Value for Money Assessment

Pictou County Health Authority (DHA 6)

Final Report February 10/04

1. Introduction

Pictou County Health Authority (PCHA, also known as DHA 6) provides the following services:

- Acute care and mental health services through the Aberdeen Hospital in New Glasgow,
- Restorative, ambulatory care, veterans and family physician offices at Sutherland Harris Hospital in Pictou,
- Public Health services in New Glasgow
- Addiction Services in New Glasgow and Pictou.

The primary population served is the 49,000 + people living in Pictou County. The Aberdeen Hospital also provides selected specialty services including orthopedics, urology and pacemaker implantation to the neighbouring DHA's 4, 5, and 7.

In addition to a strong family physician base the district has specialists in general surgery, orthopedic surgery, ophthalmology, urology, obstetrics and gynecology, anesthesia, internal medicine, pediatrics, pathology and radiology. Although approved for a complement of 3 psychiatrists, the district has had ongoing difficulty in recruiting and retaining these specialists. A child and adolescent psychiatrist started in August, 2003 but at the time of our review there was only 1 long term locum adult psychiatrist. The impact of this deficiency and possible solutions will be addressed later in this report.

PCHA was surveyed in early 2002 by CCHSA and received full accreditation. Areas of risk identified were limited and included:

- Recruitment and retention of personnel(but strategies are in place to address this)
- The need for formalized ethics processes and policies
- The need for independent reviews of diagnostic and laboratory services to establish quality indicators
- The need to enhance community awareness of its services and the role of the DHA and CHB's.

PCHA is working on all these areas.

PCHA management also regularly uses outside resources to assist it in determining the efficiency and effectiveness of its services. An Energy Audit performed by P.A Gardner Engineering Associates identified significant potential to reduce energy consumption. A number of the recommendations have been implemented, and others are in the process of being implemented. It expected to undertake reviews of its laboratory and diagnostic services this year but was advised by the Department of Health to defer these until after the value for money assessment.

PCHA participates in shared administrative services including finance, information systems, human resources and materials management as well as shared community services in Public Health and Addictions. There are ongoing issues in managing these shared services, but the most difficult was in the area of financial reporting. There were major problems in obtaining accurate, timely financial reports from the shared services office and some very significant errors resulted in financial hardship for the district. As a result, the service was restructured and PCHA now has finance personnel on site, although some services, including the general ledger, remain shared. It is expected these changes will result in significant improvement in financial reporting. However, role clarification, including the relationship between finance personnel and line managers, as well as reporting relationships within the shared service structure, need ongoing attention.

The approved DOH budget for 2003/04 is $ 40,452,451. This is an increase of just under $ 3 million compared the 2002/03 approved budget of $ 37,462,913. Non- insured revenues totaling $ 7.34 million in 2003/04 are additional. Over 80 % of the budget is portable for acute care purposes, but orthopedics, oncology, mental health, public health, addiction services and biomedical waste have non- portable budgets. Other DHA's also have non-portable budgets for these services except for orthopedics, which is included in portable acute budgets in the other districts where it is offered. PCHA is projecting a deficit of about $ 250,000 in this fiscal year and has undertaken a number of initiatives to mitigate the situation. However, Government determined that an independent assessment should be undertaken to determine whether the organization was performing as well as should be expected and whether there was opportunity for improved financial performance. Virginia MacDonald, in association with KPMG, LLP, was engaged to undertake the review. This report presents our findings. It is based on the following:

- Review of clinical, statistical and financial performance indicators provided by the Department of Health
- Review of background documents provided by PCHA and DOH (see Appendix C)
- On- site visits in which senior management, managers, physicians and board members were interviewed and selected facilities toured(see Appendix D for list)
- Discussions with DOH personnel and Steering Committee members

The Terms of Reference for the review are included as Appendix B.

The study was undertaken with the guidance of the Steering Committee comprised of the following members:

Cheryl Doiron, Associate Deputy Minister, Department of Health (Chair)
Tom Ward, Deputy Minister of Health
David Rippey, Executive Director, QEHS/HP, Department of Health
Byron Rafuse, Chief Financial Officer, Department of Health
Janet Knox, Executive Director, Acute Care, Department of Health
David Perry, Senior Corporate Financial Analyst, Treasury and Policy Board
Peter MacKinnon, Chief Executive Officer, CEHHA (DHA4)
Patrick Flinn, Chief Executive Officer, PCHA (DHA6)

In this report we will use DHA 6 and PCHA interchangeably to refer to the district under study.

2. Limitations

The reviews of both DHA 6 and DHA 4 were undertaken during a 2 month period from October 15 to December 15, 2003. This timeframe permitted only a high level review of the most costly areas of the operations. DOH and DHA staff were extremely cooperative in providing information within this very tight timeframe. However, due to a number of data quality issues, a significant amount of time was spent simply clarifying the data. This was considered to be a valuable learning experience for all parties as the information had not been used in this way before.

Caution should be used in interpretation of all benchmark information found in Appendix A as it is still a work in progress. A number of data quality issues have been identified during the course of our work. When identified we have then corrected them where possible. The issues have been related to internal allocation of costs and have been primarily in statistical rather than financial reporting. We have been advised that DOH is confident of the total financial reporting, but the allocation between cost centres may not be reported consistently across all districts. In addition, we have found some examples within the DHA's under review of costs being allocated to one cost centre and workload being allocated to another. We need, therefore, to be careful to understand both differences in reporting and differences in practice when interpreting comparisons between DHA's.

It should also be noted that at the outset of this work it was determined that interprovincial comparisons would not be helpful due to significant variations in reporting and structures. Also, year to year comparisons, even within Nova Scotia, were not helpful due to the newness of the MIS and problems encountered with data quality in 2001/02. With a few exceptions we therefore used 2002/03 post audit data only for benchmarking purposes. This was the first year that MIS data was audited. 2003/04 data was not available at the time of our review.

All parties agreed that comparisons should be made across DHA's1-7 as they are more or less similar, with some exceptions, in services offered (except for orthopedics in DHA's 3 and 6 and vascular surgery in DHA 3). DHA's 8 and 9 have not been included in comparisons at the macro level due to significant differences in the scope of their services. However, selected services from either or both of these should be included in future comparisons to better understand DHA performance.

An additional point to consider in reviewing the benchmarks is that all information reflects only services performed in Nova Scotia. In particular, residents of DHA 5 use Moncton, NB for a significant amount of secondary care ($ 4.7 million). Volumes and costs related to this care are not reflected in this information. For true comparisons involving DHA 5 residents, this information would need to be added. We understand arrangements are in place to share this information.

Patient volume information is derived from the CIHI system to which the province subscribes. The information reports inpatient acute care information and day surgery

based on abstracts from charts submitted by each hospital. Although the system is well established, changes in the coding system and variations in physician and hospital reporting practices also indicate a need to use caution in interpreting information. In particular, RIW (Resource Intensity Weights) and recording of ALC (Alternate Level of Care – or not requiring acute care) are problematic. In the case of ALC days, the physician provides the information by indicating on the chart that acute care is no longer required. Often the physician is reluctant to record this as they fear it will trigger charges. Some districts have been more aggressive in encouraging such recording. RIW's are based on averages derived from other jurisdictions and are also affected by physician recording practices. In addition, CIHI uses a "MNRH " classification – meaning " may not require hospitalization" to identify cases and days that do not necessarily need to be in hospital on a given day. However, these are also open to physician recording practices as well as availability of alternative services.

Recommendation: The DOH should continue to work with the DHA's to develop decision support resources including software and personnel with the appropriate skills to improve the accuracy and usefulness of the various databases in order to improve the quality of management decision making at both DOH and DHA levels.

3. Executive Summary

Pictou County Health Authority (PCHA, also known as DHA 6) provides the following services:

- Acute care and mental health services through the Aberdeen Hospital in New Glasgow
- Restorative, ambulatory care , veterans and family physician offices at Sutherland Harris Memorial Hospital in Pictou
- Public Health services in New Glasgow
- Addiction services in New Glasgow and Pictou.

The primary population served is the 49,000+ people living in Pictou County. The Aberdeen Hospital also provides selected specialty services including orthopedics, urology and pacemaker implantation to the neighbouring DHA's 4, 5 and 7. A number of administrative services are shared with DHA's 4 and 5 including finance, human resources, information management and materials management.

The approved budget for 2003/04 is $ 40,452,451. This is an increase of almost $ 3 million compared to the approved 2002/03 budget of $ 37,462,913. PCHA is projecting a deficit and has taken a number of initiatives to mitigate the situation. However, Government determined that an independent assessment should be undertaken to determine whether the organization is performing as well as should be expected. The Terms of Reference for the review are included as Appendix B.

The review began with the preparation of macro benchmarks to compare the performance of DHA's 1-7. These benchmarks are included as Appendix A. They need to be used with considerable caution since a number of data quality issues were identified during the review. It is quite probable there are others we did not find. Appendix E provides additional comparisons.

Recommendation: The DOH should continue to work with the DHA's to develop decision support resources including software and personnel with the appropriate skills to improve the accuracy and usefulness of the various databases in order to improve the quality of decision making at both DOH and DHA levels.

Residents of DHA 6 use hospital services at a higher rate in terms of separations per thousand population than other districts, but use a lower number of hospital days. They also use a relatively low number of emergency room visits per thousand population.

Direct care costs per medical/surgical/pediatric patient day at $ 228.49 are third lowest of the group – compared to a low of $ 221.19 in DHA 4 and a high of $ 272.48 in DHA 1, despite provision of more expensive services such as orthopedics. In 2001/02 DHA 6 had the lowest cost per weighted case of the seven districts compared. 2002/03 information is not yet available.

A shortage of nursing home beds in DHA 4 is now creating difficulties for DHA 6. Beds have become blocked at the Aberdeen Hospital and patients are staying in the ER after admission. However, the days associated with these cases are underreported.

