

# THE IHS PRIMARY CARE PROVIDER

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## Accuracy of Using PCC Data for Measuring BP Control in Individuals with Diabetes

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GPRA measures, stemming from the Government Performance and Results Act of 1993, are reports that are required of the Indian Health Service (IHS) to assure that our agency is appropriately using its budgeted funding to provide a high quality of care to American Indians and Alaska Natives. This article is another in a series<sup>1,2</sup> reporting results from the GPRA Pilot Study, a study designed to investigate whether or not data already contained in the Patient Care Component (PCC), the primary clinical component of RPMS (Resource and Patient Management System), IHS's healthcare information system, could be used to perform GPRA measurements with acceptable accuracy. These data either are already or could be exported to a national database from which the measurements could be derived, thus reducing reporting burdens on Areas and local programs. This article reports the results of the analysis of a performance measure to assess using data in a national database which were exported from PCC to measure the adequacy of blood pressure control in individuals with diabetes.

### Methods

In this study, a sample of approximately 200 women between the ages of 18 and 65 who were diabetic (we used these criteria so the sample could be used simultaneously for an analysis of another measure) were selected at each of five identified facilities using data from the Headquarters (HQ) ORYX system, a national IHS database for local facilities participating in the Indian Health Performance Evaluation System. HQ ORYX data are derived from the data routinely exported from the PCC to the national level.

We then gathered pertinent information from the HQ ORYX system (demographics, date of visit, systolic and diastolic blood pressures), on all visits for each of these individuals during a specific 12-month study period. Detailed listings of these visits and associated information were provided to the manual chart reviewer. The individuals' charts were pulled and manually reviewed to determine if a blood pressure was obtained during any visit during the study time period and, if so, those values were recorded. The blood pressure data for each individual were then analyzed and a median BP was calculated separately from the HQ and then from the chart data.

A "Best Available" median blood pressure was also calculated as follows: if a chart blood pressure existed for a visit those values were preferentially used to calculate the "Best Available" median; if a chart blood pressure was not present for a given

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visit but one was present in HQ data, those values were used. We determined if the median blood pressures for an individual were “in control” (systolic BP <130 and diastolic BP <85), or not, for each individual. Separate determinations on whether or not an individual’s blood pressures were in control were made using the medians from HQ, Chart, and “Best Available” data. Finally, for each facility we determined how many individuals’ blood pressures were in control, calculating a separate number using HQ, Chart, and Best Available data.

## Results

The numbers of individuals with diabetes whose blood pressures were in control at each of the five facilities are shown in Table 1. The numbers of individuals for whom there was

**Table 1. Numbers of individuals with diabetes whose blood pressures were in control**

	Number of Individuals	HQ Data		Chart Data		Best Available Data	
		#	%	#	%	#	%
Facility A	198	107	54.05	108	54.5%	108	54.5%
Facility B	199	45	22.6%	44	22.1%	44	22.1%
Facility C	171	99	57.9%	98	57.3%	98	57.3%
Facility D	233	95	40.8%	95	40.8%	95	40.8%
Facility E	201	60	29.9%	60	29.9%	60	29.9%
Overall	1002	406	40.4%	405	40.4%	405	40.4%

agreement in the determination of whether or not they were “in control” are shown in Table 2. In particular this table shows that the determinations from HQ versus chart data were discordant for 15 of the 1002 individuals. Since the discordances were in one direction for 8 individuals and the other direction for 7, the net discordance between the two methods was only 1.

**Table 2. Agreement in determinations of an individual’s blood pressure control based on HQ versus chart data**

Are an Individual’s Blood Pressures “In Control?”				
		Chart Data		
		Yes	No	
HQ Data	Yes	438	8	446
	No	7	549	556
		445	557	1002

## Conclusions

Our data show that there is remarkable agreement between HQ data derived from the PCC and the written chart data on whether or not the blood pressures of any given individual with diabetes are “in control” as well as with the overall measure of the numbers of individuals with well-controlled blood pressures at each facility. We suspect that there are at least two primary reasons for this. First, blood pressure is a measurement that

tends to be accurately and reliably recorded in the PCC.

Secondly, omitted data or data errors, even when they occur (and they did to a small extent), are less likely to skew the final calculation for this measure. This measure looks at a series of values, calculates a median, and then applies a cut-off standard to that median. Even if some of the data are omitted (e.g., if there were actually 10 blood pressures obtained during the set period and 3 are “lost”), as long as there is reasonable consistency between individual values (all values are so similar that omitting some did not change the median) or, if not, if the omitted data are at least randomly distributed (there is no bias in the kinds of values that are omitted), the median is less likely to be sufficiently altered so that a median that was below the cut-off is now above or visa versa. Then, even if the determination for some individuals was altered, in a population measure, any such misclassification of individuals is unlikely to affect the overall measure for the population as long as there is no consistent bias in how individuals are misclassified. Erroneously recorded values, just like omissions, are similarly unlikely to significantly skew the overall population measure.

