

Operational Review

***Newfoundland Cancer Treatment and
And Research Center***

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EXECUTIVE SUMMARY

INTRODUCTION

The three reviewers, Drs. Susan O'Reilly, Dr. Robert Pearcey and Ms. Esther Green appreciated the invitation to conduct this operational review. They were awarded ample opportunity and provided appropriate information to achieve this objective. We would particularly like to thank the Steering Committee, Mr. William Newton, the Board chairperson and Ms. Bertha Paulse, the Chief Executive Officer for their organization of this review process.

The executive summary will capture highlights and focus on the recommendations. The text of the review is intended to be shared, as deemed appropriate, by the Steering Committee, with the professional staff of the Newfoundland Cancer Treatment and Research Foundation.

Overall, the NCTRF is a well-managed, fiscally responsible organisation which provides excellent cancer care within a budget, which (partly due to lower salaries) is relatively modest compared to other organisations (Table 5).

URGENT CLINICAL ISSUES

Currently, patients are having to wait too long for their initial consultation.

Recommendation 1

The wait times for new patient referrals are currently reaching three months for patients with breast or colon cancer. These times are medically unacceptable if appropriate curative or symptomatic interventions are to be planned. We recommend the medical oncologists and radiation oncologists immediately implement a patient triage process to assign patients to one or the other of the disciplines for a new patient appointment.

Recommendation 2

We recommend the process of automatically double booking patients with breast or colon cancer to both radiation and medical oncology specialists be discontinued in favor of the recommended triage process.

Recommendation 3

The medical staff need to review their follow-up practice guidelines. At present, too many patients who have been treated with curative intent are being followed up for prolonged periods at the H. Dr. H. Bliss Murphy clinic and at the consultative clinics. Where medically safe to do so, these patients should be referred back to family physicians or nurse practitioners in the community with the appropriate advice regarding follow-up procedures. When clinically necessary, the family doctor will refer the patient back to oncologists for further assessment.

URGENT FINANCIAL ISSUES

The oncology drug budget is likely to have an estimated annual expenditure of \$5,564,835 in 2001/02 which will be \$2,456,682 in excess of the budgeted \$3,108,153. This budget variance is a direct consequence of the rapid evolution of new treatment programs for patients with breast, colorectal, lung and ovarian cancers. The marked growth in cancer drug expenditure is quite typical of the trends seen in other provinces in Canada where budgets are increasing at a rate of 20-30% per annum (for comprehensive drug budgets that also include a variety of outpatient drugs that are not included in the NCTRF budget). The growth in incidence of cancer and the impact of broadening indications for treatment to a wider range of diagnostic categories and stages of cancer will also drive a 7% per annum increase in the numbers of patients accessing care. The NCTRF budget has shown particularly large growth related to the high cost of certain intravenous drugs such as irinotecan, used to treat metastatic colon cancer and herceptin for metastatic breast cancer.

Recommendation 6

Reviews of the current treatment policy guidelines, by the medical oncologists, are essential to support the delivery of high quality cancer care and to ensure that financial resources are being deployed wisely and well for the prioritized programs.

Recommendation 7

The medical oncologists are advised to scrutinize their patterns of practice for trastuzumab (herceptin) in metastatic breast cancer and to ensure that this drug is dispensed to those patients who have 3+ over expression of the her-2-neu genetic mutation in their tumors, or who have fluorescent in-situ hybridization (FISH) testing which is positive for this genetic mutation. The Ministry of Health and the NCTRF are strongly advised to ensure that there is appropriate funding for this diagnostic test otherwise they will inevitably spend more resources on funding this drug in inappropriate circumstances.

CAUTION

Multi-disciplinary development of evidence-based treatment policies and guidelines is laborious and time consuming. Acquisition of these guidelines from other provinces in Canada is simpler but still requires careful review by local professions before being acceptable for implementation. Busy and understaffed medical oncologists will find it challenging to have time to have significant input into this process and these difficulties must be appreciated and respected by the NCTRF and the Ministry of Health. It is important that sufficient protected time and sufficient recruitment is accomplished to ensure that these essential activities are achievable.

Development of scientific guidelines and their implementation is a dynamic process requiring regular review and updating. These will all have an impact on budget planning which, in some circumstances, will be difficult to predict with a high level of accuracy.

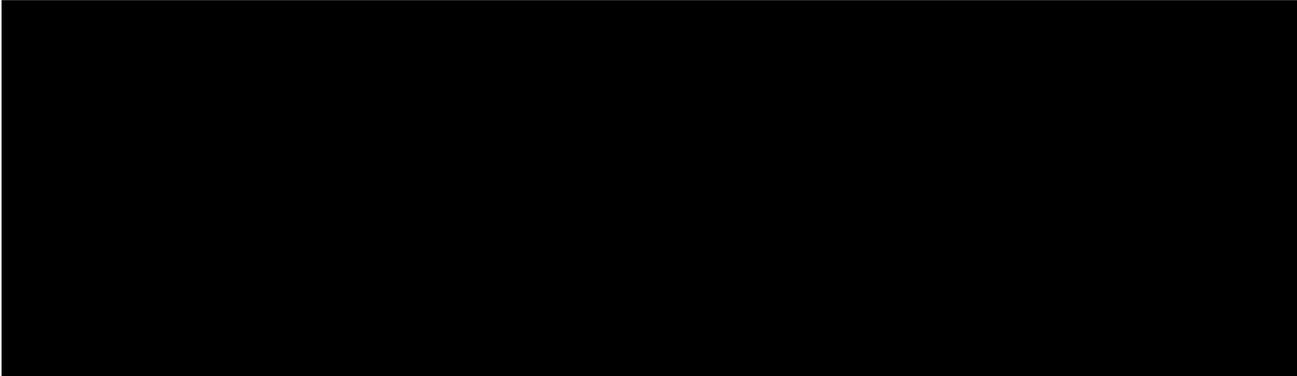
Philosophically, the Ministry of Health and the NCTRF need to determine whether they can sustain the same standards of care for cancer patients as other Canadian provinces. This should indeed be their ultimate goal and it needs to be understood that minor “restraint” will not be an effective strategy. The only effective cost saving maneuver is to delete entire treatment programs, which may have adverse health care and/or political consequences and may further exacerbate the difficulty of recruiting and retaining medical staff. The review team does not recommend such a strategy.

HUMAN RESOURCE MANAGEMENT

Recruitment and retention of excellent professional staff will be crucial to the ongoing success of the NCTRF. At present, there are significant challenges in retaining the full complement of oncologists. In addition, there is a need to plan for retirement and subsequent recruitment into nursing positions and steps need to be taken to ensure adequate staffing of all professionals in radiation therapy and medical physics.

The detailed recommendations are included in the rest of this Executive Summary.

SUMMARY OF RADIATION ONCOLOGY REVIEW



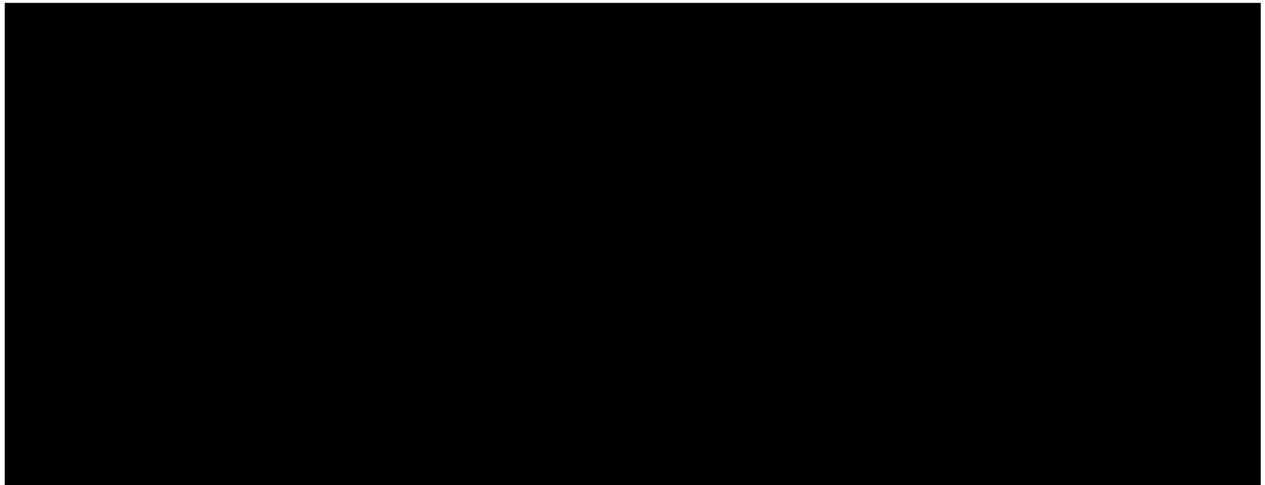
Recommendation 10



A serious effort should be made to create a discipline of Oncology in the Faculty of Medicine. Radiation Oncology and Medical Physics would have primary academic appointments in this discipline at the maximum part-time level. Future pay increases should be channeled through the University to fund this.

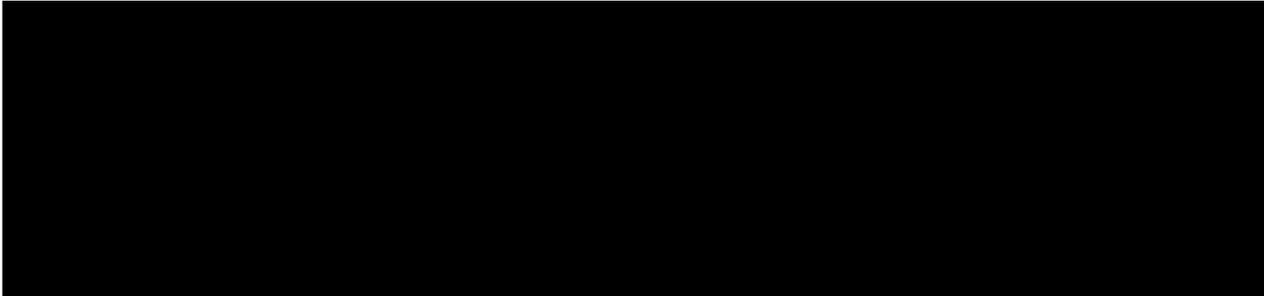
Recommendation 11

Newfoundland adopts a planning standard for Radiation Oncology staffing of 215 new patient consults per Radiation Oncologist with 0.3 FTE for Director's administrative duties. A system should be put in place to ensure that new patient consultation data by discipline is collected accurately. Until that is complete, a planning standard of 180 new patients treated would be appropriate as a substitute for 215 new patient consultations.