Recommendation: DOH and DHA 4 should develop a plan to meet the continuing care needs of DHA 4. The impact of beds used in DHA 6 should be considered in that planning process. PCHA needs to continue to work with physicians to improve the accuracy of reporting, especially as it relates to ALC days and co-morbidities.

Direct cost per case for ER visit is the second highest of the seven districts. However, the cost of endoscopies and surgical clinics are included but their workload is not. If these costs are backed out, ER costs still appear to remain high. Until we have more accurate data we cannot comment further on the performance of the ER.

Recommendation: The district should review and revise reporting to clearly identify workload and costs to separate the ER, surgical clinics and endoscopy suites. These services should be reviewed again when better data is available.

Information to evaluate surgical services is also problematic. Based on the available data PCHA has the highest cost per OR case of the six districts reporting. The district is attempting to clarify what is included in the costs as it appears that some non OR costs have been included. At the time of report writing this issue had not been resolved.

Recommendation: Reporting needs to be reviewed and revised to ensure that costs and workload are appropriately reported and allocated. Operating room costs should be separate from clinic, inpatient and diagnostic costs. The costs of the orthopedic program need to be properly allocated to facilitate monitoring of actual costs against the program budget. Responsibility for management of the orthopedic program should be clearly identified and information provided to enable managers to effectively manage the service. Once there is a more accurate analysis of the OR costs, this district should be compared in more detail with other districts offering similar surgical services.

Laboratory costs per inpatient day and per capita are at the high end. However, there are no provincial standards for quality, utilization and productivity.

Recommendation: DOH and DHA's should work together to develop provincial guidelines for quality, utilization and productivity, as well as reporting consistency. An independent review should be undertaken at PCHA at an appropriate time.

Diagnostic imaging costs are about the middle of the DHA's being compared. However, the DOH is still verifying some DHA data. PCHA has indicated it wishes to undertake an independent review of this service and we support this initiative.

Medical surgical supply costs per patient day are second highest of the DHA's, but we would expect this to be the case given the services provided. Use of high cost items such as prostheses should be explored as part of the surgical services review we have recommended.

Recommendation: Medical surgical supply costs should be included in the recommended review of surgical services.

Drug costs are about in the middle of the DHA's. We did not identify any major issues in this area, except a stronger policy framework is needed for the work of the Pharmacy and Therapeutics Committee.

Food service costs are at the upper end with only one DHA reporting higher food service costs per patient day. There may be an opportunity to improve productivity by providing food service to the adjacent nursing home.

Recommendation: DOH, PCHA and Glen Haven Manor should further investigate the potential to provide food services and other support services such as laundry and materials management to Glen Haven Manor. PCHA should also explore means to reduce its food service costs.

Overall administration costs as a percentage of direct service costs are in the middle of the seven districts compared. This is what we would expect, given the size of the district. Restructuring of financial services in 2003 to improve accuracy and timeliness of reporting resulted in a small increase of staff, but still makes the DHA 4, 5, 6 shared service much smaller than the DHA 1, 2, 3 shared service. However, some role clarification is needed. Patient care Management is lean and should be enhanced when resources are available.

Recommendation: Role, responsibilities and reporting relationships should be clarified and communicated to all managers. Serious consideration should be given to enhancing clinical support resources, especially on weekends, evenings and nights.

In terms of per capita funding, DHA 6 is in the middle of the group at $ 872. DHA's 2, 5 and 7 are higher and DHA 5 would be even higher if out of province costs were included. Given that DHA 6 provides high cost services such as orthopedics and pacemaker implants to residents of other districts, as well as having a low rate of out referral, we believe that PCHA is using its available resources in a cost effective manner.

Recommendation: Working with the DHA's, DOH should attempt to measure the actual costs of the services provided to residents of each DHA in preparation for development of a funding formula that would promote fair, equitable and transparent funding allocation to all districts.

The overall performance of DHA 6 is about in the middle of the seven DHA's compared. However, a better understanding of the true cost of services provided to non DHA 6 residents would likely result in a higher ranking for this district. Overall, the organization appears to be well managed and addressing issues proactively. Some improvements are required in reporting of workload and costs and there may be opportunities for improvements in laboratory, food service, ER and OR costs. When more accurate information is available a follow up review should be undertaken.

4. Overview of Clinical Services

Appendix A provides a number of high level benchmarks to assist us in understanding the services provided by PCHA and how the district performs relative to other DHA's within Nova Scotia. Appendix E provides some additional information on selected services and characteristics of the population served. In the following sections we will refer to a number of these benchmarks and indicators.

DHA 6 is the third smallest of the seven DHA's with a population served of 49,180, or 40,569 when adjusted for inflow/outflow. Its proportion of elderly- those who use hospital services the most- is about in the middle- older than DHA's 3, 4 and 7, but younger than DHA's 1, 2 and 5.

Despite being in the middle of the age group, DHA residents use more separations per thousand population (ie inpatient discharges and deaths) than any other district in the group (except possibly DHA 5 if NB cases were included). It is important to note that these figures reflect care delivered anywhere in Nova Scotia, not just within DHA 6. However, average lengths of stay, both for residents of DHA 6 and for the Aberdeen Hospital are the shortest of the seven districts. This suggests that some admissions by DHA 6 residents may not be admitted if they were living in another DHA. It may also reflect transfers and readmissions to and from another facility.

Emergency room visits within DHA 6 on the other hand, are low for DHA 6 at 618 per thousand population compared to a high of 1008 for DHA 3 among the 6 districts reporting. This is interesting since there seems to be a perception that family physicians are in short supply and the ER is overused. However, at present PCHA believes that they are only short 2 FTE family physicians.

Direct care costs for medical/surgical/pediatric inpatients were $ 5,568,350 for a total of 24,370 patient days. This translates to $228.49 per inpatient day vary from a low of $221.19 in DHA 4 to a high of $272.48 in DHA 1. At $ 228.49 per medical/surgical /pediatric patient day, DHA 6 is third lowest. It is interesting to note that its costs are lower than DHA's 2 and 7, which lack resource intensive services such as orthopedics.

In 2001/02, DHA 6 had the lowest cost per weighted case of the seven districts compared. 2002/03 data is not yet available. We expect the costs will have increased in 2002/03 due to the full year operation of the orthopedic service, but based on 2001/02 information, this hospital appears to be very efficient on a cost per weighted case basis.

4.1 Medical Services

Medical services include 36 beds in 2 units plus 5 telemetry beds. At any one time there are 7 ALC patients occupying acute care beds. However, it appears that these days are being significantly underreported. In 2002/03 DHA 6 had only 390 ALC days reported to the CIHI database. This compares with 3798 for DHA 1 and 3627 for DHA 7. We note that DHA's 4 and 5 are also very low. The district has recently introduced a program to educate all physicians in appropriate reporting practices. The purpose is to encourage them to note on the chart that acute care is no longer required to facilitate more accurate reporting of ALC days as well as to ensure all procedures and co-morbidities are reported. However, some physicians are still reluctant to report that acute care is not required for fear that the patient and family will be charged. Management needs to continue to encourage physicians to identify when patients no longer require acute care in order to have beds available when needed for acutely ill patients and to reduce backups of patients in the ER. Furthermore, the DHA is entitled to these revenues when patients and families can afford to pay.

Recommendation: The District needs to continue to work with all physicians to improve the accuracy of reporting.

Prior to the introduction of SEA, the Single Entry Access program in Nova Scotia, the Aberdeen Hospital operated a 14 bed transitional care unit for medically discharged patients who were awaiting nursing home placement. Based on the knowledge that DHA 6 had a high ratio of nursing home beds and that other provinces had experienced reduced demand for nursing home beds when their single entry programs were introduced, PCHA closed this unit to assist with budget management. However, this has resulted in significant problems. Although DHA 6 does have a high number of nursing home beds, these are now being occupied by out of district residents, especially from DHA 4 where there is a shortage of nursing home beds. The Aberdeen Hospital is now facing a constant situation of admitted patients in the ER, waiting in inappropriate facilities with often costly one on one care. Additionally, patients are staying longer than necessary in high cost ICU beds due to lack of medical beds.

Recommendation: DOH and DHA 4 should develop a plan to meet the continuing care needs of DHA 4. The impact of beds used in DHA 6 should be considered in that planning process.

A medical day unit operates 7 days a week. It provides excellent value for patients requiring medical procedures such as transfusions, IV therapy, bronchoscopies etc. Provision of this service often avoids hospital admission.

The district has a well established internal medicine specialty service with 3 general internists and 1 gastroenterologist.

One of the ways in which hospitals have been addressing nursing shortages as well as reducing costs is to adjust the RN to LPN ratios by using LPN's to their full scope of practice. In 2002/03, DHA 6 used the lowest proportion of LPN's compared to other districts. However, the hospital has increased its use of LPN's this year and is planning to introduce ward aides as a cost reduction measure.

Another measure of productivity and costs is the ratio of earned hours to worked hours. This ratio can identify whether there is excessive use of overtime and sick time, requiring premium rates. In its inpatient units DHA 6 had the lowest ratio of earned hours to UPP worked hours(unit producing or direct care)-1.16 compared to the highest of 1.29 in DHA 3, suggesting that they are doing well in minimizing the non productive hours in inpatient services.

In addition, staff were redeployed from pediatrics with the result that overtime has been reduced.

4.2 Emergency Room (ER)

ER services reported direct care costs of $ 2,554,094 in the district hospital in 2002/03 and workload of 30,381 visits.Direct cost per ER case is the second highest of the seven districts. However, costs of the endoscopy suite and surgical clinics have been allocated to ER, but without the associated workload. The district backed out staffing and supply costs for endoscopy and surgical clinics and this reduced the cost from $84.07 to $72.38 per visit. This still makes DHA 6 the second highest. Some of this may be attributable to the number of admitted patients in the ER, but we do not have comparative data for other ER's. We have been advised that orthopedic clinic costs are not included in the ER, except, perhaps, for some supply costs. Further work is needed to understand the reasons for the apparent high cost per visit and whether there are opportunities for improved performance.

