

## Sinusitis study finds variation in cost and patient care

By Lori Dittmer

In a recent analysis of sinusitis care across the state, Blue Cross Blue Shield of North Dakota (BCBSND) found variation among physicians' sinusitis costs and patient care. Sinusitis treatment costs varied from \$120 per episode in one network to \$180 in another. Further variation occurred among physicians within a given network.

To help raise physician awareness of these variations, North Dakota family practice physicians who treated 30 or more sinusitis episodes in 1998 will soon receive "report cards" from BCBSND. These report cards will allow physicians to compare their treatment of sinusitis patients with that of physicians across the state.

"The study will help us determine if variation is a problem and what is the best regimen for treating sinusitis," said Dr. David Glatt, family practice, MeritCare Health System.

Sinusitis, an inflammation of one or more of the paranasal sinuses, is one of the most common conditions treated by primary care physicians. It results in more than \$2 billion of the country's health care costs each year, not to mention weeks of misery for the patient. The Supplement to The Journal of Allergy and Clinical Immunology estimates that roughly 31 million Americans develop sinusitis each year, missing an average of four days of work, which adds to the overall expense.

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### Discussion Point

*How much physician and network variation is appropriate?*

#### North Dakota's 10 most costly ETGs

Inorganic psychoses except infantile autism	\$29,304,723
Degenerative joint disease, localized without comorbidity	\$22,154,302
<b>Sinusitis and rhinitis, without surgery</b>	<b>\$21,335,449</b>
Neuropsychological and behavioral disorders	\$19,426,990
Metabolic deficiency except gout	\$18,488,589
Other major neonatal disorders, perinatal origin	\$17,226,635
Minor inflammation of skin and subcutaneous tissue	\$14,816,653
Coronary heart disease, without AMI, with coronary artery bypass	\$14,308,651
Degenerative orthopedic diseases with large joint surgery	\$13,848,079
Minor ortho dis other than neck and back, except bursitis and tendinitis, without surgery	\$13,415,748

*Information reported by BCBSND on claims received for services completed during 1996-June 1999.*

#### North Dakota's top 10 ETGs by number of episodes

Routine exam	159,734
<b>Sinusitis and rhinitis, without surgery</b>	<b>149,164</b>
Tonsillitis, adenoiditis or pharyngitis, without surgery	147,040
Minor inflammation of skin and subcutaneous tissue	125,009
Otitis media, without surgery	119,182
Degenerative joint disease, localized without comorbidity	112,859
Minor ortho dis other than neck and back, except bursitis and tendinitis, without surgery	73,051
Otolaryngology disease signs and symptoms	58,638
Isolated signs, symptoms and non-specific diagnoses or conditions	58,186
Acute bronchitis, without comorbidity, ages 5 and up	57,893

*Information reported by BCBSND on claims received for services completed during 1996-June 1999.*

### Did You Know...

*About 0.5 percent of common colds are complicated by signs or symptoms of paranasal sinusitis, most often localized to or involving the maxillary sinus.*  
 – Canadian Medical Association Journal, March 15, 1997

## Sinusitis study

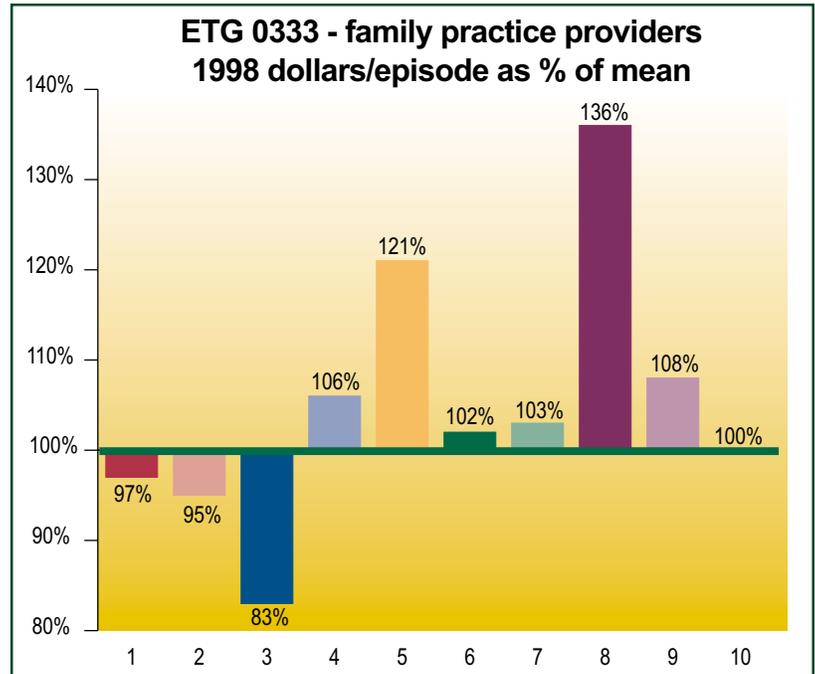
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### Discussion Point