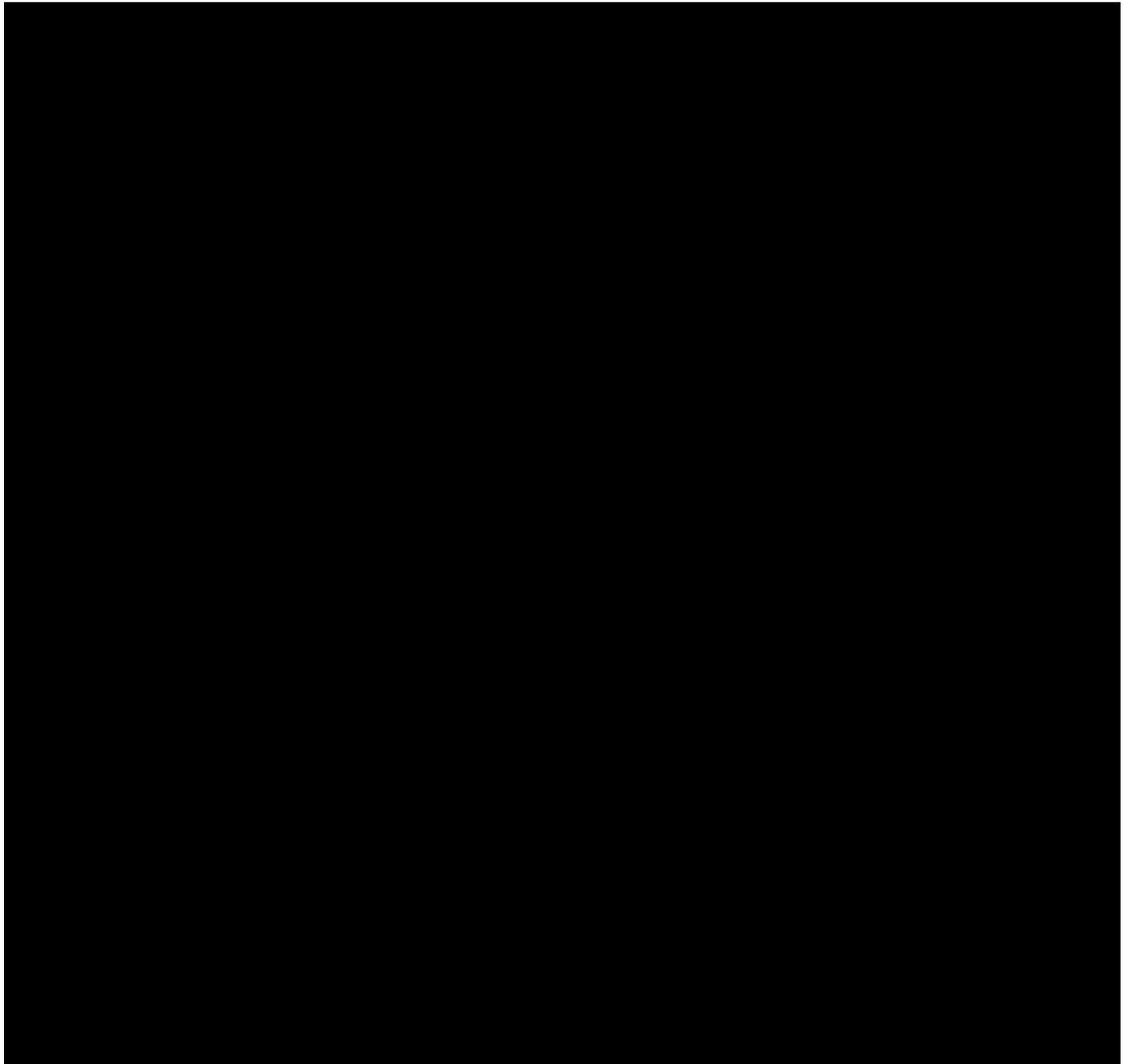


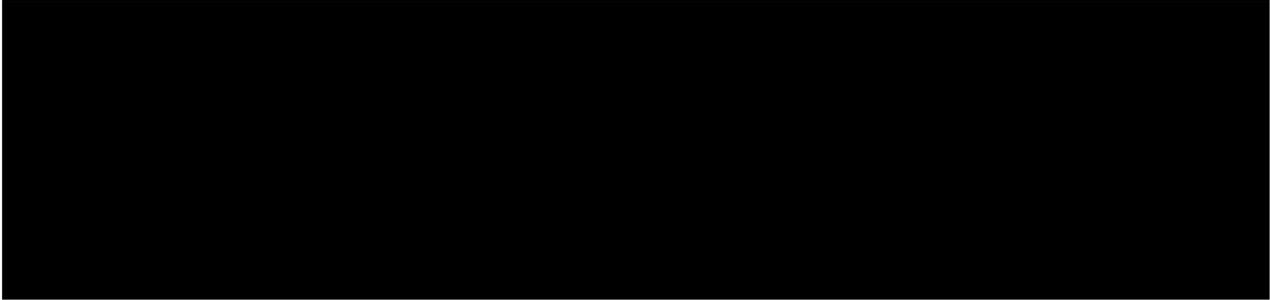
SYSTEMIC THERAPY/MEDICAL ONCOLOGY PROGRAM



Recommendation 23

Recruitment and retention of medical oncologists lurches from crisis to crisis. Increased focus on the leadership and planning for staffing in this area is crucial. Support for funded oncology training positions in large programs elsewhere in Canada should be considered by the Ministry of Health. Salaries for medical oncologists must be competitive with the rest of Canada. Currently, Newfoundland is at risk of being at least \$90,000/annum lower than Alberta and Ontario by 2002. The proposed number of seven medical oncologists is appropriate if positions can be filled. The NCTRF should implement capture of medical oncology new patient referrals, including consultations referred by radiation or surgical oncologists.





GOVERNANCE

Recommendation 48

Any decision regarding the restructuring of governance for cancer care in Newfoundland and Labrador should be respectful of the essential elements of a provincial cancer control program.

Recommendation 49

The optimal governance model would either be 1) the retention of the existing Newfoundland Cancer Treatment and Research Foundation Board with the option of some administrative restructuring to support the development of provincial programs in medical oncology, radiation oncology and surgical oncology or 2) the alternative option would be to combine the governance structure with that of the Health Care Corporation of St. John's; however, the strength of a provincial vision for cancer care would need to be preserved and we recommend a separate funding envelop within the combined board and executive arrangements and the development of provincial programs to support the regions through this model.

TERMS OF REFERENCE FOR REVIEW

The terms of reference provided by the Steering Committee for the operational review are in Appendix I.

In summary, the Newfoundland Cancer Treatment and Research Foundation (NCTRF) has experienced significant budgetary deficits for the last two years. For the fiscal period 2001/2002, the government has provided a budget base of \$6,800,000 plus an additional \$2,000,000 referred to as stabilization funding, additionally, another \$900,000 is provided for Systemic Therapy in rural regions and \$400,000 for recently negotiated salary increased for unionized staff. The Department of Health and Community Services has authorized the Board of Directors of the NCTRF to deliver a balanced budget without decreasing clinical services volume and staffing levels and without compromising the quality of care. Thus the government has an expectation of achievement of best practices and evidence-based cancer care within a \$10,100,000 annual budget.

The review team were asked to examine the organizational structures and processes to determine opportunities for cost control, recommend any operational or clinical improvements to enhanced efficiency and effectiveness, examine monitoring processes and outcome analysis, examine decision making processes for the introduction and impact of new planned therapies and addition of new staff, particularly physicians, evaluate workload indicators in relationship to staffing patterns and provide comparisons based on best practices. Examine whether the resources are available are adequate to serve the cancer patients at the community and regional level and examine coordination and delivery of services within and between programs internally and externally. Evaluate the state of current technologies and future plans and assess the levels of research and academic involvement, resources allocation of information technologies, cancer registries and linkages with other health care organizations were to be included.

Finally, the review team was charged with providing recommendations that will enhance the ability of the NCTRF to meet the needs of cancer patients and their families and to provide recommendations that will assist the NCTRF to determine the appropriate service levels within budgetary allocations. Recommendations for the appropriate resource requirements related to workload were also requested.

The Steering Committee for the project comprised representatives of the Board of Directors and senior management of the NCTRF, the Department of Health and Community Services, the Health Care Corporation – St. John's, Western and Central health regions.

METHODOLOGY

Prior to a 3-day site visit to the NCTRF, St. John's Newfoundland, the review team were provided with the documents listed below.

DR. ROBERT PEARCEY'S REVIEW OF THE RADIOTHERAPY PROGRAM

Introduction

The radiotherapy treatment program for Newfoundland and Labrador is provided under the governance of the Newfoundland Cancer Treatment and Research Foundation based in St. John's. The population served is approximately 500,000 but is widely scattered over a large geographic area and many communities are remote. The delivery of radiation treatment requires high technology equipment with a critical mass of highly trained professionals and technologists. Of necessity, therefore, all treatment is delivered in St. John's. To reduce the impact of centralization on the population Radiation Oncologists visit communities and hospitals elsewhere in the province.

Review of the treatment statistics provided to me shows that 240 – 250 new patients are started on radiotherapy treatment each quarter with an annualized rate of 950 – 1000. Because some patients are re-treated, approximately 1,200 patients are treated per year. These figures are different to the number of new patient consultations performed by Radiation Oncologists since not all patients consulted are treated but no patient can be treated without a consultation. A figure of 1017 new patient consultations was reported to me for the fiscal year 2000/2001. I believe this figure is inaccurately low. In Canada it is normal for the number of new patient consultations to range between 20-30% higher than the number of new patients started on treatment.

The incidence of invasive cancer in Newfoundland is reported to be 2,600 in 1998. Therefore, on average, 38% of incident cases of invasive cancer are treated by radiotherapy. This compares to 32% in Ontario (which is widely believed to be inadequate), 42% in British Columbia, 45% in the United Kingdom and 55% in the United States. The number of patients being treated is therefore somewhat low, probably because of the existence of some remote populations that are relatively underserved. The increased availability of clinical practice guidelines applied to a higher proportion of the population will likely result in a higher number of patients receiving treatment and this would be appropriate.

The Radiation Oncology Treatment Program is provided by three core departments of Radiation Oncology, Medical Physics and Radiation Therapy. Significant support is provided by Administration, Nursing, and Information Systems.

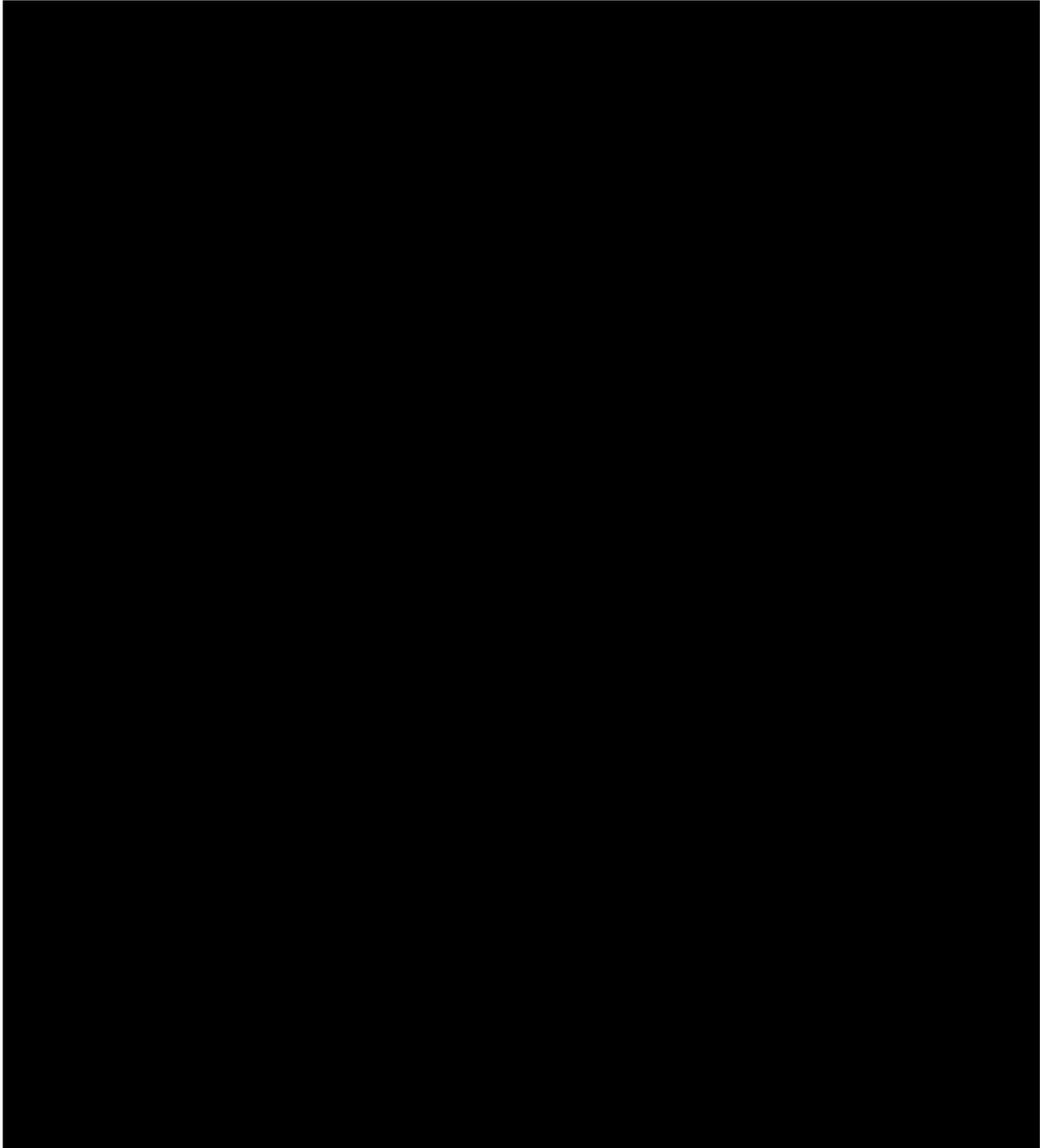


There are currently five FTE's funded but six are employed at the present time with one physician shortly relocating to Kingston, Ontario. This, plus the payment of one FTE Palliative Care physician from the Radiation Oncology budget, would appear to account for the budget deficit currently appearing in Radiation Oncology.