ER services have also been impacted by changes in access to continuing care beds. From 2001 /02 to 2002/03, the increases in admitted patients staying overnight in the ER were as follows:

Admitted medical patients staying overnight in ER:

	01/02	**02/03**
1 night	399	689
2 nights	74	202
3 nights	6	53

It is recognized as poor practice from both a quality and cost perspective to regularly have patients staying in the ER. The solution lies in rebalancing the system to

provide adequate numbers of acute and continuing care beds to prevent backlogs in acute care, as recommended above.

The physical facilities of the Aberdeen Hospital in general are quite good. However, there is not good separation of emergency (unscheduled)from scheduled care within the ER. The ER is composed of a number of small rooms that are better suited to an OPD clinic than an ER. Although it makes sense to share resources, for example between orthopedic clinic and ER (especially cast room/cast tech and proximity to DI), the costs and workload should be clearly delineated and appropriate space should be provided for both busy activities. Planning is underway to improve the physical facilities of the ER.

Recommendation: The district should review and revise reporting to clearly identify workload and costs to separate the ER, orthopedic clinic, surgical clinic and endoscopy suites. These services should be reviewed again when better data is available.

4.3 Surgical services

Surgical services are another high cost service in hospitals. In 2002/03 PCHA reported direct care costs in the OR of $ 4,014,668 for a total of 4276 OR cases. The current information we have shows that DHA 6 has the highest cost per OR case of the six districts reporting. However, further investigation is underway to determine what is included. It appears that the entire orthopedic program costs may have been reported to the OR, inflating the costs. However, DHA 6 does appear to have an opportunity to convert more surgery to day cases when comparing to other DHA's. We would expect DHA's 3 and 6 to be similar, but in DHA 3 only 37 % of surgery was performed on an inpatient basis, while 42% was inpatient in DHA 6. However, if we include endoscopies performed outside the OR, DHA 6 shows a figure of 32% inpatient surgery. We do not yet have information on DHA 3 to be able to determine whether all endoscopies are included in their figures. Also, the Provincial Wait Time Monitoring Project Draft Report (Nov 2003) indicated that the percentage of day surgery for orthopedics was lowest in PCHA of all four adult orthopedic centres in the province at 38 % compared to Valley Regional at 58%. Of note, however, is that ENT surgery is not provided at the Aberdeen, and this can be high volume day surgery.

DHA 6 has a slightly higher ratio of earned to worked hours than DHA's 2 and 3, but lower than DHA's 1 and 4. Further work is needed to determine whether there are performance improvement opportunities in surgical services in DHA 6. This likely will require looking more closely at reporting in other DHA's as well as better understanding the details within DHA 6. Other complicating factors in looking at the OR include where endoscopies are performed, where their costs are allocated and how the entire surgical service is organized.

Surgical services are being challenged with the addition of orthopedic services. However, wait times are still good- on average less than 5 weeks for general surgery and 35 weeks for orthopedic surgery. The OR manager has been monitoring use of premium hours and actual OR utilization. She is adjusting the schedule to add blocks for urgent/emergent cases to the weekday schedule to reduce overtime. This has been facilitated by the recruitment of a fourth anesthetist, who started in September, 2003. The chief of staff is working with a surgeon who has been utilizing excess resources after hours. The manager is planning to introduce an ORT role as soon as training courses can be obtained.

An issue affecting OR management is the way in which the non-portable orthopedics budget was established. This was established as a program in a hospital that is not organized along programmatic lines. The result is that various services can draw from the orthopedic budget according to what was agreed, but they are not able to manage the budget by reallocating between cost centres as there is no reporting to support this and no designated manager of the program. It appears that other services are subsidizing the orthopedic program, but the extent to which this is occurring is not clear. However, this program appears to be well accepted and volumes have been increasing. To ensure ongoing viability of the program a third orthopedic surgeon is planned. When a third is recruited an additional budget allocation will be required. However, this might allow repatriation of some of the work from Cumberland County now going to Moncton.

Recommendation: The costs of the orthopedic program need to be properly allocated to facilitate monitoring of actual costs against the program budget. Responsibility for management of the orthopedic program should be clearly identified and information provided to enable managers to effectively manage the service.

Another issue related to the orthopedic service is bed utilization. Patients from other DHA's come to New Glasgow for orthopedic surgery. Patients from DHA 7 are transferred back to St Martha's Hospital, on average, in less than 4 days following orthopedic surgery. However, patients from DHA 4 are waiting 10 days or more for transfer to Truro, with the result that they generally go straight home. This is significant since about 40 % of the orthopedic cases are for non DHA 6 residents.

However, a process that works well is the pacemaker service in which patients come from Truro or other hospitals and have their pacemaker inserted as a same day surgery case, returning the same day to their home hospital. 52% of the pacemaker insertions in 2003/03 were for nonresidents of DHA 6.

Recommendation: Reporting needs to be reviewed and revised to ensure that costs and workload are appropriately reported and allocated. Operating room costs should be separate from clinic, inpatient and diagnostic costs. Once there is a more accurate analysis of the OR costs, this district should be compared in more detail with other districts offering similar surgical services.

4.4 Maternal and Child care

The district makes regular use of external reviews to help it improve its services. In spring 2003 the Reproductive Care Program of Nova Scotia conducted a review at the Aberdeen Hospital. At that time there was only one obstetrician and one pediatrician, but a second of each has since been recruited. One of the issues addressed was the high rate of cesarean sections- the highest in Nova Scotia, and induction of labour seemed to be rising.

The hospital is addressing the issues identified and the rate of cesarean sections is declining.

4.5 Mental Health Services

Inability to recruit and retain psychiatrists, together with extreme difficulty in accessing beds in Truro for certified patients has caused major difficulties for the district. This has resulted in significant flow and cost problems, especially in the ER, but also in medical beds. Patients with psychiatric disorders are frequently waiting in the ER- sometimes several days-while psychiatric consultation is obtained and appropriate resources assembled. The number of mental health patients staying in the ER three or more days increased significantly from 48 in 2001/02 to 79 in 2002/03. During this period it is often necessary to provide one to one observation, usually by commissionaires as they are the least expensive option. The result, however, is inappropriate care for a high risk population, at a cost higher than necessary and the ER becomes backlogged.

The district has undertaken some initiatives to address the problem. A crisis intervention worker has recently been recruited to work in the ER. A locum adult psychiatrist is available at the moment and this has helped the flow. Agreement has now been reached to partner with DHA 7 in the engaging of a person to plan and manage inpatient and outpatient mental health services for the two districts. It is anticipated that this change will result in a major improvement of these services.

5. Clinical Support Services

5.1 Laboratory services

DHA 6 reported direct laboratory costs of costs of $ 3,074,788 in 2002/03. At $ 13.72 per patient day they are second highest of the seven district hospitals which ranged from a low of 7.53 in DHA 1 to a high of $ 15.29 in DHA 3. However, as only 17 % of the workload is for inpatients, this is not a particularly useful indicator. Average inpatient units per patient day are also second highest, with only DHA 3 being higher. However, the UPP worked productivity index at 115% is the highest of the seven districts. The ratio of earned to worked hours at 1.22 is second highest, tied with DHA 2 and exceeded by DHA 3. It therefore appears that the lab is efficient for the work performed, but utilization appears to be driving up the costs. These indicators are also affected by the number of facilities and lab locations in the district. DHA 6 operates only 1 lab whereas DHA's 1 and 3 operate 3 labs**.**

The district has indicated it plans to investigate the utilization and operation of lab services and we would certainly support this initiative. We did not see a strong utilization management approach in the lab services at this hospital, since there was no defined process for reviewing provision of esoteric tests or adding new methodologies, or for reviewing appropriateness of ordering practices.

There are no province wide guidelines for quality, utilization and productivity.

Recommendation: DOH and DHA's should work together to develop provincial guidelines for quality, utilization and productivity, as well as reporting consistency. An independent review should be undertaken in PCHA at an appropriate time.

5.2 Diagnostic Imaging

Diagnostic Imaging Services reported 58,255 exams last year and total direct care expenditures of $ 1,757,631. This is 1465 per thousand adjusted population. This rate is higher than DHA's 3 and 4 but lower than DHA's 1 and 2. The DOH figures are still being verified so it is too early to draw any conclusions. The cost per exam in DHA 6 is lower than DHA's 2 and 3 but higher than DHA's 1 and 4. Since orthopedics is a very high user of DI services, it is important to understand its impact before drawing firm conclusions about this information. The district has indicated it intends to review this service and we support this initiative.

5.3 Medical surgical supply costs

DHA 6 costs for medical surgical supplies were $ 3,248,227 or $67.13 per patient day. This is second highest of all districts and only slightly lower than DHA 3 which has vascular as well as orthopedic surgery. We would expect DHA 6 to be second highest based on their scope of service. The costs reflect the high cost of pacemakers, lenses and orthopedic prostheses but should be looked at more closely. In addition,

use of single use medical devices and disposables may impact these costs and we do not know how these practices compare between districts. These costs should be further analysed when surgical services are explored in more detail.

Recommendation: Medical surgical supply costs should be included in the recommended review of surgical services.

5.4 Drug costs

Drug costs in DHA 6 were reported to be $1,328,443 in 2002/03. Per patient day costs are similar across the seven districts, with DHA 6 being more or less in the middle. The district has a drug utilization evaluation process and an active Pharmacy and Therapeutics Committee, but a stronger policy framework is needed. Staffing in pharmacy is quite lean and probably cannot take on added responsibilities with its current staffing. DHA 4 is also considering how to improve its drug utilization. Perhaps a shared position could be considered when resources are available.

