Nebraskans Embrace Technology

Rural and frontier populations are often innovators in putting technologies to new uses. For example, prior to the development of the Rural Electrification Administration (REA) in 1935, many homes in Nebraska were already going “green” and using wind power to generate electricity!

The 1930 and 1940 era “wind chargers” paired a wind mill with a small electric generator that ran lines into a home. While the current was variable at times, the system worked and significantly added to the quality of life in rural areas. REA power lines eventually reached every home in the state and made the early wind chargers obsolete. These early adaptations generated electric power long before the development of the green technology driving megawatt wind generators dotting Nebraska’s landscape today.

People living in Nebraska have continually modified technologies to meet their needs. At times, the adaptations are remarkable, as seen with the farmer’s use of Global Positioning Satellite (GPS) systems. While GPS was initially designed as a single point global position locator, Nebraska’s farmers have applied the technology to planting and harvesting crops. Farmers have realized that when combined with a computer system, GPS equipped tractors mark the location of every grain of seed, the type of soil in which it is planted and the composition of the soil; all while drive the tractor in a perfectly straight line that varies no more than an inch in either direction. When harvesting, the same GPS system records the yield for each plot and correlates it with the type and brand of grain.

Nebraskans’ habit of adapting technologies has been applied to distance learning as well. The use of telehealth for education and services in the 1950’s was strongly influenced by closed circuit TV adaptations made by Van Lear Johnson in 1955 at the Nebraska Psychiatric Institute (NPI). The NPI innovation was further advanced in 1964 with a $480,000 NIMH grant which funded a two way link with Norfolk State Hospital. In 2009 the University of Nebraska Medical Center’s College of Nursing Primary Integrated Psychiatric Nursing (PIPN) Project continues the tradition of educational innovation through adaptation of Adobe Connect. Through the use of Adobe Connect, the PIPN project is offering graduate education for psychiatric nurse practitioner students to areas that are federally designated as having mental health professional shortages. Nurses in these rural areas are enthusiastically embracing the program to meet the rural mental health needs in their home towns and counties - adapting yet another technology to improve the way of life for all of Nebraska.

Global positioning satellite (GPS) transponder and touch screen computer controls on a modern tractor.
As noted in the last issue, the Primary Integrated Psychiatric Nursing (PIPN) project funded by the federal Department of Health and Human Services is working on distance learning technology that covers all 77,358 square miles of Nebraska. While the technology is available, a crucial question was left unanswered. Would nurses in rural and frontier areas of Nebraska be interested in adopting new technology for distance education?

One has only to look at the horizon to see examples of technology being used. Scattered across any Nebraska countryside are towering grain bins with internal moisture and heat sensors, lengths of shinning pipe suspended above miles of crops, and massive machines cutting huge swaths across the fields. Within many homes are computers hooked to futures markets and ongoing satellite weather reports.

Nebraska has a history of adapting new technologies for education and services as noted by Van Lear Johnson’s early use of closed circuit TV at the Nebraska Psychiatric Institute. In the same path as Johnson’s work, current efforts are focusing on education, training and services to meet the behavioral health care needs of rural and medically underserved areas of Nebraska. The formation of the Behavioral Health Education Center of Nebraska (BHECN) in LB603 was a major effort in meeting the behavioral health needs of underserved areas. Parallel to that effort was federal funding of the Primary Integrated Psychiatric Nurse Practitioner Program (PIPN) at the University of Nebraska Medical Center’s College of Nursing.

The PIPN Project is now completing the first year of training nurses as psychiatric nurse practitioners in rural and medically underserved areas of the state. True to the spirit of the state, nurses in rural and medically underserved areas are embracing the use of new distance learning technologies. Enrollment the first year increased 140% with 11 students from rural and medically underserved areas. This coming year, new psychiatric nursing graduate students will take classes in Scottsbluff, Cherry, Holt, Pierce, Richardson, Franklin, Nuckolls, Seward and Madison counties, to name a few.

The PIPN outreach effort uses the new secure Adobe Connect platform. Face to face communications, real time lectures, slide shows, one-to-one advising and group meetings with members from across the state are now possible. Classes are based on real-time instruction with a minimum of travel time for the students. The end result, of course, is a trained workforce interested in staying in their rural communities. As with all new ventures, the technology is not perfect, but having a high level of success. True to form, Nebraskans’ will refine the technology and incorporate it as a way of life to meet some of the healthcare needs of the state. You can see the future just above the horizon!!

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Primary Integrated Psychiatric Nursing

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The community of Superior, Neb., in Nuckolls County has a population of about 2,000. To serve these residents, there are only six healthcare providers, of which none are psychiatric mental health practitioners, leaving a void that incoming student Erica Ferrell plans to fill.

Ferrell is one of the six providers having been a family nurse practitioner since 2007 at Broadstone Memorial Hospital, which is a critical care access hospital in the south central region. It seemed a good fit for her to expand her knowledge to become a psychiatric mental health nurse practitioner since she has always enjoyed caring for patients with mental illnesses.

Ferrell will take the “Sprint Track” post master’s certificate option and complete her schooling in almost a year. The distance education technologies that the PIPN project provides allows her to attend school full-time while maintaining her much needed position as an FNP. “Going back to school would not be an option for me without this technology. Lincoln is over two hours away and Omaha is over three. The commute would have not been feasible. I have a young family, so having a flexible schedule is the only way that I would be able to make furthering my education work,” she says.

Ferrell plans to see patients not only in Superior but throughout the entire region.

**PIPN’s Sprint Track PMC Program Fits the Bill for Student and Superior**

### Fall 2010 Enrollment in PIPN Program

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<th>1-3 students</th>
<th>4-6 students</th>
<th>7-10 students</th>
<th>11 and up students</th>
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<td>40 students in Nebraska</td>
<td>47 students total</td>
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4 students in IA
1 student in MN
1 student in IL
1 student in CT
Primary Integrated Psychiatric Nursing

A Project within the UNMC College of Nursing

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And History repeats itself as rural Nebraska proves itself to embrace new technologies in all walks of life

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Continuing the tradition of expansion and technology.

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