The current complement of Radiation Oncologists is well balanced in terms of experience and age. The balance is somewhat disrupted by the imminent departure of Dr. Thain. It is anticipated that Dr. Wong (a senior and highly experienced Radiation Oncologist) will retire in the near future, at which point the overall experience level in the department will be somewhat less than ideal. The current Department Director, however, is very experienced and shows good leadership skills and is respected by his department and Administration. There appears to be good communication.

In the last year, two well trained highly motivated young Radiation Oncologists have been hired who have family connections with Newfoundland. This is extremely positive. In my discussions with them, they are enthusiastic and positive about their future in Newfoundland and in the Specialty of Radiation Oncology. They express concern about possible further losses of staff and about their future ability to fulfill their professional aspirations beyond patient care. Principal reasons for this concern are based on significant salary differentials between Newfoundland and elsewhere and lack of a satisfactory academic base within the University. Currently salaries for Radiation Oncologists in Newfoundland are \$70,000.00 less than Ontario and Alberta and by April 2002 this difference will be greater than \$90,000.00.

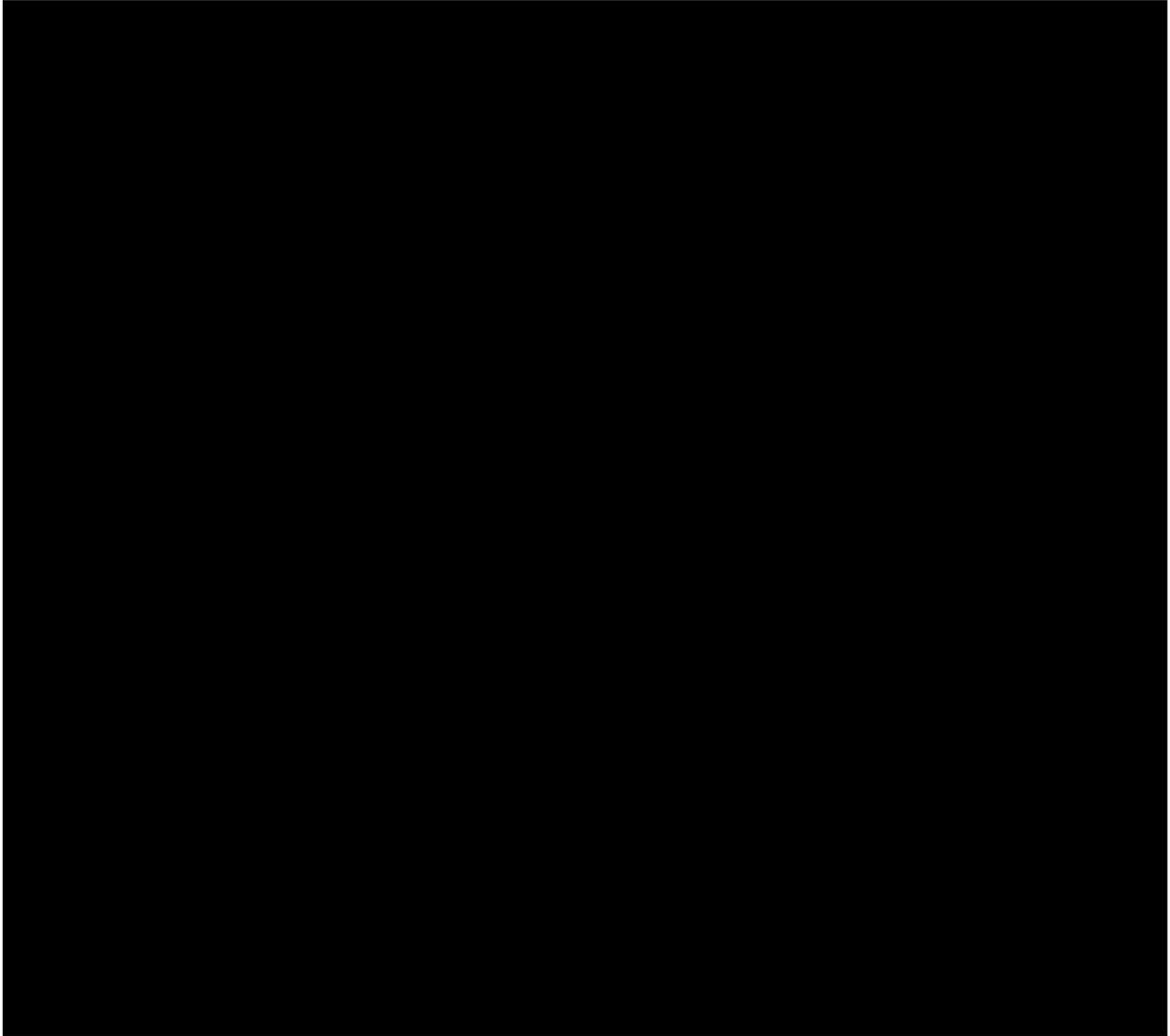
The current and recently initiated academic affiliation is to the discipline of Medicine as part-time clinical faculty. There are minor teaching expectations associated with this and there is no stipend allowance.



Information Systems in Radiation Therapy

At present, Record and Verify functions are performed through the VARIS system. Patient scheduling is carried out through OPIS. Statistics are collected manually. Support for VARIS is provided through Medical Physics with some input from Information Systems. Support for OPIS is provided by Information Systems. RTT's are responsible for entering data into two different electronic systems and one manual system. This is inefficient and

wasteful. In the short term, the problem cannot be fully resolved but in the long term (probably 5-10 years) the Newfoundland Cancer Treatment and Research Foundation should look to have a fully integrated electronic charting system with clinical data collecting and clinical workload measuring system. Such a system would include all the features above as well as all other information related functions in the clinics to avoid duplication of activities.



Patient Flow

The process for ensuring appropriate flow of patients from the outpatient clinics through treatment works satisfactorily. Wait times for treatment after consultation are acceptable.

Waits for new patient consultations are not acceptable. With the current staffing complement, there is no reason why 90% of patients should not be seen within two weeks of referral.

Recent changes to follow-up policy are welcomed but do not go far enough. With adequate patient and family doctor education much routine follow-up by oncologists is unnecessary. Many patients only need to be seen once after treatment and thereafter only on request. Some patients, for example head and neck, cervix, and lymphomas, may require closer follow-up by the treating specialists because early detection of asymptomatic recurrence is important to prognosis and requires specialized expertise. This change implies that Radiation Oncology specialist advice is readily available to family doctors, nurses, and patients by phone and that rapid re-referral is made available.

Where some follow-up outside of the specialist realm is deemed advisable, this should be provided by family doctors and perhaps Advanced Practice Nurses.

Peripheral Clinics

There has been a long tradition within the Radiation Oncology group of visiting community clinics to provide consultations and follow-up services. These clinics amount to 27 per year and most last for a period of one week each. The disadvantages associated with this system include:

Disruption to the continuity of clinical care of patients being cared for by the physician travelling from St. John's and the need to transfer the care of each patient to another physician.

Disruption to the family life of younger physician in particular with regular periods away from home.

Cost associated with travel and accommodation for travelling physicians.

Advantages associated with this system include:

Easier access and reduced cost of access for patients and families in accessing expert Specialist Radiation Oncology opinion.

Opportunities for direct personal contact with and continuing education for local healthcare professionals.

Greater visibility of the Specialty of Radiation Oncology in the community.

Major Recommendations

1. Immediate steps should be taken to ensure patients most in need of a Radiation Oncology consultation, opinion and possible treatment have timely (less than two weeks) access.
 - Immediate triaging of new patients referred to the clinic to ensure the initial contact is with the Specialty most likely responsible for initial or primary adjuvant treatment.
 - Prompt (next two months) rationalization of patients follow-up to free up clinic time for new patient consultation and more rapid response to requests for a further opinion on patients previously treated.
2. Steps need to be taken to retain adequate staffing of all professionals in radiotherapy.

- Compensation should be made competitive with the rest of Canada. Current differences are not sustainable. Salaries should not be more than 15% less than is offered in the higher paid provinces.
- A serious effort should be made to create a discipline of Oncology in the Faculty of Medicine. Radiation Oncology and Medical Physics would have primary academic appointments in this discipline at the maximum part-time level. Future pay increases should be channeled through the University to fund this.

Other significant recommendations

- Newfoundland adopts a planning standard for Radiation Oncology staffing of 215 new patient consults per Radiation Oncologist with 0.3 FTE for Director's administrative duties. A system should be put in place to ensure that new patient consultation data by discipline is collected accurately. Until that is complete, a planning standard of 180 new patients treated would be appropriate as a substitute for 215 new patient consultations.
- The number of funded FTE Radiation Oncologists should be six for next year.
- The amount of time allocated to Medical Physics administration should be reduced to 0.2 FTE at the earliest opportunity and the total number of funded FTE positions should be increased to four.

DR. SUSAN O'REILLY'S REVIEW OF THE SYSTEMIC THERAPY CLINICAL SERVICES AND ACADEMIC ACTIVITIES

Interviews with Medical Oncologists

Currently, there are five medical oncologists at the NCTRF, Dr. Shou-ching Tang, who is the Head of Medical Oncology and who had .5 FTE of time protected for academic activities including laboratory research, clinical trials and teaching and 50% time devoted to administration and clinical workload; Dr. Kara Laing was appointed in 1999 and has a tenure track appointment in the Department of Medicine at Memorial University and thus is .8 clinical oncology and .2 funded by the university for teaching, protected time and research. Dr. Laing had just returned from maternity leave the week of the review. Dr. Jehan Siddiqui, Dr. Joy McCarthy and Dr. Stuart Roarke are full-time medical oncologists with clinical appointments at Memorial University and there is an expectation that they will provide academic teaching and conduct clinical trials. Dr. McCarthy joined the staff in July 2001 and Dr. Roarke in August 2001 directly from their Residency Training Programs. Dr. Siddiqui joined the staff in January 2001 also directly from his training in Medical Oncology and Hematology.

The four recent recruits in the medical oncology group are all young, relatively inexperienced, and will be in need of mentoring in developing their careers. Currently, the

NCRTF has been granted approval for seven full time positions. Benchmarking against Ontario and British Columbia standards is difficult as the total of new patient referrals, either initially booked or cross-referenced from radiation oncology, is not captured in the available data. Ontario currently has a standards of 150 new patient consultations (new patients, counted only once when referred with a specific cancer diagnosis) per oncologist PLUS an additional one clinical associate for every 2.2 FTE oncologists. B.C. has a standard of 130 new patient consultations per oncologist after subtracting 0.4 FTE oncologists for every available clinical associate. Both provinces have the addition of 0.5 to 1.0 FTE's for the medical oncology head to these standards. Protected time should be added to these standards and may comprise another 15-25%. Allowing for the difficulty comparing with Newfoundland data, the allocation of 7.0 FTE positions is appropriate for current needs, if all positions were filled.

We recommend that the NCTRF capture all medical oncology new patient consultations, including cross-referrals from other programs.

In general, the junior medical staff all expressed pleasure in being in the NCTRF and were pleased with their pleasant relationships with members of other medical disciplines and professions within the center and the Health Science Center. They felt they were well supported by the Department of Medicine at Memorial University and have a very congenial relationship with the inpatient unit staff and fellow physicians at the Health Sciences Center.