5.5 Food Service costs

At $ 40.80 per inpatient day food service costs are the second highest of the six districts reporting. Only DHA 2 is higher at $65.70, but we do not believe that number is accurate. A factor that affects these costs is the reduction in beds that has occurred resulting in excess capacity in the kitchen. The hospital has indicated interest in providing food service to the adjacent nursing home which has an inadequate kitchen. However, so far the nursing home has not pursued this possibility. Adding meals to the dietary workload should result in reduced unit costs. However, PCHA should explore why its costs are high and take steps to reduce these where possible. If meal costs were reduced to the level of DHA 4, it could be possible to save as much as $ 400,000.

Recommendation: DOH, PCHA and Glen Haven Manor should further investigate the potential for the Aberdeen Hospital to provide food services to Glen Haven Manor. In addition, PCHA should explore ways to reduce their food service costs.

6. Administration

6.1 Administration costs

Another measure of performance is the percentage of administrative costs relative to total costs. In 2002/03 PCHA reported expenses of $ 45,206,598 and revenues of $ 1,522,085 for a net expenditure of $ 43,684,513. Administration costs for general administration, finance, human resources and communications were $ 3,073,527. At 7.04 %, DHA 6 is in the middle, with three DHA's being higher and three lower. This is what we would expect, given the size of the district. We also note that between 2001/02 and 2002/03, the percentage of administrative costs declined in DHA 6 from 7.14% to 7.04 %, whereas in DHA's 1, 2, 3 and 7 this percentage increased.

6.2 Patient Care Management

The organizational structure of PCHA is consistent with other DHA's. Spans of control are quite large. Patient care areas are managed by nurse managers responsible for a number of units. On call is provided on a rotating basis by all managers. There is limited clinical development capacity such as clinical nurse specialists and staff development personnel.

Over the years, 24 hour management coverage has been eliminated in hospitals. The traditional weekend, evening and night supervisor positions have been eliminated. It is typically these shifts when problems occur and overtime and callback results. The current system makes it very difficult for staff and the on- call manager to question a physician's order for extra resources. Yet the ordering physician is not really held accountable for the cost of extra resources. In addition, inexperienced staff are often working with limited backup on these shifts.

The Nova Scotia Vice Presidents of Clinical Care have identified the need for enhanced administrative and clinical support for evenings, nights, weekends and holidays. We believe establishment of this enhanced role can contribute to improved resource utilization and staff development, especially for newer staff. This initiative should be given serious consideration.

Recommendation: Serious consideration should be given to enhancing management and clinical support resources, especially on weekends, evenings and nights and holidays.

6.3 Decision support resources

DHA's 4, 5 and 6 originally shared financial and payroll services. The original structure included 19.2 FTE's with one director of finance and most employees at the Colchester site. There were numerous problems with the accuracy and timeliness of reports. In August, 2003 they moved to separate financial services but payroll

remained shared and staff was increased to 21.2 with 3 district financial managers. Additional clerks are on site in Pictou. We obtained information on staffing levels in DHA's 1, 2 and 3 which operate on a similar shared services model. They have a total of 38.5 FTE's for 10 sites and a budget of $ 150 million. DHA's 4,5 and 6 operate 9 sites with a budget of $ 105 million. We believe that understaffing within DHA's 4, 5 and 6 contributed to the problems. Performance of the new arrangement will continue to be monitored to determine whether additional resources are required to facilitate timely and accurate reporting.

Another issue is the organizational structure of financial services within the decentralized model. Currently the district financial manager on site in Pictou does not have supervisory responsibility for the clerks at that site. They report to the operations manager located in Truro. However, the operations manager in Truro indicated that she expects them to be supervised by the local district financial managers. In addition, some line managers indicated they did not know who to contact with their questions

Recommendations: Roles, responsibilities and reporting relationships should be clarified and communicated to all managers.

An additional issue for general management is the technical resources for financial management. Software is antiquated, the MIS implementation has been slow and personnel with appropriate skills and in adequate numbers to ensure timely accurate reporting have all lagged behind other provinces.

6.4 Quality and risk management

The overall quality management and risk management programs appear to be well developed. A Risk Review undertaken by an outside consultant earlier this year stated " On balance, PCHA is using its policies and procedures to effectively manage clinical and operational risks". Utilization management, however, could be improved upon. A number of PCHA physicians (about 15 % of staff) regularly have lengths of stay that exceed national benchmarks. However, PCHA management is working on this issue and improvements are being made.

6.5 General Management

An external review was also undertaken of the health record service early this year. Recommendations of this report are being implemented.

An energy audit was performed earlier this year and potential savings identified were significant. Recommendations are being implemented.

There may be an opportunity to increase WCB revenues. Management of PCHA is following up on this opportunity. Other third party revenue collections seem to be at their maximum.

An attendance management program is in place. All employees are reviewed twice a year against the district benchmarks and corrective action taken as appropriate.

Senior management is looking at overtime practices and policies.

6.6 Shared services with Glen Haven Manor

PCHA has expressed interest in closer collaboration with Glen Haven Manor, located on property adjacent to the hospital. In particular, support services such as food, laundry and materials management have been identified as possible areas for partnering that could potentially improve value for both organizations. However, progress has been slow. A structure to connect these services, such as affiliation agreements, would facilitate pursuing such opportunities.

Recommendation: DOH should encourage a closer working relationship between PCHA and Glen Haven Manor through whatever mechanisms are most appropriate.

6.7 Per capita funding

In terms of total funding per capita, (excluding medical fees because they are fully recovered), DHA 6 is in the middle of the group at $ 872. DHA's 2, 5 and 7 are higher, and DHA 5 would be substantially higher if out-of-province costs were included. The relative position does not change if the adjusted population base is used. However, DHA 6 provides high cost services such as orthopedics and pacemaker implantation to residents of 3 neighbouring counties. For example, last year in the orthopedic service only 61.5 % of the cases were residents of DHA 6. Similarly in the pacemaker service only 48 % were from DHA 6. In urology 63 % of cases were residents of DHA 6.

In addition, DHA 6 has a lower referred out rate than other districts. Of the seven districts in mainland Nova Scotia being compared, only DHA 3 has a higher inflow-outflow ratio than DHA 6.

To get a better picture of the funding for residents of the district further analysis is required. This could be included in the study of surgical services we have recommended.

Recommendation: Working with the DHA's, DOH should attempt to measure the actual costs of the services provided to residents of each DHA in preparation for development of a funding formula that would promote fair, equitable and transparent funding allocation to all districts.

6.8 Conclusions

The overall performance of DHA 6 is about in the middle of the seven DHA's compared. Overall, the organization appears to be well managed and addressing issues proactively. Some improvements are required in reporting of workload and costs. When these are made, a follow up review should be undertaken to determine whether there are improvement opportunities. In particular, the organization and reporting for the orthopedics program have resulted in our being unable to clearly evaluate the cost performance of the surgical services. In addition, PCHA should explore the potential to reduce costs in the laboratory and food service.

Recommendation: A follow up review should be undertaken when more accurate statistical reporting for surgical services is available.

APPENDIX A

Macro Benchmarks DHA'S 1-7, Nova Scotia

Indicator	DHA						
	1	2	3	4	5	6	7
2002 population	61,754	64,886	84,431	73,581	33,269	49,180	48,175
Adjusted inflow/outflow '04	46,161	45,310	82,878	53,211	24,430	40,569	39,778
Colchester county				51,209			
Population 65 +	10,623	10,577	12,629	9,600	5,917	7,565	7,087
Colchester 65 +				7,503			
Population 65 + %	17.2	16.3	15	13	17.8	15.4	14.7
Colchester 65 + %				14.7			
Population 75 +	5,006	5,443	5,823	4,471	2,917	3,893	3,251
Colchester 75 +				3,640			
Population 75 + %	8.1	8.4	6.9	6.1	8.8	7.9	6.8
Colchester 75 + %				7.1			
A & C pt Days(inc Vets,ALC etc)	42,031	49,723	58,554	36,812	25,508	41,629	31,777
Seps/1000 by DHA of res	98	108	101	104	127	136	110
Days /1000 by DHA of res	758	1,007	679	708	877	783	887

	1	2	3	4	5	6	7
ALOS by res	7.7	9.4	6.7	6.8	6.9	5.8	8
ALOS by dist hosp	7.8	8.5	5.7	6.9	7	5.6	7.4
OR cases-dist hosp	5,277*	4,890*	7,264*	5,691	0	4,276	3,104
UPP earned hrs/OR visit	3.73	4.99	6.24	4.61		5.48	8.05
UPP worked Hrs/ OR visit	3.07	4.22	4.84	3.38		4.46	6.66
Ratio OR Earned: worked hrs	1.23	1.17	1.18	1.36		1.22	
Direct Costs OR($000)	1,860	1,993	5,866	2604 (1)	1,144	4,015	1,941
Direct cost per OR visit Dist Hosp	311.88	395.33	647.66	391.33		938.88	625.39
% inpt OR cases to total	15	17	38	24		32	41
Weighted Cases (DHA)	5,450	7,969	10,301	5,778	3,295	6,279	5,666
Weighted Cases(Dist Hosp)	4,412	5,434	8,238	5,361	2,951	6,279	4,239
Cost/ Weighted Case(01/02)	3,624	3,460	3,205	3,369	3,330	2,687	3,151
ALC Days	3,798	10,139	6,517	214	12	390	3,627
ER visits-dist hosp	38,210	23,626	32,284	38,483	0	30,381	23,479
ER visits/1000.Dist Hos	619	364	382	523	0	618	487
ER visits total DHA	55,679	55,835	85,141	44,699	0	30,381	39,960

