

---

# *A pilot study of regional participation in a videoconferenced multidisciplinary genitourinary tumor board*

Glenn Bauman, MD,<sup>1</sup> Eric Winkvist, MD,MSc,<sup>2</sup> Joseph Chin, MD<sup>3</sup>

<sup>1</sup>Division of Radiation Oncology, Department of Oncology, London Regional Cancer Program/London Health Sciences Centre, University of Western Ontario, London, Ontario, Canada

<sup>2</sup>Division of Medical Oncology, Department of Oncology, London Regional Cancer Program/London Health Sciences Centre, University of Western Ontario, London, Ontario, Canada

<sup>3</sup>Division of Urology, Department of Surgery, London Health Sciences Centre, University of Western Ontario, London, Ontario, Canada

---

BAUMAN G, WINKVIST E, CHIN J. A pilot study of regional participation in a videoconferenced multidisciplinary genitourinary tumor board. *The Canadian Journal of Urology*. 2005;12(1):2532-2536.

*A successful pilot study of a videoconferenced multidisciplinary genitourinary tumor board involving 21 physicians over six geographic sites for a 6-month period is reported. The majority of cases presented at the tumor board were of prostate or bladder origin. Specific*

*recommendations around management, patient referral or clinical trial eligibility were made in the majority of cases presented. Physician satisfaction with the rounds was high and participation beyond the pilot has continued. Scheduling in order to provide maximum access/participation has been the main logistical challenge with the rounds.*

**Key Words:** telehealth, videoconference, tumor board

---

## Introduction

The Southwestern Ontario Region encompasses over 24,000 square kilometres and includes over 1.5 million people. Optimum care delivery over this large region remains a challenge, particularly for specialties such as cancer care. The Southwestern Ontario Telehealth Network (SWOT-N) ([www.videocare.ca](http://www.videocare.ca)) was established in order to link over 40 hospital sites within the region (Grey/Bruce, Perth, Huron, Lambton, Kent, Essex, Middlesex, Elgin, Oxford counties) via a videoconferencing network and

supports seven clinical areas including oncology. The network provides hardware and software infrastructure as well as the operational management to facilitate activities such as remote patient consultation and assessment, provider and patient education, and administrative activities. A local steering committee to review and approve proposed telehealth projects for oncology was established and the proposal for regional multidisciplinary genitourinary (GU) tumor boards was one of two clinical telehealth pilot projects approved.

It was recognized that there was no forum for regional urologists to receive a multidisciplinary opinion aside from referral to the regional cancer centre/academic hospital. The proposed virtual multidisciplinary (MDT) rounds was intended to allow community urologists to obtain advice for selected patients where a management problem was identified. The hope was that the rounds would facilitate more efficient management for the patient (i.e. subsequent referral to the most appropriate provider); more appropriate management (i.e. especially for rare or

---

Accepted for publication December 2004

## Acknowledgement

The authors wish to thank the help of Linda Boyd in the organization of the tumor board and the tumor board participants for their interest and enthusiasm.

Address correspondence to Dr. Glenn Bauman, London Regional Cancer Centre, 790 Commissioners Road East, London, Ontario N6A 4L6 Canada

unusual tumors or where management controversies existed) and build collegiality between the cancer centre/academic hospital subspecialists and the referring/regional urologists.<sup>1</sup> A proposal for regional GU tumor board rounds was submitted to the telehealth steering committee in the spring of 2002 and subsequently approved. The pilot study proposed to examine the feasibility of monthly videoconferencing with referring urologists for multidisciplinary tumor board rounds organized through the London Regional Cancer Centre (LRCC). As part of the pilot, regional urologists would be invited to present cases for discussion at the multidisciplinary rounds. It was anticipated that each case would require about 10-15 minutes (5 minutes for presentation 5-10 minutes discussion) with 4-5 cases presented in the hour. The outcomes of the pilot would be to establish the logistic feasibility of these rounds, to characterize the types of cases submitted for discussion and any management recommendations resulting as well as the satisfaction of the participants with the process.