We therefore conclude that certain measures are more likely to be highly accurate, even with some data omissions or erroneous values. A key characteristic of these kinds of measures are that they are derived by looking at multiple values or episodes, especially if they tend to be consistent over a period of time (e.g., blood pressure control, obesity), rather than single episodes (e.g., mammograms, immunizations). By carefully choosing measures, accurate information about clinical care can be obtained from less than perfect databases.

Limitations to the conclusions of this study include that this study only provides some of the first formal and rigorously studied, empiric data we have on this specific question. In addition, results and conclusions are based on data from only five facilities. As we begin to use PCC data for these kinds of measures, we need to continue to evaluate more and different kinds of data and measure their accuracy, in an ongoing fashion, at multiple and even more varied facilities.

## Acknowledgements

The authors would like to thank Danny Macias and Karen Carver, PhD for their assistance in providing the HQ data and to Lois Boyd for her assistance in entering study data during analysis.

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# The Annual Business and Educational Conference for Advanced Practice Nurses and Physician Assistants

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The annual Advanced Practice Nurse (APN)/Physician Assistant (PA) conference was held in Scottsdale, Arizona, on June 4-8, 2001. It included a day and a half of business meetings for APNs followed by three days of continuing education sessions.

The purpose of this yearly meeting is to provide a low cost opportunity for Indian Health Service, tribal, and urban program (I/T/U) APNs and PAs to conduct business meetings and accrue continuing education hours. This article will summarize the APN business meeting events.

The newly appointed APN Chief Clinical Consultant, Ursula Knoki-Wilson, CNM, from Chinle, Arizona, was introduced. She serves as the representative of the APNs to the medical administration and advocates on behalf of APN clinical concerns from the field. Judy Whitecrane, CNM, Phoenix, Arizona, represents APN nursing and administrative concerns to the National Council of Nurses (NCON). She facilitated the business meeting and gave the morning address on "Changes in Indian Health Care delivery Systems," describing the current size of the I/T/U health systems, and then examining decentralization, self-determination, and residual IHS functions. Organizational charts were used to emphasize the current I/T/U structure and the importance of APN representation in both nursing administration through the National Council of Nurse (NCON) and in the medical administration through the Chief Clinical Consultants group.

The first day's session also included an important discussion of APN salary issues. Given the variety of hiring personnel systems, including Commissioned Corps, Civil Service, tribal and urban employers, and contract sources, there is wide variation in APN salaries. However, with few exceptions, even the highest paid I/T/U APNs are below median private sector levels, while the lowest salaries are at markedly substandard levels. An important Civil Service salary initiative currently under consideration by The National Council of Nurses (NCON) would include APNs. It is hoped that if Civil Service salaries are increased, other hiring entities would feel compelled to do the same.

Two presentations on unusual APN roles included Salt River Clinic administrator Steve Thompson, FNP, from Scottsdale, Arizona, and Dr. Jodi Pelusi, FNP, the National Cancer Institute's Special Population Network grant coordinator. Dr. Pelusi presented a new breast examination technique called "mammocare" as well as informing and updating attendees on Native American cancer facts.

Breakout sessions devoted to identifying APN barriers to practice from the field reported to the group and developed a work plan for the coming year. The two representatives, Ursula Knoki-Wilson, CNM, and Judy Whitecrane, CNM, will lead the work plan. The goals for the coming year are as follows: 1) disseminate information about APN models of care and productivity across Indian Health; 2) provide support to APNs in clinical and administrative settings; 3) advocate on behalf of APN salary issues and working conditions; 4) increase APN participation on administrative I/T/U boards and committees; and 5) provide collegial support to one another, especially those in remote and rural areas.

The hard work of the Clinical Support Staff in planning this conference and the monetary support of headquarters Nursing Branch are gratefully acknowledged.

All APNs and PAs are encouraged to attend this valuable meeting next year. It will be held June 3-7, 2002 in Scottsdale, Arizona.



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# South Dakota State University College of Nursing Announces an Internet Master of Science Degree Program

The South Dakota State University (SDSU) College of Nursing has instituted an Internet-based Master of Science (MS) degree program in nursing. Students may choose from the following tracks: Family Nurse Practitioner, Nurse Educator, Nurse Administrator, or Clinical Nurse Specialist. All classes are asynchronous online courses in WebCT software. Students will be required to make very few visits to the Brookings, South Dakota campus, and clinical preceptors will be made available to students as close to their home towns as possible.

South Dakota State University has an outstanding record of educating nurses in isolated areas, including reservations. SDSU was named among the top five Midwest regional public universities for the last four consecutive years by *U.S. News and World Report*. As South Dakota's land grant

university, the mission of SDSU includes outreach services to populations who cannot travel to Rapid City or Brookings.