	1	2	3	4	5	6	7
ER visits/1000 DHA total	902	861	1,008	600	0	618	829
ER Visits/1000 adj pop	1,206	1,232	1,027	830		749	1,005
Direct Costs ER DIST Hosp($000)	2,079	2,034	2,345	2,149	1,698	2,554	1,693
Direct cost/ERvisit DHA total	51.6	61.1	52.59	49.79	193.56	84.07	59.2
Direct Costs Med/Surg/Peds($000)	5,783	5,774	6,814	5,635	3,812	5,568	3,210
Pat Days Med/Surg/Peds	21,223	25,563	28,509	25,474	16,185	24,370	12,472
Dir cost/pat day M/S/PEDS	272.48	225.88	239.02	221.19	240.75	228.49	257.41
LPN:RN ratio-inpat	51.9	49.9	38.8	32.1	50	30.6	49.9
Inpat Earned: UPP worked Hrs	1.2	1.2	1.29	1.21	1.29	1.16	1.24
Earned hrs/pt day-dist hosp	8.52	7.19	7.96	6.77	6.66	6.78	6.74
UPP worked hrs/pt day dist hosp	7.08	6.01	6.18	5.6	5.62	5.84	5.45
Dir cost/pt day comm hosp	227.91	235.65	189.36	456.66	573.15	0	338.59
Admin Costs 02/03($000)	2,778	3,625	5,228	2,634	2,969	3,074	4,179
Admin cost as % of total	6.05	6.51	7.44	6.37	9.39	7.04	9.85
Admin Costs 01/02($000)	2,640	2,684	4,360	2,560	2,791	2,806	3,383
Admin Costs as % of Total	5.73	4.93	6.23	6.65	9.47	7.14	8.35
Endoscopies	1,701	1,938	3,252	2,495	1,444	1,874	1,980

	1	2	3	4	5	6	7
Endoscopie:ies/1000 pop	37	43	39	47	59	46	50
Licensed N H Beds	450	489	493	240	220	446	361
Licensed NH Beds/1000 75+	90	90	85	54	75	115	111
DI Direct Costs Dist Hosp($000)	2,215	2,072	2,649	1,735	817	1,758	1,464
D I Procedures	74,497	76,128	95,292	56,046		58,255	
D I Procedures/1000 pop(adj)	1,614	1,680	1,150	1,053		1,465	
DI Cost/1000 pop(adj)	47.99	45.73	31.96	32.61		47.89	
Direct DI cost/Proc(Dist Hos)	32.33	33.94	40.34	30.96		32.7	
Total Gross Expenditures 02/03 (ooo's)	49,325	60,659	72,685	45,078	37,117	45,207	48,539
Tot Gross Expend excl Med Fees(000's)	47,178	59,067	71,408	41,951	35,776	42,865	45,678
Tot Gross Expend excl Med Fees per capita	764	910	846	570	1,075	872	948
Tot Expend excl Med fees per adj cap	1,022	1,304	862	788	1,464	1,057	1,148
ICU Direct Costs($000)	1,272	1,436	2,288	2,242	1,139	2,164	1,175
ICU Direct Cost /Pat Day	713.67	700.7	1,021.25	752.9	754.11	732.97	661.46
Med Surg Costs (000's)	1,504	1,779	4,406	1,610	983	3,277	1,434
Med Surg Costs/ Pat Day Inc. Newborn	33.53	34.06	69.63	42.58	26.67	67.13	39.75
Drug Costs (000's)(InPat-Dist Hosp)	578	651	855	702	493	664	398

	1	2	3	4	5	6	7
Drug $/Pt Day Inc Newborn Dist Hosp	24	25.45	29.99	27.56	30.48	27.3	31.94
Dir Food Ser Costs/ Inpatient Day	39.4	65.7	33.9	30.2		40.8	37.4
LAB-Direct costs(000's)	2,510	2,999	3,379	3,074	1,646	3,075	2,542
LAB-Direct Cost/ Pat Day	7.53	10.61	15.29	12.85	12.64	13.72	10.03
Av. Inpat lab Units/Pat Day-Dist Hos	10.05	12.74	19.46	17.16	15.44	18	10.11
UPP Worked Prod Index(%)	109	111	114	105	107	115	90
Ratio Earned: wkd hrs Lab	1.17	1.22	1.35	1.17	1.19	1.22	1.18
2001/02 avg $/Phys	199,560	209,869	196,351	196,135	150,301	185,859	221,851
2001/02 avg MSI $/person	243.93	225.84	231.85	219.73	214.91	232.54	221.41

Footnote 1. Revised Cost becomes $ 2,175when CSR & Recovery Room costs removed

Revised February 9

APPENDIX B

Terms of Reference

Value for Money Assessment

DHA 4 and DHA 6

Prepared for the Nova Scotia Department of Health

A. Background.

The Government of Nova Scotia announced that Value for Money Assessments (VMA's) would be undertaken for third party agencies including District Health Authorities. Two districts in the province- DHA 4 and DHA 6 have been selected as the initial districts to be studied due to the size of their projected budget deficits in this fiscal year. Virginia MacDonald has been requested to develop the process and undertake a VMA for each of these DHA's. This document outlines our understanding of the objectives, a tentative work plan, project deliverables and resources.

B. Objectives.

The purpose of the assessment is to ensure that the organizations in question are operating as effectively and efficiently as possible within the resources provided by government. In essence, the question is whether they are providing the right services at the right price to achieve their mandate. The VMA needs to be completed as quickly as possible so that changes recommended can at least start within the current fiscal year.

C. Approach

Provision of health care services is an extremely complex process. There are few, if any, absolutes and clear definitions of outcomes are just beginning to be developed. Therefore, a VMA for a health care facility must rely on comparisons combined with good experience and judgment.

Reform in health care is a lengthy process. Many initiatives now underway in such areas as primary care will take years before they make a significant impact. At this point in time, the most costly services within the DHA's are hospital based. Therefore, the focus of concentration in the VMA will be acute care services, although these must be considered in the context of the entire delivery system.

Our proposed approach uses a "horizontal skim" and "vertical bore" approach. This involves taking a broad brush approach to the entire organization to identify macro areas where the district in question is out of line with its peers. Areas identified for potential improvement against provincial best practices would then be explored in more depth to determine the extent to which change can occur within the operating environment of the particular DHA.

In this process we will rely heavily on the Department of Health to provide comparative data for the seven DHA's serving rural Nova Scotia. Although not identical in population served or services offered, they are reasonably comparable. National comparisons at this point are not considered helpful due to variations in data and structures. We will augment DOH data with specific DHA data as necessary. Once a good set of comparative benchmarking data is available we will undertake an interview program involving DOH and DHA staff, physicians and board members, as well as selected representatives of other DHA's where they appear to be the best practice in a particular benchmark.

Following is an outline work plan consistent with this approach. It is designed to meet your requirement of completion within an 8-10 week timeframe.

D. Outline Work Plan

Following is our proposed work plan:

1. Meet with Steering Committee

We expect you will establish a steering committee to oversee the work and provide guidance on issues and sources of information. We will meet with this committee on a regular basis, likely at least bi-weekly.

2. Review Background documentation

We will undertake a review of relevant background documents such as business plans, role studies, strategic plans, accreditation reports and others that will enhance our understanding of the current situation of the DHA's under study.

3. Obtain available benchmark information

We will meet with DOH staff to identify what comparative information is currently available and any limitations to the data. We will then identify specific indicators to be used for the horizontal skim. Following are some examples of peer group (ie DHA's 1-7) comparisons to be reviewed at this stage:

- Separations (cases) and days per thousand population by age and sex and major CMG's

- Operative procedures per thousand population, in total and for highest volume procedures
- Cost per operative procedure
- Nonoperative procedures per thousand population(eg endoscopies)
- Day surgery cases per thousand population
- Paid hours per inpatient day by service and total
- Cost per inpatient day
- Food service costs per meal day
- Drug costs per thousand population and per patient day
- ER visits per thousand population
- Diagnostic imaging tests and costs per thousand population
- Laboratory service costs per thousand population

Where possible we will examine 2 or 3 years of data. Sources of information will include MIS, CIHI, Physician billing database and other DOH and DHA information sources.

4. Conduct Interview Program

We will conduct a focused interview program with representatives of the DOH and DHA's 4 and 6 to explore the implications of the peer group comparisons undertaken in step 3. We will also interview representatives of other DHA's as appropriate to obtain insight to operations that appear to be more cost effective based on the horizontal skim.

Following are some of the areas we would want to explore in the interview program:

- Where the DHA under study appears to vary significantly from other DHA's, what factors affect their performance
- What actions have been undertaken to address areas of underperformance
- What actions are required to address areas of underperformance
- Changes in clinical practice that have occurred or are planned

5. Undertake financial and management process review

We will undertake a review of each DHA's financial records including monthly, quarterly and year end financial statements including the auditor's report. Our review will also include an overview of the organizational structure, decision making processes (including business planning and impact analysis processes), risk management and financial controls. We will also review use of overtime sick leave, staffing ratios and other factors affecting the cost of operations. These will be undertaken on site at each DHA.

6. Prepare a Report of Findings

We will analyze the information from the previous steps and present our findings in a discussion paper for each DHA under study. The findings will include, but not necessarily be limited to, the following:

- Benchmark comparisons for DHA's1-7 with comments and interpretation of the implications for DHA 4 and DHA 6

- An overview of the context within which each DHA under study operates in terms of population health needs, services and resources available

- Identification of opportunities for improved performance and actions required to achieve identified improvements

7. Review Findings with Steering Committee and DHA's 4 and 6

We will discuss our findings with the Steering Committee and the affected DHA's. From this review we expect to identify areas requiring a more in depth look or "vertical bore". We will then determine how best to undertake a more in –depth review within the time and resources available. At this stage we will be looking for priority areas that could represent a "quick hit " or rapid return on investment, hopefully within this fiscal year.

8. Conduct additional analysis of key opportunities

We will undertake additional analysis of any areas appearing to present significant opportunities that require additional information before developing final recommendations. This may involve contacting other DHA's, further interviews and other investigations.