## Materials and methods

In preparation for the launch of the rounds, the project leader Glenn Bauman (GSB) presented information sessions during the fall of 2002 at the LRCC GU multidisciplinary rounds, the citywide urology rounds as well as at the University of Western Ontario (UWO) uro-oncology refresher course. The latter presentation included urologists from the region and was delivered using a multimedia PowerPoint presentation. These presentations were followed up with formal letters of invitation to the regional urologists to participate in the rounds. These letters included contact information for the assigned telehealth site coordinator at their

closest regional hospital that was part of the telehealth network. The letters also included questions as to the best day and time for the rounds and this information was also solicited at the information sessions.

A schedule for January 2003-June 2003 was created and distributed to physicians responding to the letter of invitation who indicated they wished to participate. A monthly schedule alternating Tuesday and Wednesday mornings and coordinated with the London hospitals city-wide urology rounds was chosen to maximize the opportunity for physicians to participate given the varying physician schedules around the region. Two weeks prior to the sessions a request for case submissions was faxed to the participating physician. The project leader reviewed the case submissions and compiled them into a case agenda for the rounds. The agenda (including the date and time) was faxed to the participating physicians the week before the rounds and also served as a reminder regarding the rounds. Email reminders to the London-based physicians regarding the rounds were usually also circulated the day before the rounds.

The day of the rounds, the site coordinators at the participating hospitals prepared the telehealth equipment and assisted the physicians with the equipment if necessary. The case agenda was then followed with physicians presenting cases they had submitted, followed by a discussion facilitated by the project leader. Notes from the discussion were taken and an annotated case agenda circulated to the participants within a week following the rounds. Attendance at the rounds was taken for calculation of Category I, RCPSC CME credits.

Following the pilot sessions from January-June 2003, a participant satisfaction survey was circulated Table 1 and the results collected. In addition, the cases

TABLE 1. Summary of cases presented

Histology	Number	Stage of case		Outcome of discussion		
		I/II	III/IV	Change*	RCC**	Trial***
Prostate	17	7	10	7	13	11
Testicular	3	2	1	3	1	0
Renal/other	2	0	2	2	1	0
Bladder	8	4	4	6	3	1
Totals	30	13	17	18	18	12
(%)		(43%)	(57%)	(60%)	(60%)	(40%)
*Specific management suggestion made						
**Referral to regional cancer centre recommended						
***Flagged as eligible for clinical trial						

TABLE 2. Summary of satisfaction survey (N=17)\*

The day and time of the rounds was convenient	2.3
The telehealth site was setup for the rounds	1.7
The site coordinator for the rounds was helpful	1.9
The equipment for the rounds was easy to use	1.6
The cases discussed were relevant to my practice	1.5
I was able to follow the discussion about the cases	1.5
I was able to ask questions about the cases	1.6
I was able to participate in the discussion	1.5
I felt the session improved my knowledge	1.8
I plan to continue to participate in the rounds	1.4

\*Average agreement with statement:  
(1=strongly agree, 3=neutral, 5=strongly disagree)

presented were analyzed Table 2 to characterize the type of cases and any management decisions that arose as part of the discussion.

## Results

Thirty physicians were initially invited to participate in the regional GU rounds. Physicians invited included all the community urologists within the region (n=10 over six sites) as well as the physician coordinator for SWOT-N. Physicians invited from the academic hospitals in the region (London Health Sciences Centre and St. Joseph's Hospital) included the urologists (n=8), the reference genitourinary pathologist for the city, radiation oncologists (n=7) and medical oncologist (n=1). Ultimately, 21 physicians participated in at least one telehealth session (average: 3.3; range 1-6). While other members of the academic multidisciplinary team were not specifically invited to attend, clinical research associates involved in enrolment in clinical trials attended on a regular basis.

