



SOMAGEN™

[www.somagen.com](http://www.somagen.com)

# PROFILES

## David Thompson Health Region: *Progress: Making it Happen*

*The David Thompson Health Region strives to offer high quality programs and services in an effort to provide outstanding patient care.*

*The region, stretching across*

*Central Alberta from the*

*Saskatchewan border to the*

*Rocky Mountains, is composed of*

*44 health care facilities including,*

*but not limited to, acute care*

*facilities, community health centres*

*and continuing care facilities.*

Within the core of the region is the Red Deer Regional Hospital, often considered the health care hub of Central Alberta. Their drive to provide excellence in health care fuels their commitment to advancement by successful implementation of new technologies. As the hospital continues to grow and expand its patient care, Somagen recognizes them as leading innovators in the health care community.

### CRITICAL PLAYERS

As the clinical chemist for the DTHR, based at the Red Deer Regional Hospital Centre, Dr. Jim Wesenberg has piloted many new initiatives for their laboratory services. A recent success was the implementation of Triage® BNP, a new rapid response test from Biosite to aid in the differential diagnosis and severity assessment of congestive heart failure.

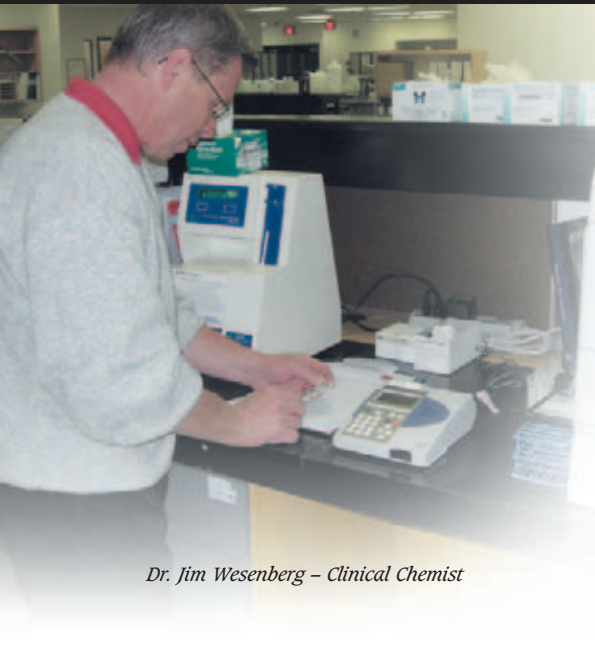


*Dr. Wesenberg, along with laboratory supervisor Deb Anderson, took the time to sit down with us and discuss their model for implementing BNP in the Emergency Room and how they were able to initiate positive changes, maintain momentum and move the process to successful completion.*

Healthy People Living in  
Healthy Communities

The David Thompson Health Region Vision

Red Deer Regional Hospital Centre



*Dr. Jim Wesenberg – Clinical Chemist*

## MAKING THE RIGHT CHOICE

*How did you make the decision to choose Triage® BNP?*

**Dr. Wesenberg:** We needed to identify the right test and to assess the platform(s) on which it could be run. We needed to consider where this test might be run and how the available platform(s) might fit throughout the health region in order to provide options for now and the future. The creation of a relationship with the vendor allowed them to see into our world, to understand our vision and to provide suggestions and assistance with program planning and process.

In the short term, our vision was to make BNP available for use by specific physicians in Red Deer for specific clinical indications. This vision was supportive of a point of care (POC) platform. The long-term goal is for on-site BNP availability throughout the region for all physicians. For on-site testing outside of the core laboratory, a POC platform will be required since the test volumes will be low and immunoassay analyzers are not generally available. A future increase in the Red Deer test volume (availability to all physicians and/or the use for additional clinical indications) may allow for improved cost efficiency if the assay is run on an immunoassay analyzer.

Therefore, critical to our selection of Biosite was the fact that essentially the same assay is available on both POC and immunoassay analyzer platforms. This provides the option to switch platforms as required without skipping a beat. The equivalence of results is also clinically advantageous as it allows for consistent interpretive criteria throughout the region, which is helpful in terms of physician consultation and patient movement throughout the region.

## EMPHASIS ON EDUCATION

*Why is education important?*

*Where did the vendor fit into the process? How much educational support did you rely on your vendor for or did you prefer to do this with your own protocols for educating your physicians?*

**Dr. Wesenberg:** Education is key component throughout the process. Education creates awareness and anticipation, develops support – medically and administratively, fosters participation and ensures compliance with the utilization and interpretive guidelines upon implementation.