9. Prepare preliminary draft report

A draft report, summarizing all the work completed to date will be prepared for review by the Steering Committee and the affected DHA's. The draft report will include at least the following:

- A series of utilization, operational and financial performance benchmarks comparing DHA's 1-7
- Analysis of the performance of DHA's 4 and 6
- Identification of recommendations for improvement in areas of underperformance, including, where possible, "quick hits" that can be implemented immediately
- Identification of any areas of follow-up to be considered for more in- depth study

10. Deliverables:

Following review and discussion of the draft report with all affected parties we will finalize our report

At the completion of this process you will have:

- A framework for conducting VMA's for DHA's as well as other third party organizations
- A series of benchmarks that can be used to undertake high level reviews of the performance of all DHA's
- An analysis of the operational and financial performance of DHA 4 and DHA 6
- Recommendations for improvements in performance in DHA 4 and DHA 6 and associated action plans
- Identification of areas that should be further explored to improve long term performance

E. Resources and Timing.

1. Personnel

The project leader will be **Virginia MacDonald.** In this role Virginia will design the work plan, work closely with DOH and DHA staff to develop indicators, review management and clinical services and write all reports. Virginia has over 35 years experience in health care and has undertaken numerous strategic and operational studies for clients in eastern Canada, and especially Atlantic Canada. Prior to establishing her own health care consulting practice 6 years ago, Virginia spent 12 years leading the Atlantic Health Care practice of KPMG. Prior to her private sector consulting career Virginia worked with Departments of Health in Ontario and Nova Scotia.

Working with Virginia to undertake the review of financial systems, will be **Gerry MacKenzie,** Partner in charge of the Sydney office of KPMG. Gerry is extremely well versed in health care financial issues and is the partner responsible for auditing of Districts 7 and 8. He has also conducted numerous special assignments. Gerry will be assisted by other personnel in his office in conducting his review.

Appendix C

List of Documents reviewed, DHA 4.

1. Detailed Business Plan and budget documents, 2003/04PCHA
2. PCHA Strategic Plan, 2001-*PCHA*
3. Finance Committee Minutes, 2001/02/03, *PCHA*
4. IT Audit letters, *Grant Thornton* re PCHA
5. Department of Health Lead Sheets, all DHA's, 2003/04- *DOH*
6. An Overview of Some Characteristics of the Health of Persons within the Pictou County Health Authority- *Nova Scotia Department of Health*
7. Annual Reports, 2001/02 and 2002/03-*PCHA*
8. PCHA Accreditation Survey, Feb 2002, *CCHSA*
9. Various letters between DOH and CEHHA
10. Risk Review, PCHA, Feb 2003 *Marsh Risk Consulting*
11. Various internal budget, workload and staffing documents ,*CEHHA*
12. Organization Charts ,*PCHA*
13. Report of a Maternal and Newborn Program Review, The Aberdeen Hospital *Reproductive Care Program of Nova Scotia, May 2003*
14. Medical Manpower Plan
15. PCHA Presentation to Treasury Board, October 2003
16. PCHA Report to the Community,2003
17. Evaluation of the Health Record Service of the PCHA, Final Report, Feb 5,2003, *CGI*
18. Organization Chart
19. Selected position descriptions
20. Position Document, Administrative Clinical Support Requirements in Acute Care, Evenings, Nights ,Weekends and Holidays, Nov 2003 *Vice Presidents of Clinical* Care
21. Various documents related to reinstatement of the orthopedics program
22. Report of the Provincial Wait Time Monitoring project- Draft Report Nov 2003

Appendix D

List of Persons Interviewed, DHA 6.

1. DOH

Abram Almeda, Director Acute Care
Ian Bower, Manager Physician Resources
Lori Currie, Regional financial Officer
Cheryl Doiron, Associate Deputy Minister
Dr.David Elliott, Medical Biostatistician
Dr.Keith Jackson, Director Health Economics
Janet Knox, Executive Director Acute Care
Dr. David Rippey, Executive Director QEHS/HP

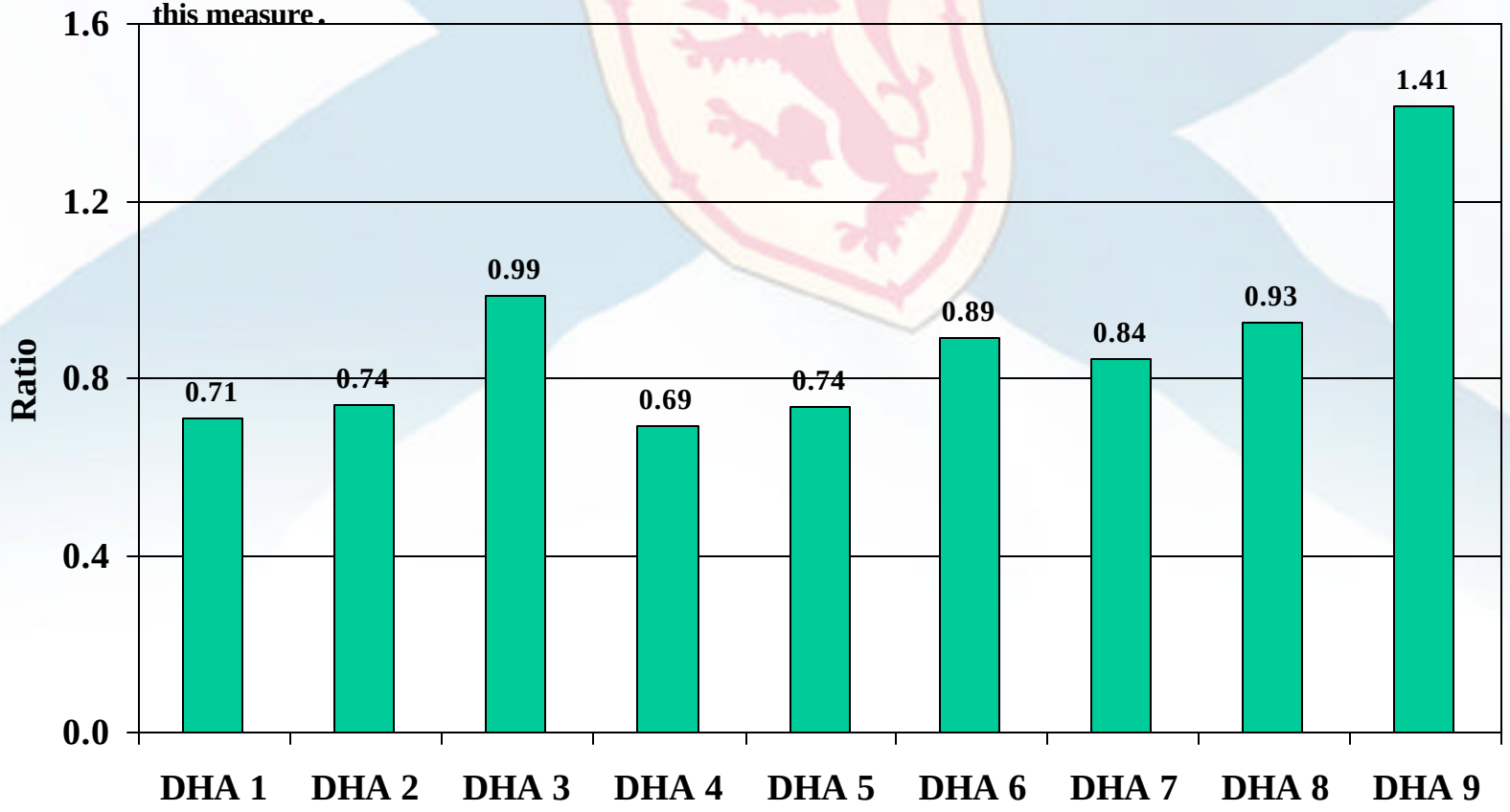
2. PCHA

Patrick Flinn, CEO
Sheila Scaravelli, VP Patient Care
Dr. Chris Elliott, Chief of Staff
Bill Arthurs, VP Operations
John O'Donoghue, Manager Laboratory
Debbie Oliver, Nurse Manager ER/OPD/ICU
Kim Chisholm, Nurse Manager Surgical Services
Debbie Sinnis Nurse Manager, Medicine
Cathie Watson, Nurse Manager, Mat/Child/eye/MDU/Oncology
Kathy Rose, Director Quality and Risk Management
Rosemary Hayter, Director Pharmacy
Peter Lush, Manager DI
Winnie McCann, Acting Manager, Medical Records
Harry Inder, former Chair, PCHA
Linda Muir, Acting Chair, PCHA
Dr. Paul Seviour, Head Dept Medicine
Dr. Shanti Sebastian, Head Laboratory Medicine
Dr. Dan Hoffman, Head DI
Dr. Manoj Vohra, Head Dept of Family Medicine
Dr. Kevin Schnare, Head Dept Emergency Medicine
Dr.David Archibald, Head Dept of Surgery

In addition, Dorothy Forse, MIS Analyst and George Doyle Bedwell, Biostatistician, of the Department of Health provided extensive amounts of information and analytical support to the process.

Inflow-Outflow Ratio, DHAs, Fiscal 2002/03

With this overall ratio, a balanced inflow-outflow ratio (1.0) can mean that everyone in the jurisdiction gets service within that jurisdiction OR that people leaving the jurisdiction and coming into the jurisdiction for service is equal in number. Therefore caution must be exercised when using this measure.