*If the current cost and care ranges are not acceptable, what can be done to improve the situation?*

In North Dakota, BCBSND claims from 1996 through June 1999 show that costs for the sinusitis and rhinitis episode treatment group (ETG) totaled \$21,335,449, ranking it third most costly among the 558 ETGs analyzed and second only to routine exams in the total number of episodes for those three and a half years. The average cost per episode for all physicians was \$143, which represents the amount paid by BCBSND and the amount due from the patient.



### ? Did You Know...

*Chronic sinusitis is the most frequently reported chronic disease in the United States.*

— Mayo Clinic Health Oasis  
([www.mayohealth.org](http://www.mayohealth.org))

The overall variation ranged from \$94 per episode for nurse practitioners to \$358 per episode for allergists, although more serious and costly cases are often referred to the latter. In addition, although sinusitis cases per 1,000 members were concentrated in the south-central and southeastern portions of the state, surgery cases per 1,000 members more frequently took place in the south-central and northwestern parts of North Dakota.

There are several types of sinusitis: acute sinusitis, which lasts from one to two weeks; allergic sinusitis, which flares up with irritation; and chronic sinusitis, which can drag on for an agonizing three weeks or longer. Because many sinusitis symptoms commonly occur as a result of colds, bacteria, allergies and even dental root infections, physicians often base their diagnosis on a patient's clinical history and how he or she responds to therapy. Upper respiratory infection, nasal septum deviation, nasal polyps and tumors are other possible diagnoses for several sinusitis symptoms.

Most patients who visit a physician for sinusitis leave with a prescription for medication, commonly antibiotics such as amoxicillin and ampicillin. In fact, the 1992 National Ambulatory Medical Survey found that sinusitis was the fifth most common diagnosis for which an antibiotic was prescribed in this country.

### The BCBSND initiative

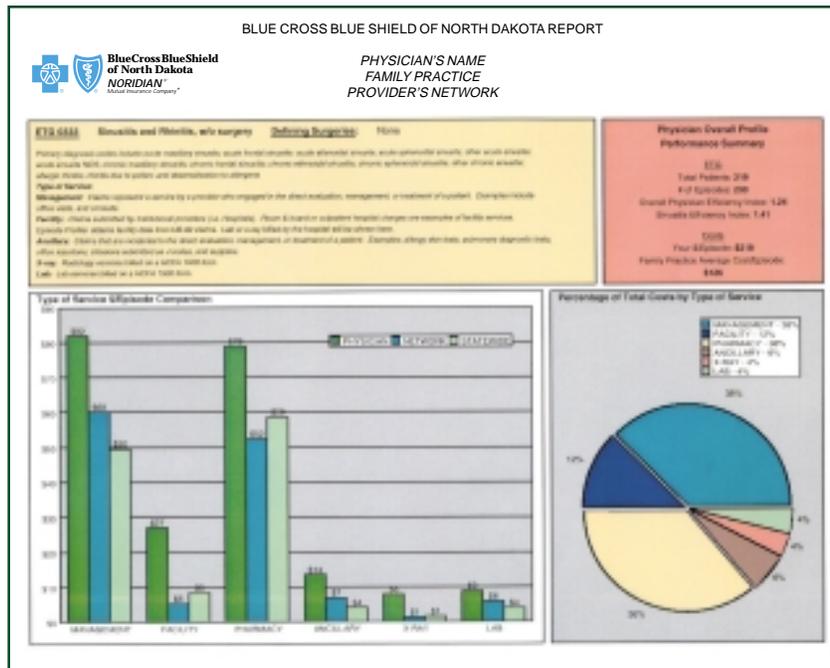
To increase physician awareness of how sinusitis is treated across the state, BCBSND compiled sinusitis care information by physician, network and statewide average. The analysis was based on claims received for non-surgical treatment provided in 1998 and included only the people who participated in the pharmacy card program, which automatically files patients' drug claims and allows for easier tracking. The study excluded patients who collected their own drug claims and sent them to BCBSND for reimbursement. Episodes of sinusitis consisted of all office calls, laboratory