There were some common themes that evolved from all of these interviews. All medical oncologists are deeply concerned that the Systemic Therapy Program in Newfoundland may not be sustainable if they are unable to recruit and retain a stable and growing number of medical oncologists to meet the current and anticipated clinical workload. Manpower has been very variable over the last three years and a number of staff have left for positions elsewhere. During the summer of 2001 staffing reached a crisis point with the departure of medical oncologists and Dr. Laing's coincident maternity leave. This led to difficulties for the newest recruits who were coping with heavy workloads at a time when they were also preparing to sit their Medical Oncology Sub-specialty exams of the Royal College of Physicians and Surgeons of Canada, in September this year.

There was global concern expressed by the four junior oncologists that the Medical Oncology Director and the Chief of the Medical Staff might have been able to better assist in the development of recruitment and retention strategies and forward planning for workload assignments that would have reduced the likelihood of recurrent workload crises of this nature.

All four junior oncologists expressed reservations about their medical director's ability to lead their department and represent their concerns about patient care in his dealings with administration. The reviewer was made aware that there is a separate 5-year review in progress for the medical director. All oncologists thought that the standard of oncology care provided to patients was good, once they had entered the system, however, there was

considerable concern that patients are waiting for up to three months for new patient appointments with a medical oncologist and thus opportunities for curative intervention with systemic treatment or effective palliation with oncology drugs will be seriously impaired. Some of this delay is attributed to the serious shortage of oncologists over the summer months, and the resultant catch up, but some is attributed to other process problems within medical oncology scheduling. The loss of the oncologist in Cornerbrook has also increased workload significantly in their consultative clinics and in terms of distance support for chemotherapy delivery in that region.

Patient Scheduling

The medical oncologists felt that it had been a mistake to delete a patient triage system that had been functioning until early in 2001. This triage system was intended to ensure that patients were assigned to either medical oncology or radiation oncology according to clinical need. Currently, there are double bookings of new breast cancer patients simultaneously, to both radiation and medical oncology. Some of the patients now seen by medical oncology should not be seen by them. For example patients with in-situ breast cancer or very low risk breast cancer where only a radiation prescription +/- a hormone medication, such as tamoxifen, was indicated. Similarly, lung cancer patients are double booked to both medical oncology and radiation oncology whereas non-small cell lung cancer patients would best be seen by radiation oncology first and medical oncology only if required. Small cell lung cancer patients would be optimally seen by medical oncology first and booked for consolidation radiation therapy after their chemotherapy treatment had begun. Rectal cancer patients were appropriately booked to both specialties and colon cancer patients were for the most part, appropriately booked to medical oncology.

On reviewing the processes in the clinics, the oncologists felt they had insufficient control of their own schedules regarding whether new patients were booked into their clinics and whether their clinics were overbooked. They frequently ran late due to overbooking problems and also had trouble seeing acute emergencies. It was clear from discussions with all of the oncologists that up to 30% of the patients in their clinics are well patients on routine follow-up following adjuvant treatment for breast or colon cancer and some are patients with lung cancer who are also being followed. The oncologists felt that the most effective strategy to reduce workload was to recruit sufficient oncologists to cope with their burgeoning responsibilities and also to develop some strategies for diminishing the number of routine follow-ups. To this end, they had developed some new guidelines for breast cancer follow-up after adjuvant treatment where patients came once every three months for two years and then were discharged back to their family physician. They identified that there was some difficulties in discharging patients because of reluctance on the part of the family doctors to take on these responsibilities or because some patients from rural communities did not have family doctors. Dr. O'Reilly's review of these guidelines indicated that they were too conservative. Discharge after one follow-up visit, with recommendations for six monthly follow-up by a GP would be satisfactory.

Information Technology

There was general concern that they did not have optimal automated chemotherapy order entry. They are currently pleased with the system that Dr. Gerard Farrell, the clinical associate in Medical Oncology, has developed in that it is extremely simple to use however, it has the limitation that it does not provide automated orders to pharmacy, does not provide a treatment flow record and does not correlate prescriptions with routine lab work. The whole system hinges on the dedication of one enthusiastic and highly computer literate individual and as a consequence, there is not any backup if any problems should arise. Nevertheless, they found this system safe and convenient when working in very busy clinics.

There had been a major issue earlier in the year when there had been intent to introduce the OPIS 2000 automated chemotherapy ordering system. The issue seemed to be some inconsistencies in calculating the carboplatin dose (one of the most difficult calculations oncologists have to make) and concerns arose regarding its safety and reliability. The OPIS 2000 has been in use in Ontario and two of the new oncology recruits are familiar with using it and one other doctor in the group expressed willingness to try again if there was some appetite for developing a system that provided better automated order entry. Their specific concerns, apart from the carboplatin dosing issue, were that the provision for electronic signature had not been implemented and as a consequence, reams of paper were produced by the computer system, which required multiple signatures. This actually made ordering even simple drugs much more complex and time consuming than had formerly been the case. There was also some concern that there had been inadequate time for training on the system and that the system itself was not state-of-the-art in 2001. Previously, some concerns had been expressed that the system was not user friendly because of the complex page layout but, in reality, this turned out to be a very minor issue. They liked the automated transmission to pharmacy, the ability to use the system in community oncology clinics and thus transmit useful information about treatment protocols and doses and they liked the treatment flow record which allowed them to keep track of the patient's course through Systemic Therapy. It was evident that the issue of time management in the clinic, scheduling of patients, delays in new patient appointments were onerous problems within medical oncology.

Administrative Structure

The other issues brought up are that the medical oncologists, in general, feel remote from the senior administrative structure of the organization and felt that they had to relay their concerns through their department head, Dr. Tang, then to the Medical Director, Dr. Gardiner and then onwards to Mrs. Paulse. They felt a level of impotence that their concerns were not

always resolved and felt very strongly that they wished to have senior medical input at the decision making level of the organization. They support the intent to involve clinical directors at the senior administrative level.

Academic Aspects of Medical Oncology

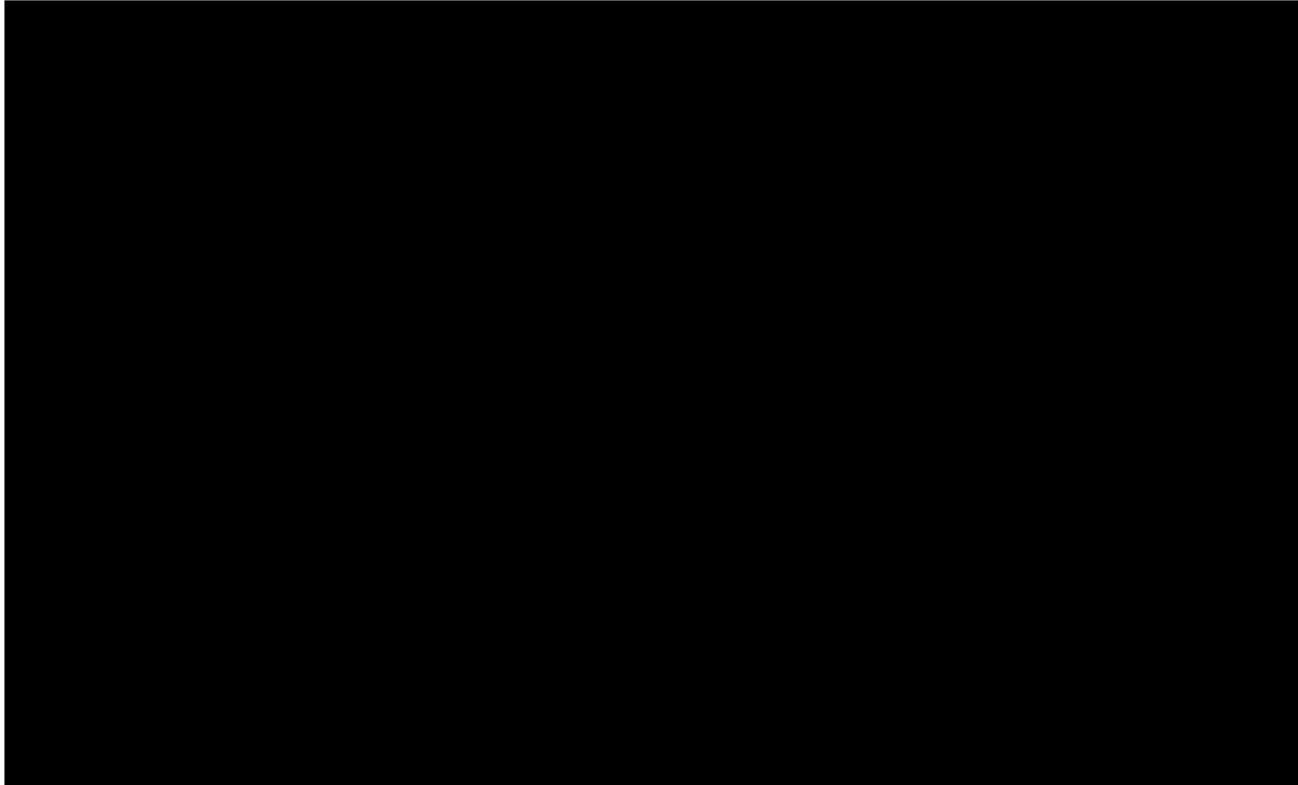
All physicians expressed concern that the number of patients being accrued to clinical trials had declined, possibly as a result of physician shortages over the summer. A number of trials that are open are not accruing patients and there was a consensus that there had to be more focus on closing trials that were not accruing and opening those high priority trials of significant scientific interest or those likely to bring in a steady income to support the operations of the clinical trials unit. Some concern was expressed that not all investigators had an opportunity lead studies and there was concern amongst the younger staff that they would need some mentoring to develop their skills and opportunities in clinical research.

All the oncologists enjoyed their opportunities to teach the residents that rotate through and they enjoyed their weekly teaching rounds at the Health Science Center.

Relationships with the Academic Department of Medicine at Memorial University

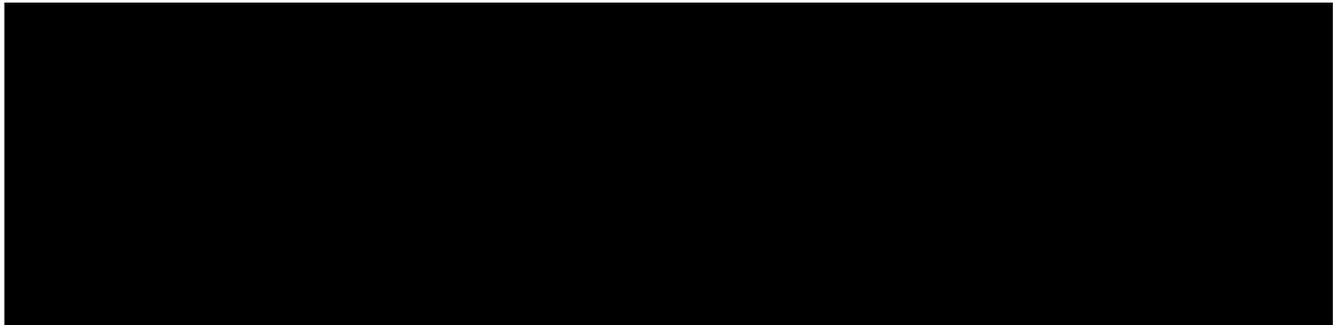
Dr. O'Reilly and Dr. Pearcey met with Dr. Harnett, the Head of the Discipline of Medicine, and also received input from all of the medical oncologists. The level of satisfaction with the support from the university is high. The university understands the workload pressures on the medical oncologists and is appreciative of their commitment to teaching.

One of the major issues that arose was the review of their salary structure. The gap between oncologists in Newfoundland and those in other provinces is growing year by year salaries are negotiated through the Newfoundland Medical Association. With the current round of salary settlements in Ontario and Alberta, it is highly likely that by 2002, Newfoundland oncologists will be \$90,000 a year behind their colleagues elsewhere. In a market where there are only 10-11 medical oncologists graduating annually in Canada and where competition is intense for these graduates, the incumbents felt that the stability of their program was under significant stress and that their difficulty in retaining oncologists is likely to be exacerbated. Some of the new oncologists are from Newfoundland but this should not necessarily mean that they will inevitably stay if the gulf between their salaries in Newfoundland and elsewhere becomes a major issue of equity and respect for them in their professional role. The NCTRF also needed to match benefits, including paid maternity leave with other provinces.



