered nurse (RN) to supervise medication administration.	2.70 (1.83)	4.30 (1.25)	2.85 (9)	.019	1.02
Respond appropriately to parent's or teacher's questions about diabetes care.	3.30 (1.70)	4.60 (.70)	2.51 (9)	.033	1.00
Make sound evidence-based decisions in a timely fashion within policies, procedures, and standards.	3.30 (1.64)	4.60 (.70)	2.62 (9)	.028	1.03
Use technology to assist with the care of children with diabetes.	3.33 (1.50)	4.56 (.73)	2.05 (8)	.074	1.04
Experience a level of satisfaction that I am doing my best in caring for children with diabetes.	3.70 (1.16)	4.60 (.70)	2.38 (9)	.041	.94
Rate the extent to which this project met your expectations.	--	4.71 (.49)			
	School Personnel				
Provide safe, quality care.	3.61 (1.13)	4.54 (.58)	3.55 (27)	.002	1.04
Obtain immediate assistance if a child experiences complications or fast-paced conditions calling for instant decisions.	3.78 (1.25)	4.52 (.80)	2.39 (26)	.024	.71
Communicate with RN to supervise medication administration.	3.36 (1.47)	4.50 (.92)	3.32 (27)	.003	.93
Respond appropriately to parent's or teacher's questions about diabetes care.	3.32 (1.28)	4.39 (.63)	3.81 (27)	.001	1.06
Make sound evidence-based decisions in a timely fashion within policies, procedures, and standards.	3.50 (1.14)	4.25 (.75)	2.63 (27)	.014	.78
Use technology to assist with the care of children with diabetes.	3.00 (1.41)	4.18 (.90)	3.45 (27)	.002	1.00
Experience a level of satisfaction that I am doing my best in caring for children with diabetes.	3.50 (1.20)	4.64 (.68)	3.83 (27)	.001	1.17
Rate the extent to which this project met your expectations.	--	4.21 (.92)			

Implications for Nursing Regulation

The clinical outcome data and survey results support the Virtual RN model as safe and effective. The study also provides preliminary evidence for BONs to support policy changes regarding the delegation of insulin administration and diabetes care tasks in the school setting.

Additional investigation in the area of handling complications and conditions that call for immediate assistance is needed based on the responses of parents and school personnel. Carbohydrate counting also needs more study because it required more-than-anticipated assistance from the virtual RN. Diabetes training programs may need to ensure unlicensed personnel are competent in this task.

Access to care in the safest manner possible is a public protection issue for BONs. In this study, virtual nursing practice, including coordination of care, education and training, delegation and supervision, and evaluation of outcomes was safely and successfully implemented. The investigators believe RN involvement is necessary to assure the public that safe diabetes care is being provided. Nursing regulators need to be open to the exploration of new models of care that maximize the knowledge, skills, and abilities of RNs and reduce the legal barriers to the delegation and supervision of nursing tasks.

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A video demonstration of a virtual RN consultation is available on the South Dakota Board of Nursing's website www.nursing.sd.gov.

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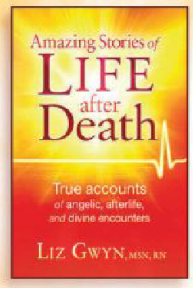

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