Biosite and Somagen played a key role in the “educate in advance” portion of the process as each brought different but valuable resources to the table. Their willingness to understand our vision and to accept our resources and limitations was certainly appreciated.

Biosite provided algorithms that had already been validated for use as we intended in terms of the differential diagnosis of CHF. We actually adopted one of these algorithms. The physicians working with Biosite were able to share their real-life clinical experience concerning the clinical utility of BNP. Several people at Biosite played a significant role in the design and data analysis for the trial.

Somagen provided educational support on the local level. Through its network, Somagen was able to supply qualified professionals to provide this important service. It’s interesting to observe that people learning about something new often like to see a fresh face. Perhaps there is a sense that new people bring knowledge and experience from different perspectives.

## CREATING AWARENESS

*What were the early steps involved for the implementation of Triage® BNP at the Red Deer Regional Hospital Centre?*

**Dr. Wesenberg:** The most important preliminary steps were the creation of “Awareness” and “Anticipation” by a variety of means. Educational information about BNP was distributed in laboratory bulletins and general medical newsletters. There were many discussions with physicians. Sometimes the conversation was initiated by asking physicians if had they heard anything about BNP and indicating to them that this was something that the laboratory was watching closely. Physicians were encouraged to provide input: “If you hear about this new technology and you think that it is important please let me know”. Appropriate physicians groups, ER and Cardiology physicians in this case, were specifically asked things such as: “What are you hearing about BNP at medical conferences?” and “What are you reading about BNP in your journals?”

As positive responses from physicians began to arrive, each physician was asked to write a letter or send an email in regards to their thoughts concerning the clinical utility of BNP, how BNP would be important in their setting and how many patients might benefit if this test was available. The physicians were asked to direct their input to the laboratory and to the DTHR leaders – medical and administrative. In this way, awareness and anticipation was created throughout the DTHR organizational structure.

To provide consumer responsive health services that are appropriate, accessible, accountable and promote healthy living.

The David Thompson Health Region Mission

## OVERCOMING OBJECTIONS

*Once you established the value in Triage® BNP, how did you go about developing administrative support for a test that will affect the bottom line in the laboratory budget?*

**Dr. Wesenberg:** The health care community, administrators included, strives to ensure delivery of the best possible clinical service with the available resources. Everyone takes pride in the level and quality of service that's being provided. The job of the innovator is to build such a strong case that the decision-makers will know and feel that adoption of a new technology is just the right thing to do. However, on the other side of the coin, with today's explosion of new technologies, there must be a realization that everything is not possible and that advancement may occur in steps, so you need to focus on those opportunities with the greatest likelihood of success. Once established, you allow the system to create the need for future advancement. The system will do it for you as more physicians see the value and support it.

## RESOURCE MANAGEMENT

*What were the key factors responsible for securing the funds for BNP testing?*

**Dr. Wesenberg:** There were two important factors: clinical need and the novel concept of maximum allowable cost. The establishment/verification of clinical need was a primary focus of several steps in the implementation model: during the creation of awareness and anticipation, while educating in advance and finally during the performance of the implementation trial.

One of the things done repeatedly during the creation of the awareness and anticipation step was to ask, "In your opinion, how many patients would benefit from BNP testing for differential diagnosis of CHF?" Collectively the responses enabled an estimate of the test volume and therefore an estimate of the laboratory cost of test implementation. Medical audit may also be used to estimate test volume.

For this particular project, we also introduced BNP on a trial basis as part of the process leading to implementation. The trial was done under controlled conditions and therefore provided excellent insight to the patient population. This insight allowed for confirmation of the anticipated test volume and laboratory costs. The anticipated test volume was then converted to a maximum allowable monthly test volume. In turn, the maximum allowable annual cost to the laboratory was calculated. The concept of a maximum allowable cost for the introduction of a new technology was a key factor in getting administrative approval for implementation.

*How did you get the ordering physicians to accept the concept of a maximum allowable cost?*

**Dr. Wesenberg:** It was important to explain to physicians that implementation approval would require some guarantee of cost. The laboratory and physicians then worked together to define testing criteria (patient selection criteria, test timing and frequency, ordering locations and ordering physicians). It was the physicians who provided the initial volume estimates and the physicians were involved in the trial during which the volume estimates were confirmed. Due to their involvement, physicians had no problem in accepting and in fact were supportive of the concept of maximum allowable cost. They understood and agreed that there would only be so many tests available per month. In some ways, it was a pretty simple choice: either we agreed on the concept of maximum allowable cost or we could reasonably expect that BNP would not be made available at all.