A summary of the cases presented is included in Table 1. In all, 30 cases were discussed over the six sessions for an average of five per tumor board and 20 minutes per case. The case mix was evenly weighted between early stage and advanced stage patients with prostate and bladder cancer patients comprising the majority of the patients. In 18/30 (60%) of cases discussed, specific management suggestions arose from the discussion of the case. In 18/30 (60%) of patients a recommendation for referral to the regional cancer centre (usually for consideration of radiation treatments) was made. Twelve of thirty (40%) patients discussed were potentially eligible for

a clinical trial and were identified as such as part of the discussion. Some trends in the cases discussed were evident. Prostate cancer cases submitted tended to be comprised of younger patients with high-risk disease (combinations of high Gleason score, high prostate specific antigen (PSA) or high T-classification stage). Bladder cancer patients presented tended to be patients with recurrent superficial disease despite prior conventional therapies (transurethral resection and intravesicle BCG) or patients with transitional cell carcinoma of the urothelium outside the bladder (renal pelvis or ureter).

A physician satisfaction survey was circulated among all physicians who were initially invited to participate in the rounds. A total of 22/30 (73%) surveys were returned. Of the individuals who actually participated in the rounds, a total of 17/21 (81%) of surveys was returned. The results of the satisfaction survey are summarized in Table 2. The majority of participants were satisfied with the logistics of the rounds. A number of participants did, however, identify conflicts with the day and times of the rounds that limited participation in the rounds. Of the five physicians who did not participate but returned the survey three of five stated the reason for non-participation was "day and time not suitable" and two of five stated they had "no time" to participate. Four of the five physicians who were unable to attend and returned a survey were from the academic hospitals; one was from the community.

In terms of the content of the rounds, the majority showed a high degree of satisfaction with the rounds, their contents and the nature of their participation in the rounds. All rounds participants who responded to the survey indicated they planned to continue on with participation.

## Discussion

Continuing education for community physicians can be a challenge both for the provider and the recipient of such education. Busy schedules and geographic distances can make it difficult for community physicians to access continuing education opportunities such as discipline specific rounds and tumor boards. Videoconferencing networks of regional hospitals can provide the technology to facilitate physician participation in tumor boards and educational events.<sup>1,2</sup> In our region, an annual weekend uro-oncology retreat has consistently attracted high regional urologist participation. One of the most popular events of the retreat was case based discussions/problem based learning. This

experience suggested a videoconference based regional genitourinary tumor boards might be a good method to provide continuing education and access to the expertise of the cancer centre/academic hospital based multidisciplinary uro-oncology team.

Participation in the telehealth rounds was good and verbal feedback regarding the rounds has been extremely positive. In particular, the rounds facilitated interactions between groups that would not normally encounter each other on a regular basis (particularly the oncology specialists and the regional urologists). Participation has been reasonably good with 21/30 (70%) invited physicians participating and with individuals participating on average in half of the pilot sessions held to date. The distribution of participating physicians represented six distinct geographic sites within Southwestern Ontario, comprising the majority of regional community urologists referring to the London Regional Cancer Centre/London Health Sciences Centre.

A success factor for the rounds was the provision of secretarial support in distributing requests for case submissions, collation of the responses and distribution of the final case agendas and summaries for the rounds. Another key success factor in accomplishing these tasks was the compilation of a comprehensive inventory of the participants and hospital telehealth site coordinators in order to facilitate communication. This inventory included telephone and fax numbers and email addresses where available. The majority of the communication was by fax as all participants had fax capabilities but not all had email readily available. Another success factor was the ability to promote the project at available CME events like citywide urology rounds and the regional uro-oncology refresher course.