This fully accredited master's degree program was designed for place-bound students who cannot travel and who need to work part time while they earn their degree. Students from all over the upper Midwest are currently enrolled in the accredited degree program. Some scholarships and traineeships are available.

Classes are offered one per semester over four years. The deadline for applications is March 1st for fall admissions. Call the department toll-free for additional information at (888) 216-9806; or e-mail [Sheila\\_Stotz@sdstate.edu](mailto:Sheila_Stotz@sdstate.edu). For information regarding the program, visit <http://www3.sdstate.edu/Academics/CollegeOfNursing/> and click on "Graduate Nursing" to view the sequence of course work.



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## PHS Physician Mentoring Program

The Physician Professional Advisory Committee (PPAC) to the Surgeon General is initiating a voluntary mentoring program for new and junior Commission Corps (CC) physicians. Initially this program will be limited to Commissioned Officers (CO), but the plan is to expand it to Civil Service PHS physicians in the future. The goal of the program is to promote professional growth and career development. New and junior physicians (protégés) with less than two years of service can be matched with more senior physicians (mentors) by agency, geographic area, or discipline.

Initially, the PPAC is recruiting senior CC physicians who are willing to serve as mentors. A senior CC physician is one with over five years of experience in the PHS and who is at the grade of 0-5 or above. A description of the program and a mentor application form is available at [www2.IHS.gov/ppac/Mentoring\\_Intro\\_page.htm](http://www2.IHS.gov/ppac/Mentoring_Intro_page.htm). Information and applications can also be obtained through CAPT Dean Effler, 401 Buster Rd. Toppenish, Washington 98948; telephone (509) 865-2102, Ext. 224; or e-mail [usphsmentor@prodigy.net](mailto:usphsmentor@prodigy.net).

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# Update on Vaccine Supplies

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## Td shortage

In December 2000, Wyeth Lederle announced that they would cease production of tetanus toxoid-containing products, leaving Aventis Pasteur as the sole producer of tetanus and diphtheria toxoids (Td) in the United States. Although they are operating at full capacity, Aventis Pasteur has been unable to meet the demand for these vaccines, resulting in a shortage of TT and Td vaccines that is expected to last until mid-2002. In response to this, the Centers for Disease Control and Prevention (CDC) issued a recommendation that routine adult and adolescent tetanus booster vaccinations be deferred until the shortage has been resolved, and that Td vaccination be limited to the following groups<sup>1</sup>:

1. Persons traveling to a country where the risk for diphtheria is high
2. Persons requiring tetanus vaccination for prophylaxis in wound management
3. Persons who have received <3 doses of any vaccine containing tetanus and diphtheria toxoids
4. Pregnant women who have not been vaccinated with Td during the preceding 10 years.

Aventis Pasteur has begun to further limit distribution of Td vaccine in order to ensure an equitable distribution of the existing supply. All orders for Td vaccine must be made directly through Aventis Pasteur, and distribution is limited to central locations such as hospitals, emergency rooms, and public health departments. Patients seen in other locations who meet the above criteria need to be referred to these sites for Td vaccination. In order to maintain an adequate supply of Td to cover the priority populations listed above, it is imperative that all health care facilities adhere to these recommendations and only provide Td to patients who meet one of these four criteria. Further information can be found at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5020a8.htm>.

Although there were also concerns related to the supply of DTaP, the two manufacturers of DTaP vaccine state that they will have a sufficient supply over the next six months for providers to continue administering the 5-dose DTaP series as recommended by Advisory Committee on Immunization Practices

(ACIP). The CDC is closely monitoring the situation, and is limiting state inventory of DTaP to thirty days in order to ensure equitable distribution of the vaccine.

## Delay in Influenza Vaccine for 2001-2002

Although there will be more doses of influenza vaccine available this year, there will be a delay again in the distribution of the vaccine for the 2001-2002 influenza season. In October 2000, the ACIP released recommendations prioritizing populations for the receipt of influenza vaccine in the face of inadequate supplies.<sup>2,3</sup> These recommendations will remain in effect for the 2001-2002 influenza season, and the ACIP is currently drafting a supplement to these recommendations that will include further guidance on the targeting of influenza vaccine. To summarize, the current recommendations are as follows

1. High risk persons (as defined in previous recommendations) and health care workers should receive vaccination in September and October.
2. Providers should continue to vaccinate patients through December.
3. Workplace vaccination sites and mass immunization clinics should be deferred until late October/November.

This information will be published in an upcoming issue of *The Morbidity and Mortality Weekly Review (MMWR)*. For the most recent information concerning the influenza vaccine supply, go to [www.cdc.gov/nip/flu](http://www.cdc.gov/nip/flu). Additional information and assistance is available through the IHS National Immunization Coordinator, Amy Groom, at telephone (505) 248-4226; or e-mail [amy.groom@mail.ihs.gov](mailto:amy.groom@mail.ihs.gov); or contact your IHS Area Immunization Coordinator.

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