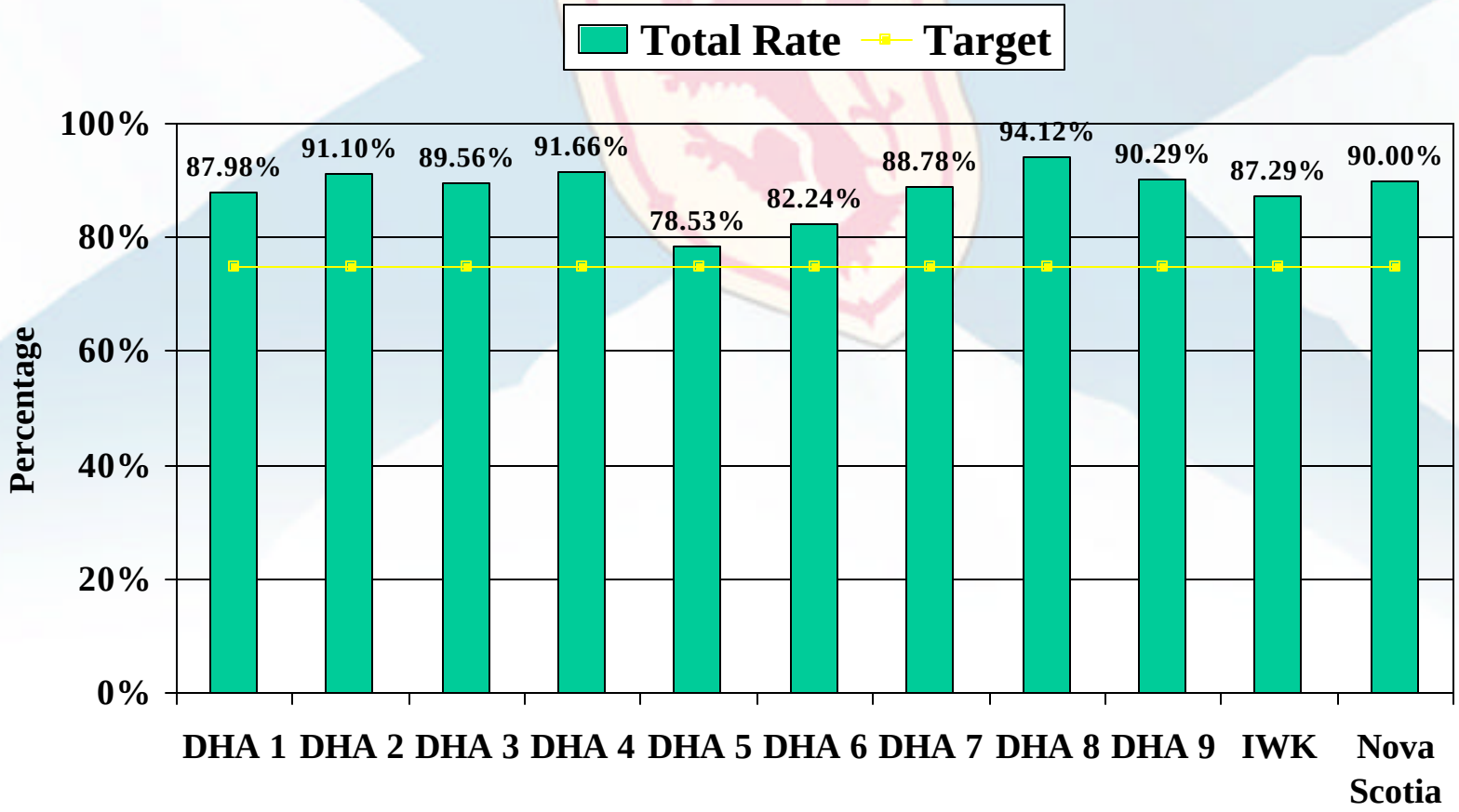


Source: CIHI Discharge Abstract Database

Department of Health

NOVA SCOTIA

Same Day Admission Surgery Rates, DHAs, Fiscal 2002/03

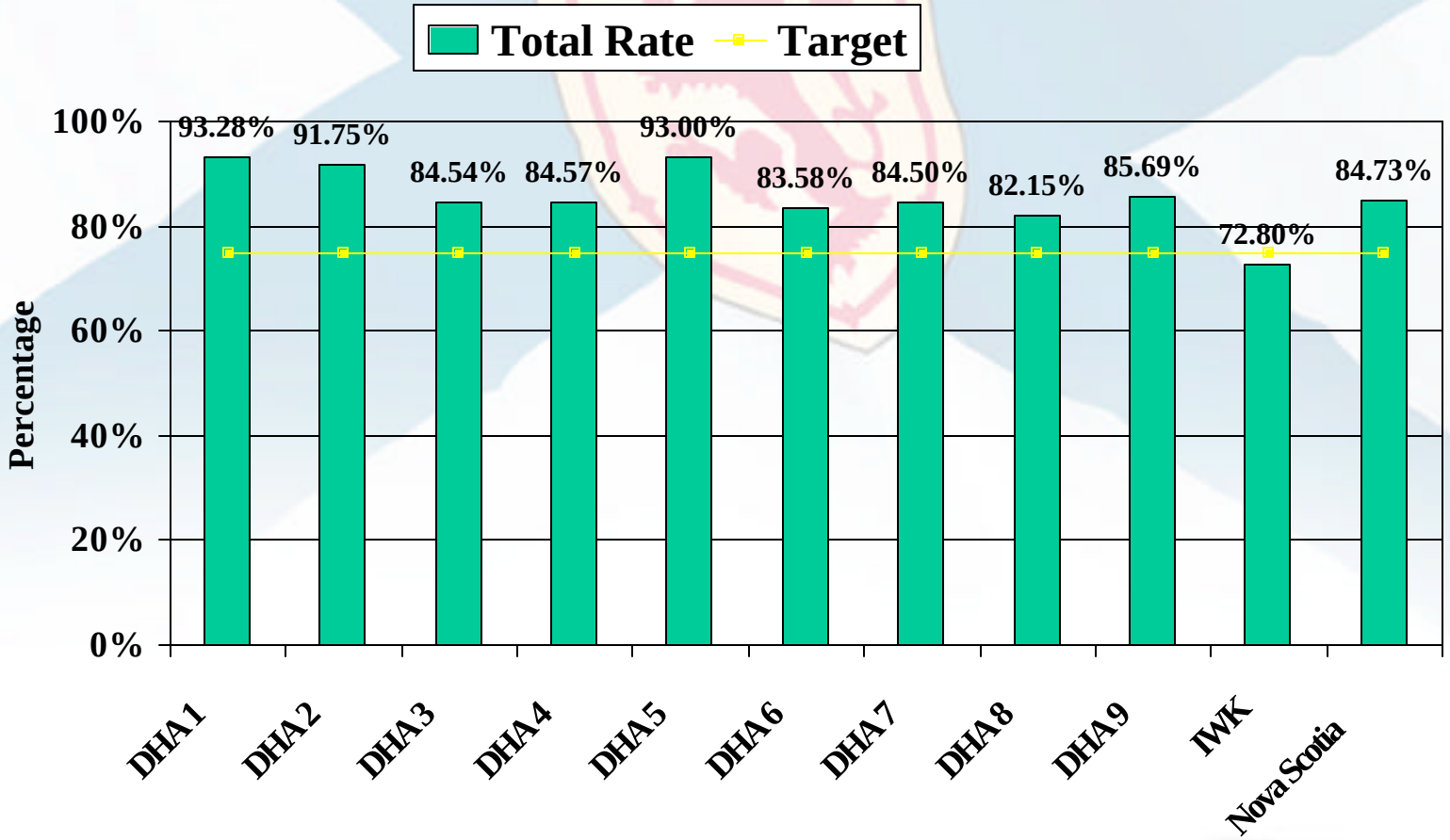


Source: CIHI Discharge Abstract Database

Department of Health

NOVA SCOTIA

Day Surgery as % of all Elective Surgery, DHAs, Fiscal 2002/03

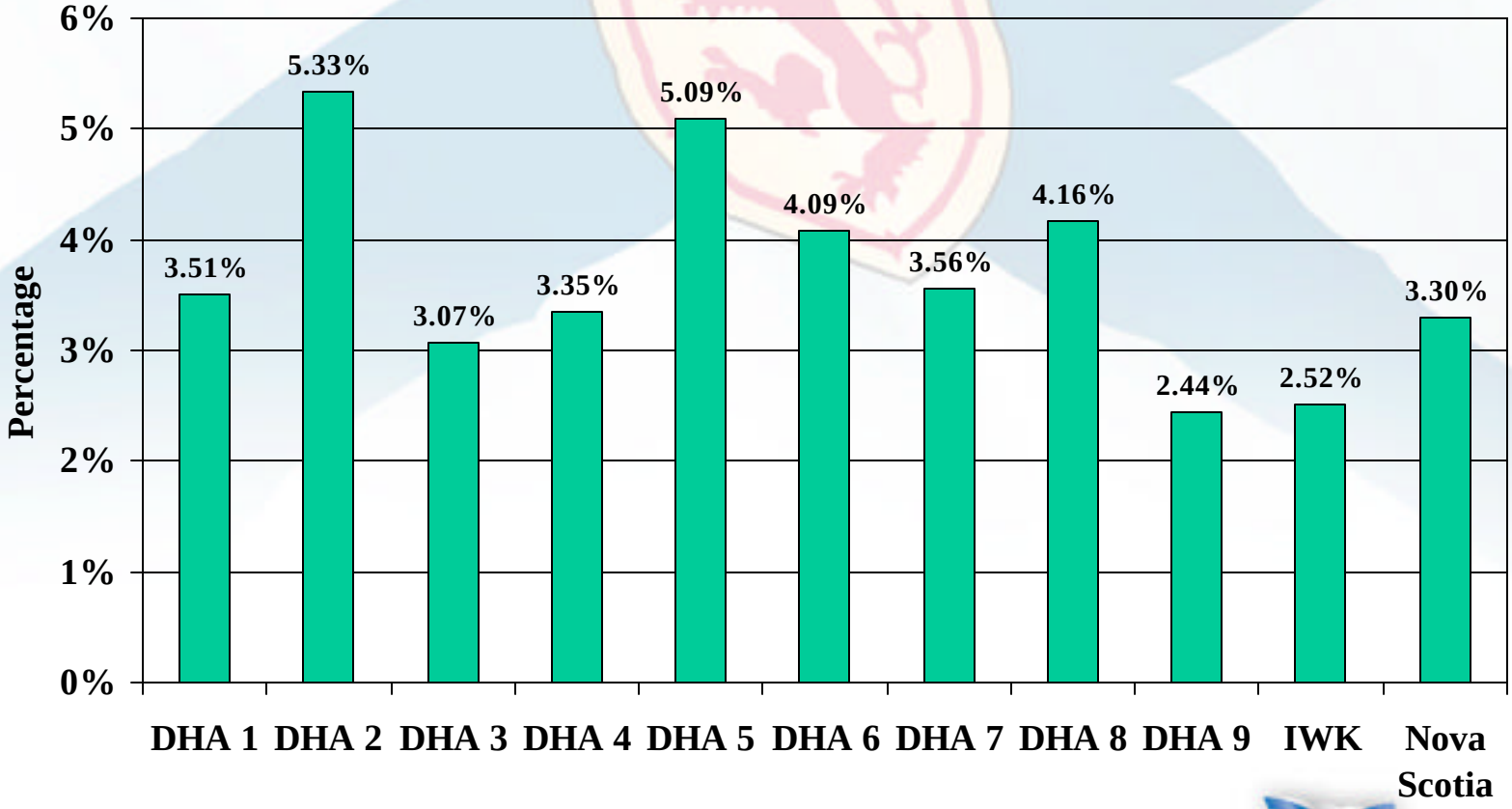


Source: CIHI Discharge Abstract Database

Department of Health

NOVA SCOTIA

% Ambulatory Care Sensitive Conditions, DHAs, Fiscal 2002/03

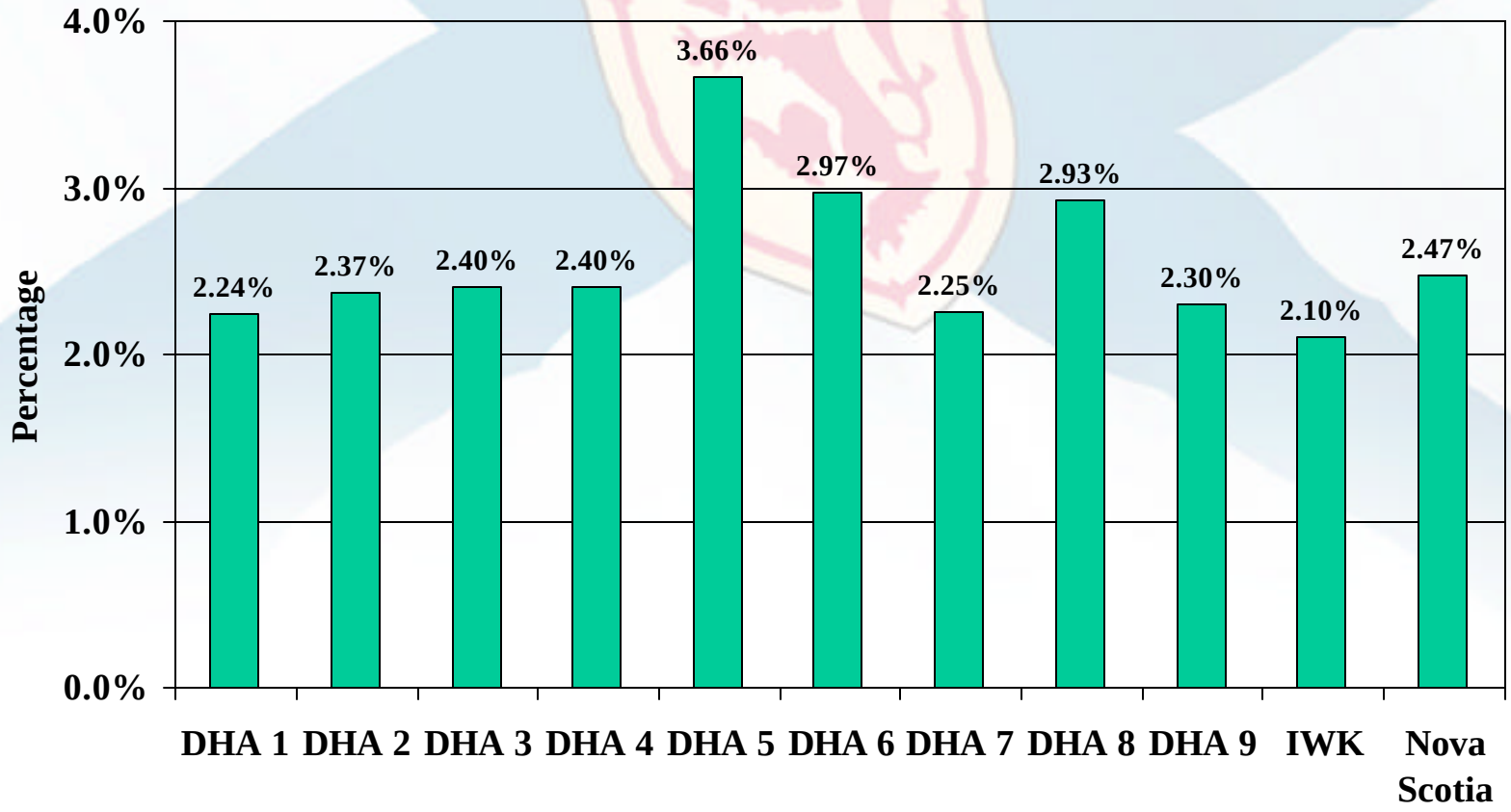


Source: CIHI Discharge Abstract Database

Department of Health

NOVA SCOTIA

Readmissions to the Same Hospital within 7 days of Discharge, DHAs, In-Patients, Fiscal 2002/03

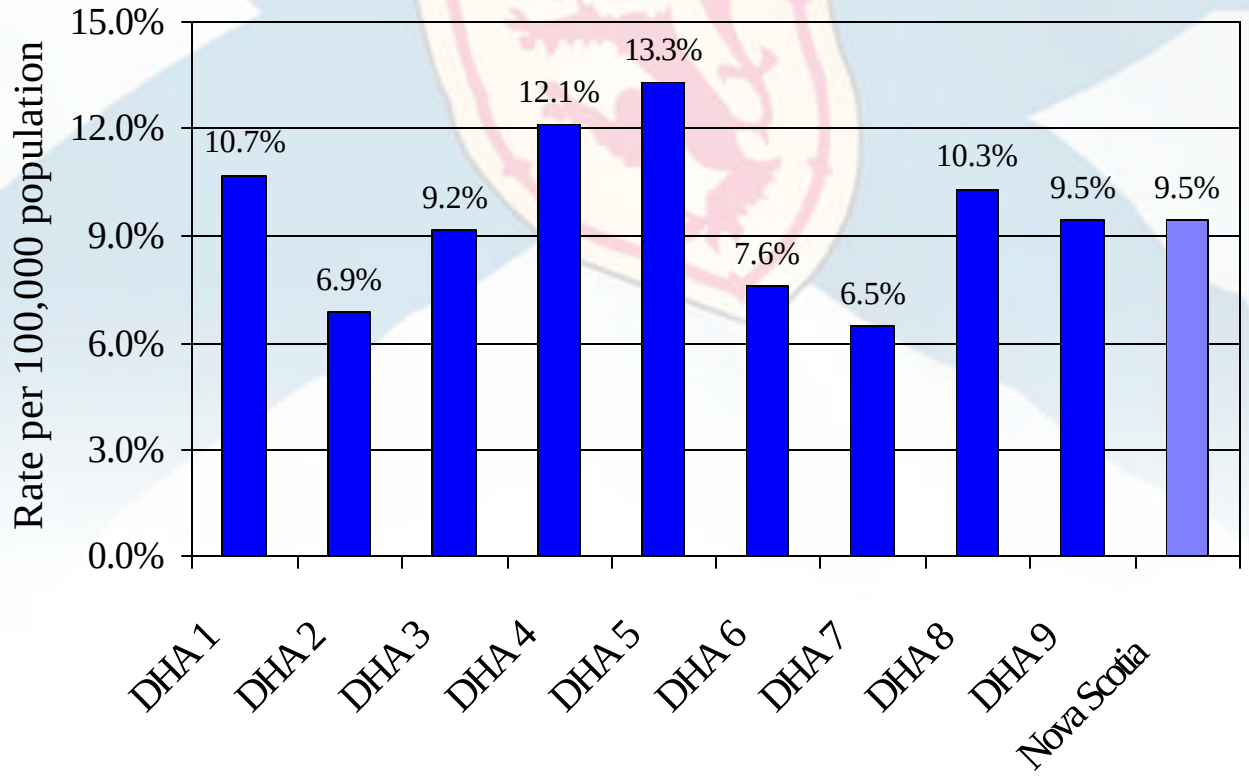


Source: CIHI Discharge Abstract Database

Department of Health

NOVA SCOTIA

% of Population, Aged 12+, With a $90% Probability[1] of Clinical Depression



[1] – Calculated from responses to a series of questions, designed to 'diagnose' clinical depression (based on the Diagnostic and Statistical Manual of Mental Disorders, 3rd Edition).

Source: Canadian Community Health Survey CCHS Cycle 1.1, 2001, Statistics Canada

Department of Health

NOVA SCOTIA

Glossary

Separation. Discharges and deaths following an episode of inpatient hospital care

CSPD. Central Sterile Processing Department

DOH. Department of Health

CIHI. Canadian Institute for Health Information

UPP. Unit Producing Personnel. Reflects hours worked by those service providers directly involved in delivery of services to specific service recipients. Excludes time spent on management and educational activities.

LPN. Licensed Practical Nurse

RN. Registered Nurse

CCHSA. Canadian Council on Health Services Accreditation

ALC. Alternate Level of Care- not requiring an acute care bed

ALOS. Average length of stay

A& C. Adult and Child

Earned hours. Hours paid including premium (overtime and shift premiums), sick time, vacation, statutory holidays

Worked hours. Hours actually worked or providing service

ORT. Operating room technician

FTE. Full time equivalent

MIS. Management Information System