Medical Records and Information Technology

The Medical Records Department (Patient Information Management) is very efficiently run. The charts are paper charts, the scheduling system is the old OPIS system which is adequate for scheduling purposes. Patients are registered by two admitting clerks, however there isn't a physician triage to facilitate a more efficient booking to the two different disciplines. There is one information technology manager who oversees the old OPIS system. He gave Dr. O'Reilly a demonstration of the OPIS 2000 ordering entry system, which is not currently in use. The admitting system reported a 14-16 week wait in April 2000 for medical oncology new patient appointments. Extra clinics were implemented on Saturday and during the week. Medical Oncology starting seeing more new patients in their regional clinics, breast wait times are currently 12 weeks, lung 2-3 weeks and GI is 12 weeks. For radiation oncology breast cancer patients are also 12 weeks. The processes of double booking to medical and radiation oncology for breast and some lung patients was confirmed.





Relationships between the NCTRF and the Health Sciences Center

There are a number of shared services between the two sites. Inpatient beds are provided at the Health Science Center. Laboratory and diagnostic services as well as a number of housekeeping services and support are provided through the Health Science Center. There was a general level of satisfaction with the interaction between the two campuses and the agreements appear to be working well.

Relationships between Administration and Medical and Nursing Staff

Reports in this regard were variable, some saw administration as coping well in adversity and looking after the Foundation well. Others felt that the senior administrative structure was very remote from the day to day operations of the clinic and that input was not being received often enough at the senior level. There have been considerable efforts to improve on the communication pathway. Dr. Gardiner has become more involved in the medical staff meetings, the senior medical staff, Dr. Shou-ching Tang and Dr. Ganguly have been participating in two senior management committees for the last few months. Attendance by the medical oncology head has not been consistent and as a consequence, communications still remain difficult.

NURSING PROGRAMS AND SERVICES - MS. ESTHER GREEN

INTRODUCTION

The review of the Nursing Programs and Services included the following:

- Review of Annual Reports of Nursing Programs and Services: 1999-2000, 2000-2001, which included Quality Assurance information and Infection Control data.
- Review of the Financial Statements related to these programs.
- Annual Statistics of Systemic Therapy and Day Care, Outpatient Clinics, Radiation Oncology Program, at the Dr. H. Bliss Murphy Cancer Centre.
- Annual Statistics of the Regional Clinics, Pediatric Oncology and Enterostomal Therapy Program.
- Nursing Operational Plans: 1999-2000 and 2000-2001.
- Meetings with: Primary Nurses, Dr. H. Bliss Murphy Cancer Centre, Clinical Trials Nurses, Nurses in Chemotherapy and Day Care Unit, Nurse Coordinators: Central West, Central East, Western and Northern Regions, Enterostomal Therapy Nurses and Radiation Oncology Nurse.
- Meetings with the Chief Nursing Officer
- Meeting with the Director of Admissions
- Meeting with the Program Director, Medicine, Health Care Corporation, St. John's and tour of the inpatient unit.

Nursing is predicated on a philosophy of high standards to meet the care needs of people with cancer and their families, by providing service across the cancer continuum. As a professional discipline, nursing is based on scientific and theoretical knowledge, critical decision -making and evidence-based practice. Oncology nursing is a specialty within the discipline, requiring the acquisition of additional knowledge and skills in cancer care, including:

Understanding of the impact of the experience of chronic illness on the individual and family; treatment side effects; symptom management; research; teaching; counseling and the implementation of treatment interventions, such as chemotherapy administration.

Many nurses at the NCTRF have achieved the specialty designation of Certified Oncology Nurse, CON(C). All participate in staff development programs to enhance their knowledge and skill. Many precept nursing students and nurses who are novices in the oncology setting. The nurses are commended for their commitment to enhance their practice through all of these initiatives.

The nurses demonstrate strong commitment to the patients and their families. There is evidence of a philosophy of patient-centered care. The nurses are part of the interdisciplinary team and are valued for the role they play, with other disciplines. The oncologists respect the

nurses for their expertise and care, and there is good communication between the physicians and nurses.

Ambulatory Nursing: Dr. H. Bliss Murphy Cancer Centre

Primary nursing is the care delivery system in place in the Ambulatory Care Unit at the Dr. H. Bliss Murphy Cancer Centre. The nurses work in clinics designated for Medical Oncology, Radiation Oncology, Surgical Oncology and Supportive Care. The Primary nurses are responsible for assessment of patients, coordination of care, referrals to other disciplines, teaching patients about the treatment plan, identifying patients for clinical trials, and managing patients through treatment and follow-up. The nurses work in collaboration with the oncologists. They manage the clinic, ensuring a smooth process of care for patients and following-up doctors' orders for diagnostic procedures and treatment. They communicate with patients and their families through phone calls, and during clinic visits.

Patients seen at the Cancer Centre for the first time, arrive with all the diagnostic tests completed to enable the oncologist to determine the treatment plan. The patient completes an initial assessment of problems and needs, which the nurse uses to determine the actual and potential problems as the baseline for ongoing interventions and assessments. A follow-up assessment is completed as the patient returns to clinic during and after treatment. Patients who will receive chemotherapy are taught about the protocols prior to their first visit to the Chemotherapy Unit.

The nurses often refer patients to other disciplines, as they assess patient problems. For example, patients who are experiencing nutritional deficits are referred to the Dietitian for assessment and intervention. Patients who are in need of palliative care are referred to the Palliative Care Team. The other disciplines are respectful of the referrals the nurses make to ensure continuity of care. The nurses coordinate care with services in the community, through referrals to community agencies, to manage care in the home. There is evidence of effective teamwork, ensuring smooth process of care throughout treatment and across all the dimensions of need.

There are 10.5 FTE approved positions in Ambulatory Care. Of these positions, 8.0 positions are dedicated solely to Ambulatory Clinics and Chemotherapy. One position is solely dedicated to Radiation Oncology and works within the Radiation Therapy area. One position is partly funded by Women's Health of the Health Care Corporation, and partly funded by NCTRF. This position works with the Gynecology Oncology group. Part of one position is funded externally to support a special Fatigue Initiative.

There are 5.5 Full time equivalent nurses to manage 48 clinics every week. Thus, the Primary nurses cannot be assigned to tumour sites in the clinics. Only one nurse is assigned to a tumour group: the Gynecology Oncology team. As described above, part of the salary is funded by NCTRF, while the remainder is funded by the Women's Health Program. There are some initiatives underway to support nurses' participation on Tumour Groups, such as Lymphoma, Breast and Lung. Nonetheless, it is difficult for the nurses to do more than

manage the clinics in respect of the number of FTE's available for the number of clinics and the number of patients seen in each clinic. This does not allow for anticipating patient needs, managing symptoms or responding to patient and family calls. Another aspect of the assignment of nurses to the clinics is the use of casual nurses to cover Primary nurses, in their absence and use to meet the workload of the clinic. The impact of this use is the breakdown of continuity of patient care, when the casual nurse is unfamiliar with the patients in the designated clinic. While there are occasions when casual nurses must be used to fill an absence caused by illness or vacation, care must be exercised to assure continuity of service.

The number of calls from patients and families was documented over a period of time and determined to be between 800 to 900 calls per month. The nature of calls related to inquiries about next appointments, inquiries related to lab or other diagnostic test results, and symptom management. The clerk takes the calls and provides messages for the nurses to return calls to patients. It is difficult for the nurses to respond in a timely manner to calls during busy clinics. The clerk is best able to manage calls related to appointment changes or inquiries. Calls related to symptom management are managed effectively by the primary nurse. There are models of telephone triage developed by other cancer centres. These models describe standards or guidelines that enable the nurse to manage the patient problem and document the nature and outcome of the call. However, in the current staffing, it is difficult to assign nurses to manage calls. It is impossible to assign one nurse to phone patients, anticipating needs, or respond to calls from patients or families within the current assignment of FTE's. In some organizations, such as the Cross Cancer Institute, there are nurses assigned to telephone triage. In other cancer centres, the Primary Nurse manages all calls from her assigned caseload of patients. In this latter model, there is time built into the nursing assignment to allow for calls to and from patients. At the Princess Margaret Hospital, the Nurse Case Managers have time allocated in their daily schedule for this function.

With the Breast group, there was an initiative begun to review all the patients, involving an interdisciplinary team: Surgical Oncology, Medical Oncology and Clinical Trials. This team met BI-weekly to review the cases and attempted to prioritize patients to be seen, initiating staging to determine care plan and discuss further staging and treatment. The purpose was intended to review the waiting list for patients with Breast cancer, and manage the population effectively. This team ceased this function as of May, 2001 with the leave of absence of the lead oncologist.

Primary nursing is the care delivery model. However, it is difficult for the nurses to manage a caseload of patients, when assigned to the number of clinics each week. In a true Primary Nursing model, the nurse manages a caseload of patients and follows this group through their active treatment and follow-up visits. She is able to manage patient's symptoms through regular telephone follow-up and triage of patients, anticipating when patients may experience treatment-related side effects. Complex patient calls may involve up to an hour of the nurse's time. However, patient visits to emergency or additional clinic visits may be reduced, as the care needs are effectively managed. In addition, as patients are admitted for inpatient care, the Primary nurse is able to communicate with the inpatient team, and anticipate when the

patient is discharged and able to return to the ambulatory setting. These functions are diminished when the nurses are unable to manage more than the daily clinics.

Where nurses are enabled to function within practice guidelines, the process and flow of patients can be improved. For example, it is time consuming for a nurse to assess a patient, consult with the oncologist, receive a new order and implement the order. Where practice guidelines are developed, the nurse is able to institute care and reduce the waiting time for the patient. For example, pain management guidelines enable the nurse to titrate pain medications, and implement changes in the medication management. Inherent in the guidelines described is the education of nurses prior to implementation. Another example is the use of guidelines to allow the nurse to manage nausea and vomiting, or skin reactions related to radiation treatment. In some settings, these guidelines are implemented in the form of standing orders. These allow the nurse to use critical thinking and clinical judgement in order to institute an effective intervention, within scope of practice. As nurses are allowed to function fully in this perspective, the numbers of patients managed safely is enhanced, and oncologists are able to manage their caseload of patients without being drawn away unnecessarily.

RECOMMENDATION: Develop nursing practice guidelines in the areas of: skin management, pain management, constipation management, nausea and vomiting management, to enable full utilization of nursing resources and enhance the quality of patient care. Inherent in this recommendation is the need to identify the FTE component to assure the most effective utilization of nursing care hours and resources(see next recommendation).

Currently there is no workload measurement tool in place. There are workload indicators available from other centres, such as the Cross Cancer Institute related to chemotherapy protocols. Ideally, the development of workload measures would be useful in determining the nursing care hours for patients in ambulatory care. For example, what are the patient requirements for initial nursing assessment, follow-up assessment, management of patient problems, consultation and referral to other professionals, and calls to arrange and coordinate care in the community. By determining these care hours, the numbers of FTE's required for ambulatory care can be budgeted and assigned. Workload tools such as GRASP© are used in inpatient units, and minimally in the ambulatory setting. The University Health Network, in Toronto has applied GRASP© to the ambulatory setting, including oncology clinics. It may be useful to review the application of this tool, in light of the need to determine workload in ambulatory care. It would be essential for the tool to include all domains of practice of primary nursing: comprehensive assessment, coordination of care, consultation with the oncologist and other team members, teaching, counseling and telephone calls and follow-up.

RECOMMENDATION: Consider the use and application of a Nursing Workload Measurement System for Ambulatory Care to budget and assign nursing resources, in the Dr. H. Bliss Murphy Cancer Centre and apply the same measures to the Regional Clinics.

