Program Evaluation of Alberta Management Committee on Drug Utilization (AMCDU) / Alberta Drug Utilization Program (ADUP)

Submitted to:
Alberta Drug Utilization Program

Prepared by:
TkMC

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A Commitment to Your Privacy:

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Executive Summary

Introduction

Optimal drug use has been identified as a priority at a provincial, national and international level. Pharmaceuticals have become the focus of attention on various fronts including appropriate prescribing, patient safety, cost management, access for low-income patients and approval of new compounds. The Alberta Drug Utilization Program (ADUP) operates within this external environment focusing on appropriate prescribing, safety and cost management. The Alberta Management Committee for Drug Utilization (AMCDU) provides oversight and governance of the ADUP.

As the ADUP completes the third year of its second 3-year mandate it has undertaken an external evaluation to assess its progress and achievement. During the initial mandate the ADUP activities were directed at building the necessary partnerships and collaborations in order to move into program implementation and expansion. The 2002 Impact Evaluation reported that “solid groundwork for further stakeholder collaboration is in place and each [of the ADUP] initiatives is underway.” During the second mandate the ADUP has worked diligently in enhancing and expanding the implementation of its initiatives. This evaluation on the second mandate of the ADUP will therefore focus on program outcomes rather than program implementation and process.

The ability to measure the contributory and ultimate outcomes as outlined in the ADUP Accountability Framework requires access to credible data sources. Difficulties in accessing data as well as challenges in importing and analyzing data has frustrated attempts to produce sufficient data on which to determine the impacts and outcomes of the ADUP. Therefore, the inquiry for the evaluation is structured around a series of evaluation questions. Results of the information gathering are summarized very briefly in this executive summary.

Evaluation Questions

1. Has the AMCDU/ADUP achieved program goals and objectives?

   The program has achieved almost all goals and objectives set at the beginning of the current mandate. The Behavioural Change Initiative (BCI) has met all of the objectives set as determined by the qualitative analysis. There is an objective for internal evaluation of the initiative in order to make improvements. Due to the challenges in acquiring data a comprehensive project evaluation process has not taken place. However, evaluation of the program’s progress as outlined in the Annual Report has occurred.

   The Drug Utilization Review (DUR) initiative has also met most of its objectives. There is an objective to “routinize the DUR procedures and processes”. The routine is implicit in the documentation of the DURs that have been undertaken to date, but the documentation of the routine would be helpful for the planning and program management of future DURs. For reasons similar to the BCI above the DUR initiative did not undergo a formal evaluation.
2. Has the AMCDU/ADUP met its performance targets since 2002?

The BCI process measures (e.g. physician participation) have been met. Outcome measures (e.g. change in drug consumption) are difficult to measure and data has not been readily available. Preliminary quantitative analysis completed by the ADUP on Alberta Blue Cross and Health Canada data reveal that there were small effects on the adherence to clinical practice guidelines by physicians in the areas of upper respiratory tract infections (maximum increase 13%) and osteoporosis (effect size was approximately 10%).

The DUR performance measures have been met. For example, the number of DURs to be completed during the period was as proposed.

3. Has the AMCDU/ADUP met its mandate since 2002 as outlined in the Accountability Framework?

The ADUP Accountability Framework categorizes outcomes as either contributory or as ultimate outcomes. Contributory outcomes relating to the credibility of and buy-in to the program were assessed as having been achieved based on the feedback obtained in stakeholder interviews. Credibility and buy-in were apparent among the physicians and stakeholders interviewed. This was less evident among pharmacists who were current transitioning from the Trial Prescription Program to the Community Patient Safety Program. Awareness, which is another dimension of the contributory outcomes, is less well realized (as assessed by interviewees), but the recent conference Influencing Provider Behaviour in the Medication Use Process in Calgary served to raise awareness of the ADUP.

Ultimate outcomes are defined as changed allocation of resources, increased quality of care and health of all people and increased public awareness. These are extremely broad measures and changes in any of them (if determined) would be difficult to attribute to the ADUP specifically.