In general, the telehealth equipment was easy to use and the physicians did not experience any significant problems in participating in the rounds. In one of the six rounds held, technical difficulties in establishing a connection with one of the sites delayed the start of the rounds by about 15 minutes, in all other cases the rounds started and completed on time and were 60 minutes in duration. While accessories for the telehealth videoconferencing including document and film cameras are available, the need for these accessories for these rounds was low. It was found that the rounds ran most smoothly when the videoconferencing equipment was set up to display the participant speaking on screen as the main display rather than trying to have all sites displayed as a multiple picture "Hollywood squares" display. Voice activated microphones with the telehealth equipment

allowed the display to transition smoothly between participants. The assignment of one individual as a facilitator during the rounds helped ensure that the presentation of cases was orderly and that all sites had a chance to contribute to the discussion.

The cases submitted represented challenging management scenarios, as might be expected. In particular, discussions around the indications for prostatectomy and the use of adjuvant therapies for cases of younger individuals with prostate cancer and adverse risk factors were fairly common. Cases of transitional cell carcinoma of the renal pelvis/ureter and cases of recurrent superficial bladder cancer were the most common urethelial tumors presented for discussion at the rounds. A clear benefit of the rounds was the ability to flag some of the cases presented as potential clinical trial participants. Flagging potential clinical trial patients allowed the community urologists to initiate appropriate investigations, defer any therapies that might make the patient ineligible for the trial and arrange appropriate referrals to facilitate assessment for the clinical trial if the patient was interested. The availability of clinical research personnel at the rounds facilitated discussions around trial eligibility and the accrual status of clinical trials being run at the academic hospitals.

From the survey and discussion with the participants some refinements are suggested. Since the initial pilot study we have been successful in using a video microscope for projection over the network of relevant histopathology images by our reference genitourinary pathologist. This has expanded the scope of discussion/education possible and has enhanced the role of the GU reference pathologist on the telehealth team. In addition, since the pilot, an additional GU medical oncologist has joined the group, expanding the medical oncology expertise. We also plan to encourage resident participation in the rounds as the participants in the pilot felt this would be a valuable education forum for residents in urology and oncology. Routine involvement of clinical research associates will be encouraged, given the benefits noted in educating the community urologists regarding on-going trials and flagging patients for involvement in clinical trials. We hope to expand participation in the telehealth rounds to adjacent Cancer Centres in Essex and Kitchener-Waterloo as technology permits in order to expand the variety of cases and expertise available.

A major barrier to participation remains scheduling conflicts. Participation of all members of the multidisciplinary team (urologists, medical oncologists and radiation oncologists) was highly

## A pilot study of regional participation in a videoconferenced multidisciplinary genitourinary tumor board

desirable, as most of the cases presented required the input of several disciplines. Given the number of individuals involved and the varying demands of clinical and operating room schedules, it has been difficult to find a day and time suitable for all individuals. Rotation of the rounds between 2 days of the week has been adopted as one solution and has improved access for some but not all individuals. Rotation among different days of the week may improve access to the rounds but runs the risk of decreasing participation as a consequence of a highly variable, unpredictable rounds schedule. More recently, we have found scheduling the telehealth rounds following existing citywide urology rounds has facilitated participation although this restricts to sessions to the same day of the week.

## Conclusion

We successfully piloted a videoconferenced multidisciplinary genitourinary tumor board involving 20 physicians over six geographic sites over a 6-month period. The telehealth sessions continued on a monthly basis following the pilot on to the present (December 2004 as of this report). The majority of cases presented were of prostate or bladder origin. Specific management, referral or clinical trial recommendations were made in the majority of cases presented. Physician satisfaction with the rounds has been high, as and continued participation is anticipated. Scheduling in order to provide maximum access/participation has been the main logistical challenge with the rounds. □

---

## References

1. Gagliardi A et al. Feasibility Study of Multidisciplinary Oncology Rounds by Videoconference for Surgeons in Remote Locales. *BMC Medical Informatics and Decision Making* 2003;3(7):1-7.
2. Axford AT, Askill C, Jones AJ. Virtual Multidisciplinary Teams for Cancer Care. *J Telemed Telecare* 2003;8(2):3-4.