There are waiting lists of new patients to be assessed and treated. The number of follow-up patients is large, and includes those patients who are followed while on active treatment, patients who are on clinical trials, patients requiring palliative care and ongoing symptom management, and patients who are no longer on treatment, but are followed for long periods of time. There are no guidelines in place for the length of time to follow patients, in monitoring for recurrence of disease. Well follow-up patients, who have completed treatment and are physically well, take up clinic time, space and physician and nursing resources. The Breast site group established guidelines for following patients post-treatment. These guidelines are proposed for use by family physicians and may be implemented soon, with education of those physicians. In some communities, the availability of family physicians or general practitioners is challenged. In these areas, Nurse Practitioners may be the dominant health care resource, and thus could be taught the utilization of follow-up guidelines.

RECOMMENDATION: Consider the development of practice guidelines for follow-up. Designated groups of patients do not require routine follow-up by the cancer clinic and can be followed by family physicians/general practitioners, or Nurse Practitioners, as appropriate and available. Implement the Guidelines and reduce the numbers of follow-up patients to enable the assessment and intervention for new patients and those on active treatment or specialized palliative care.

In some centres, a new role in nursing has been introduced: the Advanced Practice Nurse. The role is a Master's prepared nurse who has specialized in cancer care and in addition, may have achieved the designation of Acute Care Nurse Practitioner. These roles encompass the domains of advanced clinical practice, including the utilization of Medical Directives to order designated diagnostic tests, medications and other interventions. Other role components include: consultation on complex patient problems, research, organizational leadership, mentor nurses in clinical practice, education, publication and presentations. The roles have been found effective in managing specific patient populations within organizations, such as in Radiation Oncology, working with patients experiencing long term side effects of treatment and symptom management. An example is the APN in Radiation Medicine Program at the Princess Margaret Hospital. Another example is the APN on the Pain Consultation Team at PMH. There are other models of the role introduced in other centres, such as Toronto-Sunnybrook Regional Cancer Centre and Hamilton Regional Cancer Centre. The role is used effectively, with positive patient outcomes in cancer settings in the USA, and these situations are outlined in oncology nursing journals and conferences (Oncology Nursing Forum, and Oncology Nursing Society Congress).

The Chief Nursing Officer recommended the development and implementation of the role in the Nursing Operational Plan and Program Enhancements. This is a reasonable proposal that deserves further investigation and may be implemented in the areas of Radiation Oncology and Medical Oncology. In both these areas, it is important to outline the patient population that can be managed effectively by the APN. For example, complex symptom management of patients with metastatic cancers, or the management and follow-up of patients with

gynecologic cancers may be within the domain of the APN. Agreement needs to be reached on those designated groups that the APN would support and manage. This role does not replace a Primary nurse, but supports nurses in their practice, and acts as a resource to the oncology team. The oncologists need to be prepared to accept the role and see it as an enhancement to their practice.

RECOMMENDATION: Consider the implementation of Advanced Practice Nurses to support designated patient populations. Areas to consider are both Radiation and Medical Oncology. In Radiation Oncology, the Advanced Practice Nurse can be used to replace the retirement of the Clinical Associate, as recommended by Dr. Pearcey.

A third area for the role is in Palliative Care, where patients experience complex symptoms such as pain, fatigue, depression, where the quality of life may be enhanced through appropriate interventions. It may be possible to place the role to work in both the ambulatory and inpatient areas, and if this is desirable, it may be feasible to cost-share the positions with the HCCSJ.

Chemotherapy and Medical Day Care

Chemotherapy is a major function within the Centre. The Chemotherapy nurses are very busy. They schedule patients every 30 minutes for treatment. There are 4.0 FTE's assigned to Chemotherapy and Medical Day Care, with 3.0 FTEs working primarily in Chemotherapy administration. There are 3 funded positions, with one position not in the current budget, but needed to manage the workload. There were 6443 patient treatments and 2380 day care visits in 2000/2001. Benchmarking against BCCA Standards of 1700 chemotherapy appointments per FTE nursing would indicate a need for 5.2 nurses to support chemotherapy and day care. In light of this difference, the nurses and leadership are to be commended for their efficiency.

The nurses have a good working relationship with the oncologists. They value pharmacy services but would prefer to have electronically transferred orders to make the service more efficient. They have concerns about prompt delivery of chemotherapy drugs from pharmacy, which caused some disruptions in the treatment scheduling. In order for the patients to be treated on time, the nurses have to be creative in organizing the schedule and accommodate the current growth in workload. There needs to be some attention paid to communicating the treatment schedule to pharmacy and creating electronic or some other means of transferring orders to pharmacy, in order for treatments to be received in a timely manner.

RECOMMENDATION: Use a fax to transfer orders to pharmacy, and send the schedule of patients to be treated a day in advance to give pharmacy the opportunity to set up their treatment schedule in advance. The ideal would be a computer transfer of orders and information between Chemotherapy and Pharmacy, and should be considered for the future.

On average, there are 30 to 35 patients who receive chemotherapy daily. One of the challenges in this area is the issue of teaching patients and their families about the chemo protocols, in order to assist them to understand the treatment, identify symptoms and what to do to manage the side effects. It is vital that patients know what to watch for, such as the potential for febrile neutropenia, unresolved diarrhea, nausea and vomiting, among other

symptoms. The nurses often teach patients one-on-one. This is in addition to the teaching that occurs within the clinic by the Primary nurse and oncologist. The nurses in Chemotherapy know appreciate the challenges of trying to teach patients given the limited resources available. Their goal is the safe and effective administration of the protocols and assisting the patients and families to manage the side effects.

The nurses in Chemotherapy use both computer generated chemo orders and hand-written orders, depending on the protocols and access to these protocols on the computer. OPIS and MEDITECH are the two computer systems that allow the nurses to review information on the patient, in preparation for treatment, such as dictated physician notes, lab reports, radiology and pathology reports. The chemo protocols outline pre-medications and hydration needs, similar to protocols used in most cancer settings. These protocols enable the pharmacists to deliver the medications and the nurses to administer the treatment.

In other centres, the nurse-to-patient ratio in Chemotherapy is determined by the nature of the protocol; for example, whether it is IV push, a clinical trial drug, a complex protocol that requires pre-medication, hydration and monitoring during administration. Guidelines were developed by the Cross Cancer Institute, the BC Cancer Agency and other centres to identify the nursing care hours required for specific protocols. These guidelines are used to determine the assignment of nurses to patients as well as for budget purposes to plan the needs for the year. Another essential aspect of the development of guidelines is nursing review of new protocols, when reviewed by the Systemic Therapy Program. For example, at the BC Cancer Agency, nurses are members of the Systemic Therapy Program Committee and review the impact of new protocols, in relation to nursing care hours. In addition, there are processes in place at BCCA, to review one-off protocols, the introduction of clinical trial drugs and impact on the Chemotherapy unit, and the development of Nursing Practice Guidelines in relation to new interventions, for example, peritoneal administration of chemotherapy.

RECOMMENDATION: There needs to be an integrated resource impact analysis of all new treatments, protocols and programs. The impact analysis must involve Medical Oncology, Pharmacy and Nursing.

Chemotherapy and Medical Day Care is one combined unit. This allows for good utilization of staff within the setting and the monitoring of patients during treatment and procedures. At times the staffing of this area is challenged, as occurs when patients are referred to the Centre without an appointment. The challenge is to manage these patients in addition to the other patients undergoing treatment. At times the staff are challenged when a patient is seen in the Unit, but needs admission to the inpatient unit, and there are no available beds. The inpatient unit and specifically the Admissions group have guidelines in place to prioritize oncology patients for immediate admission to the first available bed. There are guidelines in place to assess and manage patients with febrile neutropenia in the emergency department, which is a consistent model with other cancer centres. There have been two occurrences of patients who were transported to the Medical Day Unit who subsequently arrested in the past

year. This raises the issue of the need of appropriate guidelines for physicians regarding the transfer of patients to an appropriate facility, in case of urgent need.



COMMUNITY ONCOLOGY PROGRAM

The Community Oncology Program includes Regional Clinics in specific geographic sites, associated with a host hospital. These Clinics are located in the following areas:

- Corner Brook
- Grand Falls and Windsor
- Gander
- Burin
- Northern, located in St. Anthony and accessible to patients in Labrador.

As in many Community Oncology Programs, the geography is a challenge for patients and their families. There is a great deal of travel involved to reach St. John's for initial assessment and care planning, and radiation treatment. Medical and Radiation Oncologists travel on a regular basis to these Regional Clinics to assess and manage patients. In addition, there are designated physicians who oversee the plan of care, with respect to chemotherapy in the Clinic. For example, in the Western Region, there is a retired Internist acting in the role of a Clinical Associate who oversees the treatment and reviews patients, as needed.

Regional Oncology Nurse Coordinators staff the Clinics and are accountable for the coordination, development, implementation and evaluation of the regional program. In Corner Brook, there is one approved clinic nurse and one Regional Coordinator. There is no approved clerical position, no social worker or dietitian. In Grand Falls Centre, there is one approved clinic nurse, and one Regional Coordinator. There is some budgeted casual nursing relief. In Gander Clinic, there is one approved clinic nurse, with some casual support; but no clerical support, social work or nutrition services. In the St. Anthony's Clinic, there is one approved clinic nurse. This summarizes the current staffing in the regional clinics.

In the Western Clinic, for example, the nurses may administer chemotherapy to up to 12 patients per day. Their workload also includes managing patients for blood and blood product administration, and monitoring them during special procedures, such as thoracentesis and bone marrow aspiration. The protocols are diverse, similar to those administered at the DHBMCC.

In the absence of the physician, the nurses assess the patient's status, order tests via verbal orders, monitor the patients and advise when the patient needs to be managed for medical problems in the nearest Emergency unit. Patients are often followed in these clinics for long periods of time, very similar to the follow-up caseload of patients at DHBMCC. This is an area for improvement, as outlined earlier in the report, when patients can be safely discharged and followed by family physician or Nurse Practitioner, with Guidelines developed by the NCTRF.

Similar to the DHBMCC, the nurses in the Regional Clinics monitor patients by telephone, calling to remind them to take pre-medications, such as Decadron prior to the treatment, and ensuring blood work is completed prior to chemotherapy. They respond to calls from patients and families, when problems arise, but, due to workload, are unable to make anticipatory calls to manage symptoms prior to problems arising. The development of Telephone Triage Guidelines and time within the nurses' schedule to initiate telephone calls is recommended, to enable their practice.

The nurses participate in monthly nursing departmental meetings, lectures and updates. They are conscientious about maintaining knowledge and skill and continuing to develop in their work, and are commended for these initiatives. In the absence of other professionals, such as Social Workers, the nurses manage the patients' psychosocial needs. They work in close collaboration with Pharmacy in the host hospital to ensure the safety of protocol delivery and teach the patients about their treatment.

In these settings, OPIS is not available. The nurses have access to the computer systems available in the host hospital, but they cannot access OPIS. Orders and reports, progress notes, etc. must be faxed to the Clinic and this may cause delays in treatment delivery. Clerical support in these clinics is often absent, due to no or limited funding. Thus the nurses are doing clerical functions along with treating and managing patients. *Additional clerical support in these clinics is needed to allow the nurses to work more efficiently with the patient populations.* There is limited time available for public education, patient teaching or program development, all of which are inherent in the job descriptions.

The number of visits and delivery of treatment in these Clinics is increasing. In Corner Brook, for example, the total number of new and follow-up patients increased from 925 to 1923 between 99-00 to 00-01. This places an enormous burden on the nurse in managing this caseload of nurses. While numbers of patients increased in the other Clinics, it is not to the same degree as has been experienced at Corner Brook.

RECOMMENDATION: The Corner Brook Clinic requires the addition of 1.0 FTE clinic nurse to manage the increasing caseload safely in order to bring the required nursing component to 2.0 FTE.

There is evidence, as described above of the intensity of the work in all the centres. Currently, the Regional Nurse Coordinators manage the clinics, ensure staffing, and work with pharmacy, with the supervising physician and oncologists from DHBMCC to provide the same standard of care. In managing the day-to-day functions of the clinic, the Coordinators are unable to fulfill the need for program development, education and evaluation of clinic effectiveness. In other Cancer Centres and Agencies across the country, Community Oncology is an established Program with assigned resources to do the developmental work, and work in partnership with the communities to identify and meet the needs. The notion of Program evaluation is inherent in this work, as well as assessment of needs in new communities to ensure patients receive the care closer to home.