In feedback from AMCDU stakeholders it was determined that while stakeholders were generally aware of an accountability framework that there was not a great deal of attention paid to in the course of the mandate.

4. What progress has the AMCDU/ADUP made in realizing benefits from the implementation of the Recommendations of the Impact Evaluation of July, 2002?

A detailed interview was conducted with the program director in which progress on the recommendations of the 2002 evaluation were reviewed. The review determined that good progress was made in implementing recommendations from the 2002 evaluation. The exceptions were the development of a strategic framework for the program (the subject of the subsequent phase of this evaluation) and the development of ongoing internal evaluation (see comments in # 1 above).

5. To what extent does AMCDU/ADUP strategies and initiatives for drug use management align with pan-Canadian, provincial and RHAs?

There is very strong alignment of the International, National and Provincial strategic goals in the area of drug utilization management. In addition to the congruence of these goals, a review of the programs developed in various national and international jurisdictions indicates that similar approaches such as the BCI are being used.
6. Are there ramifications resulting from AMCDU/ADUP initiatives?

A number of key lessons learned as determined in the interviews and document reviews are highlighted in the consideration of the downstream effects of the ADUP. Among these are:

- Eagerness for expansion of the program, especially BCI into more areas
- Challenges to the ongoing development of the program posed by the availability of data studies on a timely basis.
- A need for information technology to support the initiatives
- Extending the value of the initiatives by conducting evaluative studies to support further implementation.

7. Do AMCDU/ADUP initiatives positively impact other related programs? (e.g. private sector) If so, how?

The downstream effects of the ADUP are intuitively apparent but are not easily or readily measurable. The BCI is believed to be successful in the regions in which it has been implemented. The conference *Influencing Provider Behaviour in the Medication Use Process* is regarded as a success and a means to communicate the aims and progress of the ADUP. Other programs that offer potential for downstream impact include the Local Primary Care Initiatives currently being developed.

8. What organizational changes would have to occur if the AMCDU/ADUP was to continue as the provincial drug use management program?

The AMCDU and ADUP partners and staff participated in a strategic planning session to outline critical success factors (CSF), goals, measures and strategic activities for the next mandate of the AMCDU. Six critical success factors were outlined to describe those things that the ADUP must concentrate on in order to accomplish its vision and include:

- Build Effective Partnerships
- Implement Effective Drug Utilization Management Strategies
- Gain Timely Access to Data
- Attract and Use Resources Wisely
- Set Priorities Based on Maximum Impact
- Raise Awareness thru Education and Marketing

The CSF’s highlight the importance of partnerships, data, awareness and education, best practice strategies employed and setting priorities in the area of the optimization of drug therapies. Through the completion of the evaluation it was evident the importance that each of these factor in realizing the vision of the ADUP. The program has been working diligently and strategically to this end, however the work completed on the strategic framework outlined below will provide a shift in direction in the ADUP to being strategically focused on what they do (BCI, DUR and CPSI and future initiatives) to how they effectively and efficiently work towards the optimization of drug therapies in Alberta.
Based on the information presented in the AMCDU/ADUP evaluation and the work outlined in the strategic framework above there are a number of next steps suggested for the AMCDU and include:

1. Development of role statements for the AMCDU and the ADUP Director and Staff
2. Prioritization of the strategic activities
3. Development of action plans for the strategic activities
4. Development of a resource plan
5. Implementation of the action plans

**ADUP Program Vision and Supporting Critical Success Factors**

[Diagram showing the flow from WHO Medicines Strategies to ADUP Vision]

**ADUP Vision**

*The Alberta Drug Utilization Program is valued by the community it serves. It is an integral component of the health system and is effective in continuously improving drug use management strategies in the promotion of optimal health of Albertans.*
Introduction

Optimal drug use has been identified as a priority at a provincial, national and international level. Pharmaceuticals have become the focus of attention on various fronts including appropriate prescribing, patient safety, cost management, access for low-income patients and approval of new compounds. The Alberta Drug Utilization Program operates within this external environment focusing on appropriate prescribing, safety and cost management.