studies, hospitalizations and drug utilization that appeared to be related to sinusitis until no services for sinusitis care were provided for 90 days.

The data will be presented in customized “report cards” for every family practice physician who treated more than 30 episodes. These report cards, scheduled to be issued in the near future, will provide:

- comparative information among family practice physicians across the state;
- information about drug costs and current drug utilization for sinusitis treatment;
- information about commonly accepted practices and procedures for the evaluation and management of sinusitis.

Although allergists, nurse practitioners, internists, otolaryngologists and others work with sinusitis cases, BCBSND chose to focus on family practice physicians only in order to compare results more precisely. According to the BCBSND report, family practice physicians handle more than 52 percent of all sinusitis episodes and account for 40 percent of the total dollars spent on sinusitis treatment in North Dakota.



Page one of the sinusitis report card shows a summary of the physician's overall performance as well as a breakdown of the costs and services included in treating a sinusitis episode.

The analysis studied family practice physicians in 10 networks throughout the state. Although the average cost per sinusitis episode for family practice physicians was \$117, network costs ranged from approximately \$98 in one network to \$147 per episode in another. According to Dr. Jon Rice, BCBSND medical director, if those family practice physicians who practiced above the average per episode cost in 1998 brought their per episode costs down to average, the savings would amount to more than \$350,000.

The report also showed the level of office call each network generally billed for sinusitis, the ancillary services performed in each network and the groups of antibiotics prescribed most.

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## Sinusitis study

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The second page of the report card features pharmacy information, such as the wholesale cost of drugs used to treat sinusitis.

### ? Did You Know...

Antibiotics are the primary therapy for bacterial sinusitis. The choice of antibiotic should be based on predicted effectiveness, cost and side effects.

— Supplement to *The Journal of Allergy and Clinical Immunology*, Volume 102, Number 6, Part 2

### The report card

The three-page physician report card for sinusitis contains a variety of data. The first page displays information about the physician, including the total number of sinusitis patients, number of sinusitis episodes, the physician's overall efficiency index as well as the physician's efficiency index for sinusitis only. The physician's cost per sinusitis episode and the average family practice cost per episode also appear on page one. In addition, a chart compares the physician's cost of various services, such as management, ancillary and pharmacy, to the network and state average costs for the same services.

Page two features the wholesale cost of drugs used to treat sinusitis, along with the top five antibiotic drug classes used by the physician, the top five used by all family practice physicians in the network and the top five used

statewide. Not surprisingly, penicillins top the statewide usage chart for sinusitis, followed by macrolides, cephalosporins, absorbable sulfonamides and tetracyclines. Variation in physician cost per episode is based on office calls as well as antibiotics prescribed. Therefore, each physician's use of a different prescription drug contributes to cost per episode variation.