RECOMMENDATION: It is recommended that NCTRF create a position of a Community Oncology Leader to:

Develop the community programs across the province, assess needs, plan programs to meet the needs, conduct public education, and work with the Family physicians and Nurse Practitioners to assist them to manage follow-up patients discharged from NCTRF. There are models developed in other provinces that NCTRF can use to develop this position and program based on the experiences and successes of other organizations.

NURSING RECRUITMENT AND RETENTION

In Canada, the average age of nurses is 45 years. There are reduced numbers of women and men entering the profession, yet the need for nurses to care for people in various settings will continue to increase. This is true in light of the expected increase in cancer incidence with the aging population. Many settings are desperately recruiting nurses from various areas, including other provinces. Many nursing unions and associations have expressed frustration in salaries and workload. The labour unrest across the country has been publicly displayed, further impacting on the recruitment of nurses into health care settings, and on those who might anticipate entering the profession. This further disrupts the human resource market for nursing.

In the Community Clinics and at the DBHMCC, there needs to be an assessment of the potential impact of nurses who may be retiring in the next few years, and a plan established to work with the University to encourage new recruits to enter the specialty of oncology nursing. This will be an ongoing challenge for NCTRF, as other cancer centres across the country will be faced with the same dilemma. It is vital that NCTRF undertake a human resource planning initiative for nursing and implement the plan to recruit and retain oncology nurses.

ORGANIZATION OF NURSING SERVICES

The current model consists of a Chief Nursing to direct and manage the nursing services operation for the provincial program. Her work involves the establishment of a vision and strategic directions for the nursing services overall, which includes the DHBMCC, and the Regional Cancer Clinics. She reports directly to the CEO, and works as a member of the Leadership Team. She collaborates with the Medical Director, the Chiefs of Medical and Radiation Oncology and the Chief Operating Officer to ensure the provision of nursing resources as required by the organization. She consults with the Program Director, Medicine at the Health Care Corporation of St. John's and negotiates the delivery of services between the Centre and hospital inpatient services. She is an adjunct faculty member for the School of Nursing at Memorial University, and in this capacity, works with the faculty on student placement, delivery of course curriculum, and participates in research studies. There are several research studies underway, currently, in keeping with this academic initiative. This is

an integral role for the implementation of the vision of oncology nursing services for the future.

The Chief Nursing Officer is involved in organizational activities, such as Quality Assurance initiatives, risk management, strategic planning and operational planning. She presents to the Board with respect to nursing activities and plans. She prepares the budgets for all clinics across the province. She works with the nurses in the delivery of staff development programs, and strategic initiatives, such as nursing practice policies, research and leadership. She works externally with other nursing leaders in oncology and the profession and recently was the President of the provincial nursing association.

The Nurse Manager has a distinct role to play with regards to the daily operations of the DHBMCC. She manages the workload of the nurses in the Clinics and Chemotherapy. She develops the staffing patterns and works with the CNO on the budget development and variance reporting. She works closely with the nurses on the day-to-day practice issues and resolves problems. She works in collaboration with the oncologists in managing the clinic operations and ensuring adequate staffing and managing the needs of the patient population.

This model of CNO and Nurse Manager is similar to ones established in other cancer centres, such as Hamilton, Toronto-Sunnybrook, and Cancer Care Nova Scotia. While the titles of the roles vary, there is similarity in the level of supervision and strategic leadership. The model and nursing leadership at NCTRF is in keeping with other cancer centres.



OPERATIONAL REVIEW: SOCIAL WORK & NUTRITION

SOCIAL WORK

Social Work provides an in-depth service to people with cancer and their families. From the initial Assessment Form, the Social Workers (2 FTE) are able to determine potential problems, such as those living alone, without social or family supports; individuals without insurance coverage for drug costs; those who are elder; and single parent situations. In addition, referrals are made to Social Work from Nursing, Radiation Therapists, Family physicians and case finding occurs during weekly Rounds, such as Pain, Symptom Management, Medical and Radiation Oncology. The purpose of case finding is to determine where there are high or moderate risk situations requiring the expertise of Social Work. Priorities are determined on the basis of at-risk criteria, which include the following: elderly, difficult family dynamics, maladjustment to coping, financial problems, co-morbidity of mental illness, social isolation, evidence of depression or other problems with mental health. The Social Work team is commended for their diligence in determining at-risk clients and focusing on those situations amenable to psychosocial intervention.

In addition to case finding and referrals, the Social Work team carries a caseload of clients who have complex needs, are receiving 4th/5th line chemotherapy or are a young population with multiple problems and needs. Grief counseling contributes about 20-25% of the caseload. The team offers an eight-week group for grief counseling. This is the only Support Group offered at NCTRF, and this group is co-sponsored by St. Clare's Hospital.

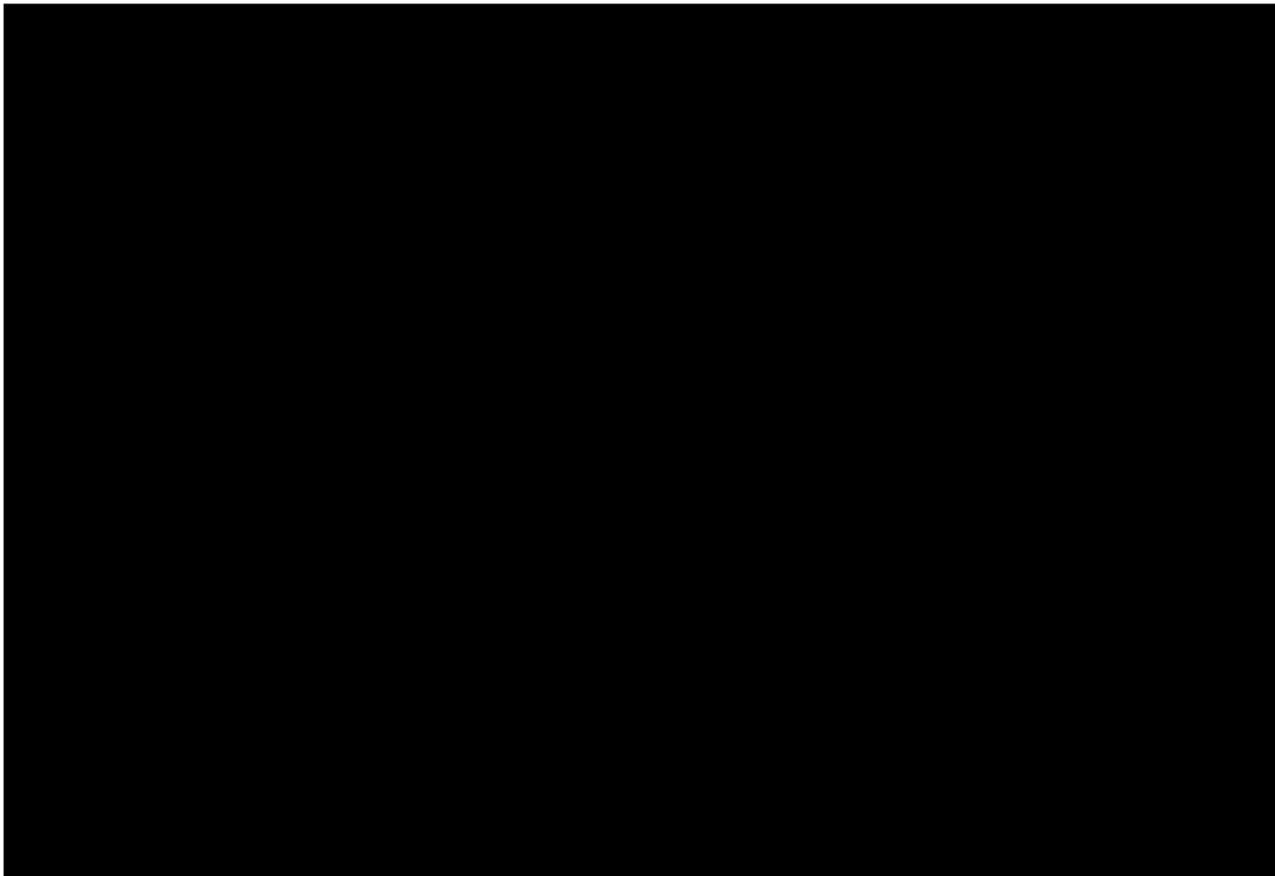
More than 50% of the caseload come with financial needs. Most are unable to afford the cost of drug therapy, or the travel and accommodation costs associated with treatment. Many are out of work, or unable to work while on treatment, and may be the sole wage-earner for a family. The team offers intervention to seek financial aid in these situations, on behalf of the clients. This service is invaluable to clients, enabling them to maintain their treatment while supporting themselves and their families.

The issue of financial assistance is one needed attention. With the population at risk for unemployment, or seasonal employment, and without adequate health insurance coverage, financial aid will continue to be a dominant theme for people with cancer and their families. Many cancer settings utilize the Social Work resources to assess and meet the psychosocial needs of the patient population; for example, Patient and Family Counseling at the BC Cancer Agency runs multiple support groups and individual counseling. At Princess Margaret Hospital, there is a Psychosocial Department consisting of Social Work, Psychology and Psychiatry working in concert to meet the needs of the population, supporting patients and their families through the cancer experience. At the Tom Baker Cancer Centre and the Cross Cancer Institute, Psychosocial Oncology programs are part of the centre's operating budget. In some of these settings, Social Work Assistants may be employed to manage the financial challenges and seek appropriate aid/assistance for patients.

Social Work Assistants are prepared at the B.S.W. level; whereas Social Workers who provide counseling are prepared at the Master's level. It seems appropriate to utilize SWA's to work with the clients to seek financial aid, while allowing the Social Workers to focus on psychosocial support. This would be in keeping with the Canadian Association of Psychosocial Oncology Standards.

The 2.0FTE Social Work team has existed since 1995 serving the needs of cancer patients and their families for the province. This is limited the ability of the team to provide the needed psychosocial support, including, as stated above, offering ongoing support groups and resources in the area of palliative care. The team currently offers limited support to the Palliative Care Program. It seems appropriate, given the long term needs of cancer patients and their families, and the financial strains which accompany the treatment, and the limited resources in the province, that NCTRF consider expansion of this team.

RECOMMENDATION: Employ the Canadian Association of Psychosocial Oncology Standards to develop a Psychosocial Oncology Program at NCTRF. Examine the utilization of Social Work Assistants at the DHBMcC and Corner Brook Clinic and potentially one additional Regional Cancer Clinic, as resources to support patients and families to seek financial assistance during their treatment.



GOVERNANCE - (ALL REVIEWERS)

The Newfoundland Cancer Treatment and Research Foundation was created by the Lieutenant Governor and House of Assembly in 1971, with the mandate to establish and provide cancer services for the province of Newfoundland and Labrador. The members of the Board of the Foundation are appointed by the Ministry of Health. The foundation receives its revenue directly from the Government of Newfoundland and Labrador. In 2001, \$8,490,403 was provided by the Ministry of Health for the Foundation's operations and the MCP grant of \$1,484,146 was provided for physician salaries. These two independent budget lines comprise the greatest proportion of the total \$11,168,241 operating budget. The board members, the board chair and the chief executive officer are all committed to the vision of excellence in cancer care and research and have been effective in establishing and operating a provincial cancer control program that endeavors to address the needs of patients throughout Newfoundland and Labrador.

The Ministry of Health is currently considering restructuring the health care system in Newfoundland and Labrador, minimizing the number of boards accountable for various functions and streamlining health care service governance and management in the St. John's region. In light of these current initiatives to review opportunities for improved standards, communication and fiscal management; the review team are asked to comment on models of governance for cancer care in Newfoundland.