By working together with the physicians, Dr. Wesenberg established a relationship and understanding that if they did this implementation properly, he would be able to help them with additional projects in the future. He stated "I'm not the gate-keeper, I'm the facilitator and the bridge between what physicians need clinically and what the laboratory can achieve technically and administratively".



*Carol Stoyberg, RN – Charge Nurse, ER  
& Dr. Jim Wesenberg*

*Did you try to define the potential global savings within the hospital when you made your case, such as a reduction in echocardiograms or a reduction in cardiologist calls by the ER in the middle of the night?*

**Dr. Wesenberg:** Support for the implementation of BNP based on the potential for global savings was gathered from the literature. Our study was too small to be able to generate data of this type at statistically significant levels. Studies of this type are beyond the scope of the resources available in our facility. I think this would be true for most clinical laboratories. Our focus was more on clinical need and patient benefit. However information from the literature on the potential for global savings was certainly made available to the decision-makers.

## INNOVATIVE TECHNOLOGIES - NOW AND THE FUTURE

*What is next for BNP? In general, what do you see in the future for innovative technologies for laboratory services?*

**Dr. Wesenberg:** We are excited about providing BNP to the ER and Cardiology physicians in Red Deer and we know that it will have a positive impact on the patients that we serve. As expected, the system is now creating the need for BNP testing for additional clinical indications and for on-site test availability in other DTHR locations. We continue to invite physicians to send letters in support of these new applications. We continue to promote BNP education.

As science and technology continues to make breakthroughs in clinical laboratory medicine, laboratorians need to be diligent in finding effective ways to implement these advancements – our novel model for BNP implementation is a great example of how this task can be done successfully.

*Somagen Diagnostics proudly acknowledges Dr. Wesenberg and his staff at the Red Deer Regional Hospital Centre as leading innovators in the field of cardiac medicine. Their hard work and perseverance led them to the successful implementation of Biosite Triage® BNP in hopes of advancing patient care within the David Thompson Health Region.*



*“BNP has had several general utilities for us:*

- Exclusion of CHF in mixed disease – very useful if the BNP is low or high*
- Assessment of CHF treatment - in subtle cases very useful if increased (e.g., cough on ACEI but symptom may be CHF)*
- Potential utility for present and future - prognosis for low level elevations in treated CHF; prognosis for SCD, treatment strategies based on same*
- Prognosis in MI's*
- Use in other cases of myocardial strain – pulmonary embolism, sepsis, etc.”*

Dr. Jitendra Singh  
Specialist in Internal Medicine  
Red Deer Regional Hospital Centre  
David Thompson Health Region

## NOVEL IMPLEMENTATION OF BNP – A Model to Target Clinical Utility, Promote Effective Utilization and Prevent Cost Overrun

Wesenberg, J.C. and Anderson, D. Clinical Laboratory, David Thompson Health Region, 3942 50A Avenue, Red Deer, Alberta, Canada, T4N 4E7

### ABSTRACT

**Objectives:** The implementation of new tests by clinical laboratories in Canada is seriously limited by the lack of funds and by the fear of skyrocketing costs caused by inappropriate utilization. The objective was to assess the effectiveness of a unique model for new test implementation that targets clinical utility while promoting appropriate utilization and preventing cost overrun.

**Methods:** Specifically define clinical utility, testing criteria (timing, frequency) and result interpretation. Establish anticipated volume (physician interviews,

medical audit). Educate in advance (presentations, reference materials). Offer the test temporarily to confirm volume and for hands-on education, especially when supplemented with chart review. Secure funding based on clinical need and a fixed maximum cost dependent on established test volume. Establish laboratory inventory control to prevent testing beyond the maximum limit. Implement the test (reiterate guidelines and maximum monthly volume). Review volume and utilization on a monthly basis.

This model was used for implementation of B-type Natriuretic Peptide (BNP) (Triage BNP, Biosite) specifically for differentiating congestive heart failure from other causes of acute dyspnea in patients presenting to the Emergency Department.

**Results:** The model was successfully used for BNP implementation. Physicians supported this approach to clinical utility, utilization and cost containment. Funding approval was strongly influenced by the novel concept of maximum allowable cost. Currently, nine months post-implementation, monthly test volumes have been relatively steady and have not exceeded the maximum volume limit.

**Conclusions:** This model provides clinical utility, promotes effective utilization and prevents cost overrun associated with new test implementation.

Accepted for poster presentation:  
CSCC (Canadian Society of Clinical Chemists)  
2006 Annual Conference  
Victoria, British Columbia, June 4-7, 2006

Visit our website at [www.somagen.com](http://www.somagen.com)

1-800-661-9993 • T. 780-702-9500 • F. 780-438-6595



S O M A G E N™  
Inspired.