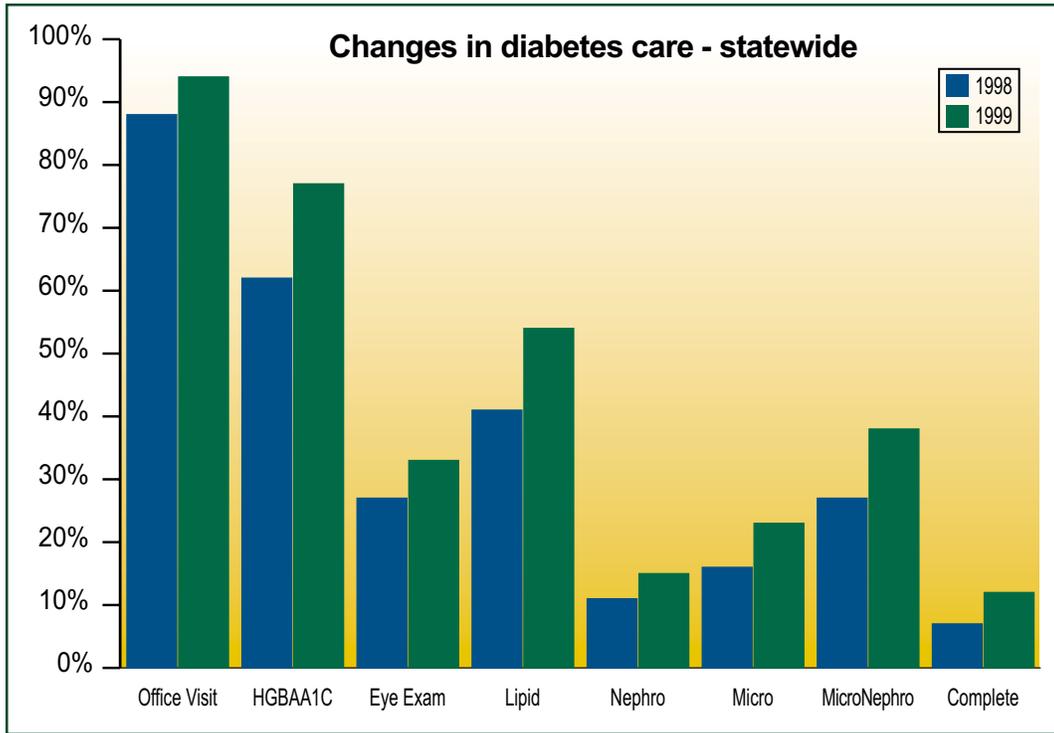
The last page of the report lists common guidelines and recommendations for sinusitis care

and treatment. "We want to give physicians some action items they can use," said Rice.

BCBSND plans to repeat the sinusitis evaluation in the coming months to determine if any changes have taken place. Physicians will then receive another report card detailing the results.

### The diabetes study

BCBSND, in partnership with the North Dakota Department of Health and the North Dakota Health Care Review, Inc., recently conducted a study comparing physicians with other physicians in their clinics and with the statewide average in caring for patients with diabetes. The goal was to help physicians ensure their patients received the appropriate tests and procedures for diabetes.



“I thought the diabetes information was very helpful,” said Dr. Thomas Meyer, internal medicine at the Langdon Clinic. “I follow the guidelines for diabetes management, but it’s good to have reminders.”

Karen MacDonald, nurse practitioner at Medcenter One’s Q & R Clinic, Steele, and Linton Medical Center, added, “The part I thought was helpful was that it showed whether the patients had the dilated eye exam. I didn’t know it was covered. Usually if patients know their insurance will pick up part of the cost, there’s more follow-through.”

The Linton Medical Center has a satellite clinic in Hazelton, which MacDonald calls a “diabetic hotbed.” Out of 300 patients, 75 are diabetic. Medcenter One has a diabetic care team in Hazelton to monitor these patients.

Physicians received the first report card in January, followed by an update a few months later. Although the second report documented statewide improvements, including statewide increases in office visits, hemoglobin testing, eye exams and lipid testing, there were too

many factors influencing diabetes care to attribute the progress to any one of them. Nevertheless, “the information validates what we’re supposed to be doing,” said MacDonald.

### The future

In addition to continuing the sinusitis and diabetes studies during the year, BCBSND plans to report on the management of routine examinations, hypertension and newborn care.

“We have resources and information that providers normally don’t have a chance to analyze,” explained Rice. “Our reports can give providers the opportunity to improve their overall quality and efficiency of care.”

“Physicians are always interested in learning the best method for treating any disease process,” added Glatt. “The sinusitis study will help to move us in that direction.”

*Lori Dittmer is a communications specialist with Blue Cross Blue Shield of North Dakota.*