There are four possibilities which merit consideration:

Option 1

The current model of a single board for the NCTRF has the strength of providing a population-based provincial mandate for cancer control which combines a cancer registry, defined standards for cancer control, maintenance of appropriate access through planned expansion and support for decentralized capacity for consultations and in particular, for systemic therapy. Rebalancing and reallocating resources for patient referrals, development of workload and productivity standards, provision of patient and public education. It has the capacity to evaluate the quality of the provincial program and to effect change. This provincial structure has the capability of providing effective measurements of outcome of care and the use of resources, although at present, the infrastructure to do this is not well developed. The opportunity to develop an integrated cancer care information system also needs to be further developed. Opportunities for management of an increasing range of screening activities can be fostered through a provincial model, collaboration with regionalized health care authorities and institutions to integrate care is ongoing and the provincial model provides the capacity to generate new knowledge. There is merit in being able to establish and allocate human resources according to need and to attract and retain sufficient specialized cancer service workers. There is also a major provincial role in education for patients, public and providers.

The greatest strength of a clearly defined provincial cancer foundation is that the interests of patients with cancer are not lost in competition for other acute and chronic care resources such as emergency services, surgical services and chronic care needs. Most provinces in Canada have elected to maintain a clearly defined provincial cancer organization in order to ensure that the goals described above are achieved and protected.

The disadvantage of a stand alone governance structure is that a separate senior administrative structure is required to plan and provide cancer care. This layer of senior administrators may be reduced or eliminated in a restructured governance model, that combines cancer care with the general provision of acute care such as a single board structure for the health care corporation of St. John's and the Newfoundland Cancer Treatment and Research Foundation. Careful analysis would need to be undertaken to determine whether indeed the savings realized from an amalgamated administrative structure would ultimately yield a more cost effective model.

The integration of cancer care within the broad spectrum of acute and chronic health care should theoretically offer an integrated experience from diagnosis to treatment to discharge back to the community. The review team did not, however, find that there were any major obstacles to fostering this transition of patients through the health care spectrum in St. John's.

Option 2

A combined governance structure in which the Newfoundland Cancer Treatment and Research Foundation is amalgamated with the health care corporation of St. John's, has the strength that it would potentially save some administrative salaries after integration had been achieved and it potentially offers a more streamlined approach to the continuum of cancer care. Relationships between the administrative and professional staff of the H. Dr. H. Bliss Murphy Cancer Center and the Health Sciences Center are currently collaborative and there are already a number of existing housekeeping and clinical services (e.g. inpatient beds, pharmacy services, diagnostic services) provided by the Health Sciences Center. These relationships appear to work well at present and a more complete integration of clinical services is feasible.

The weaknesses in this model are as follows:

Cancer care may end up subsumed into a much larger acute care environment where deficits are already evident and where protection of the needs of cancer patients may suffer in the competition for access to scarce resources. The high capital cost of replacing radiation therapy equipment and the anticipated significant growth in the oncology drug budget are both challenging issues to address and there are areas that may be compromised by the equally compelling pressures in recapitalizing general health care services and supporting technological demands.

The greatest concern is that a new governance structure, centered in the St. John's region might compromise the ability to sustain a comprehensive vision of a provincial cancer care service where access to care and standards of care are consistent across Newfoundland and Labrador. There is a significant risk that the other regions that are currently partly supported for cancer care services by the budget of the Newfoundland Cancer Treatment and Research Foundation may either have that budget devolved to the regions, thus leading to fragmentation of services, or the regions may feel that they are not receiving the appropriate level of support and attention if all of the decisions about regional cancer care services are being made in St. John's. Any combined governance structure will have to carefully address this issue if the Newfoundland Ministry of Health intent to support a vision of delivery of provincial standards for cancer care.

Option 3

In this option, a combined governance model between the Newfoundland Cancer Treatment and Research Foundation and the Health Sciences corporation of St. John's would have built, within its structure, a provincial program model for cancer care delivery, which would respect the needs of the regions. Such a structure would necessitate that within a combined

governance structure, the cancer care program for the province would receive a clearly defined funding envelope to deploy both within St. John's and the regions to the delivery of decentralized cancer care within established provincial standards.

Option 4

The fourth option would be to consider whether a combined board structure between the NCTRF and the health care corporation would also permit a cancer advisory board which did not have financial planning responsibilities but which had the ability to provide strategic advice to a provincial cancer program which is managed within a combined organization. This model is similar to the current Nova Scotia model.

Option 5

The fifth and least attractive option is to assign all responsibility for cancer care to the different regions. Under this model, the Newfoundland Cancer Treatment and Research Foundation would no longer exist and the activities of the H. Dr. H. Bliss Murphy clinic would be incorporated under the St. John's Health Care Corporation Board and the management of the health sciences center of St. John's.

This model would remove any responsibility for regional cancer care delivery from the new St. John's governance structure and would devolve the dollars and the responsibility to the regional health authorities in the different districts. It would never be cost effective for regions with small populations to provide radiation therapy. It would always need to be provided in St. John's, presumably as a purchased service. This model has the profound weakness of eroding standards of care and preventing the development of a provincial vision for cancer control. It would also significantly effect the ability to recruit and retain medical staff in regions such as Cornerbrook if there was no formal linkage to an appropriately supported provincial programmatic structure or provincial governance structure.

Administrative restructuring within the Current Newfoundland Cancer Treatment and Research Foundation

There are some significant benefits to be achieved from having more formally developed provincial programmatic structures in Radiation Oncology, Medical Oncology (Systemic Therapy) and Surgical Oncology. In due course, the development of a provincial programmatic model which would comprise a medical leader from each of these three disciplines. This model would no longer necessitate having a position of Medical Director and the three physician leaders would instead collaborate at the senior executive level with the CEO of the Cancer Foundation. Opportunities exist for reviewing the administrative infrastructure necessary to develop these programs and associated networks such as palliative care and screening programs. The administrative infrastructure to support the provincial program already exists to a large degree within the current Newfoundland Cancer Treatment and Research Foundation. Should a different governance model be determined by the Ministry of Health, the review team feels that management restructuring to support a provincial programmatic function would be advantageous to the preservation and further development of provincial cancer services.

Recommendation

Any decision regarding the restructuring of governance of cancer care in Newfoundland and Labrador should be respectful of the essential elements of a provincial cancer control program which must enshrine the concept of provincial leadership for cancer care, a population-based approach to the registry of cancer information, standards of cancer control, patient and public education, planning, integration of care, research and human resource development.

The optimal governance models would be either option 1 or option 3 described above. Option 1, the maintenance of the current Newfoundland Cancer Treatment and Research Foundation governance model remains an attractive model, which supports the principles outlined in recommendation 1. Recommendation 3, the integration of the functions of the NCTRF with the health care corporation of St. John's is also an attractive option which appeared to be palatable to the staff at the H. Dr. H. Bliss Murphy Cancer Center in view of their good relationships with the Health Sciences Corporation of St. John's. However, this model can only be in the best interest of the population of Newfoundland if it is developed in a manner which protects the principle outlined in Recommendation 1 and which enshrines cancer as a provincial program within such a governance structure. The option to have an advisory board or a provincial program management structure are potential solutions which help to ensure that the vision for a comprehensive, effective cancer care program within the province is sustained.

APPENDIX 1 – TERMS OF REFERENCE

Introduction

During the past two fiscal years (1999/2000, 2000/2001), the Newfoundland Cancer Treatment and Research Foundation has experienced large negative variances between budgetary allocations and actual expenditures for the majority of its programs and services. These variances are directly related to workload (number of new patients referred to all cancer programs for assessment, treatment and follow-up), introduction of new systemic therapies, increased utilization and cost of systemic therapies, additional physicians, enhanced radiation therapy technologies, out of provincial referral program for patients requiring radiation therapy, aggressive recruitment and retention strategies for radiation therapists, dosimetrists and medical physicists, bank interest charges for capital equipment borrowing and interest on a bank overdraft required to meet cash flow difficulties during the past fiscal year.

Additional physician resources and increased patient volumes during the past two years have placed inordinate demands on the workload of secretarial staff, medical records personnel, nurses, allied health professionals and other support staff of this organization.

Full time and consulting physicians have been appointed without consideration of an impact analysis to determine additional resources requirements for nursing, health records and other ancillary personnel. Operating budget submissions to government for 1999/2000 and 2000/2001 failed to convince officials that additional resources were required to meet patient demands. Early attempts to reconcile the difference between budgetary allocations and actual expenditures were unsuccessful. Consequently, over the past two year period, NCTRF has been operating with a substantial budgetary shortfall.

For the fiscal period 2001/2002, government has provided a base budget of \$6.8 m and \$2m referred to as stabilization funding. Stabilization funding has been estimated from the approximate deficit incurred during the fiscal period 2000/2001. In addition, government has provided approximately \$900,000 for systemic therapy for rural health regions based on 1999/2000 spending patterns and other small adjustments to cover annual salary increases as negotiated with the various unions.

The Department of Health and Community Services has authorized the Board of Directors of NCTRF to convert past deficits to long- term debt, deliver a balance budget, and generate savings that can be applied to repay past years accumulated deficits plus interest charges. It is government's expectations that these strategies will be carried out without decreasing clinical service volumes and staffing levels and compromising quality of care. Best practices and evidence- based measures are to be implemented to manage within the budgetary allocation of \$10.1m.

Government has agreed to support and fund an operational review for a clearer determination of NCTRF's ability to respond to changing demographics, increasing incidence and prevalence of cancer in the population of Newfoundland and Labrador. Specifically, this review is to identify opportunities for, reducing the cost of cancer services, efficiencies and productivity of the provincial cancer system, and improving the outcomes of cancer services.

The reviewers will be requested to:

- Examine organizational structures and processes for a determination of opportunities for primary users and cancer care providers to control costs.
- Examine processes for integrating operational and clinical management for improving program (e.g. radiation and medical oncology) efficiencies and effectiveness.
- Examine processes for monitoring operations and assessing the outcomes of therapies.
- Examine decision-making processes for the introduction and impacts of new and planned therapies/technologies, additional physicians and the discontinuance of old therapies or changes to therapies.
- Examine workload indicators of the departments/programs/services in relation to staffing patterns and provide comparison based on either best operational practices of other jurisdictions or staffing ratios known to the reviewers.
- Examine the adequacy of resource availability to serve cancer patients at the community and regional level.
- Examine the coordination and delivery of cancer services within the program and between programs, both internally and externally (e.g. family physicians, consultants and other agencies).
- Examine the present state of current technologies and future plans for introduction of new technologies for cancer services in the province of Newfoundland and Labrador.
- Examine the level of research and academic involvement that should be supported by the provincial cancer program.
- Examine resource allocations for information technologies and cancer registries and linkages with other health care organizations.
- Based on findings from the above provide recommendations that will enhance the ability of this organization to meet the needs of cancer patients and their families.
- Provide recommendations that will assist NCTRF to determine the appropriate service levels within the present budgetary allocation.
- Provide recommendation for resource requirements appropriate to the cancer incidence and prevalence rates for Newfoundland and Labrador.

Responsibilities

The review will be under the direction of a Steering Committee comprising representatives of the Board of Directors and Senior Management of the Newfoundland Cancer Treatment and Research Foundation, Department of Health and Community Services officials, Health Care Corporation-St. John's, Western and Central Health Regions. The Steering Committee will meet with the reviewers at the commencement, mid-way and at the end of the onsite

component of the review. Senior management personnel will be accessible to the reviewers at all times.

The reviewers will be required to submit a draft report for review by the Steering Committee. The Steering Committee will provide feedback to the reviewers for completion of the final report.

Methodology

Background documentation containing statistical data related to workload, cancer incidence, budget and operational reviews, accreditation reports, strategic plan, and other applicable materials will be made available to the reviewers. Interviews with key professionals and possibly questionnaires will be used to obtain additional information. Collected information will be analyzed, compared with national and international cancer standards and workload ratios. Interpretation of information will be presented in a final report.

Duration of the Review

The duration of the review should not exceed four months with a three day site visit. The reviewers are expected to submit a draft report within two months of the site visit and a final report at thirty days following receipt of feedback from the Steering Committee.

Reviewers

Three reviewers will be assigned to the operational review. One reviewer will assume a leadership role with responsibility for the coordination and completion of the final report.