The World Health Organization (WHO) has outlined seven objectives in the *WHO Medicines Strategies 2004-07*, one being:

*Rational use by health professionals and consumers: awareness raising and guidance on cost-effective and rational use of medicines promoted, with a view to improving medicines use by health professionals and consumers.*

The intention of the objective is to identify independent and reliable medicine information for dissemination, enhance consumer education, provide good prescribing and dispensing practices and identify and promote cost effective strategies for the rational use of medicines.

At a national level, the Health Council of Canada report *Health Care Renewal in Canada-Accelerating Change* reported on pharmaceutical management, and stated:

*Costs for drugs are increasing faster than the rate of inflation and population growth. Governments find it increasingly difficult to control the rate of growth in drug spending. Providing reasonable public coverage for the costs of medication is only one of the pressing issues facing governments. Managing behaviour and drug utilization are equally important.*

In the recent First Minister's 10-Year Plan, a National Pharmaceuticals Strategy is being developed which includes the following action statement:

*Enhanced action to influence the prescribing behaviour of health professionals so that drugs are only used when needed and the right drug is used for the right problem.*

At a provincial level optimal drug use is supported through the Canadian Coordinating Office for Health Technology Assessment (CCOHTA). CCOHTA is a primary source for unbiased, evidence-based information on drugs, devices, health care systems and best practices. Canadian health care decision makers rely on CCOHTA to help them make well-informed health technology choices. CCOHTA is funded by Canadian federal, provincial and territorial governments. One of the programs that CCOHTA provides is the Canadian Optimal Medication Prescribing and Utilization Service (COMPUS). This program promotes and facilitates best practices in drug prescribing and use among health care providers and patients/consumers.

At a provincial level optimal drug use has been supported with the Minister of Alberta Health and Wellness appointing members to the Alberta Management Committee on Drug Utilization (AMCDU) to develop and direct drug utilization review initiatives that would facilitate improvements in the prescription and use of drugs. The task of improving drug management strategies in Alberta is extremely complicated area with multiple stakeholders, policies and regulations. In 1999 the AMCDU developed a strategic plan and accountability framework to guide the activities of the ADUP. Through this process the AMCDU outlined three initiatives that
would entail the Alberta Drug Utilization Program (ADUP) and developed an accountability framework which outlines 27 Organizational Success Criteria. In its first two mandates (1998-2002 and 2003-06) the AMCDU has been successful in implementing all three initiatives. The purpose of this document is to provide feedback and evaluation of the ADUP in preparation for the renewal of the third mandate for the AMCDU.

**Drug Utilization Management**

Drugs have been one of the fastest-growing components of total health spending in Canada. Drug spending in 2003 represented 16.2% of the estimated $121.4 billion total health expenditures in the country and is the second largest sector of health care spending in Canada, after hospitals (Canadian Institute for Health Information, 2004).

Drug utilization management is one approach to addressing the quality, effectiveness and cost of drug use. Drug utilization management in simplistic terms means working to ensure that health care providers are providing the right drug, for the right reasons in the right amount. Drug utilization management is relevant to both treating and preventing health related ailments. Improving drug utilization management involves improving prescribing and dispensing practices by educating physicians, pharmacists and patients and providing feedback or administrative controls.

Drug utilization is a complex issue, impacted by multiple factors. Changes in drug expenditures are affected by changes in drug prices, and changes in utilization. Increased consumption of drugs can result in increased expenditures, even when prices go down. Similarly, costs can increase when consumption is low and expenditure high. There are a number of factors which impact utilization of drugs, including such factors as population, population demographics, changes in health status, and changes in prescribing and dispensing practices, consumer expectations and wastage. This complex environment requires a multifaceted approach to impact the multiple stakeholders and contributing factors.

**Alberta Drug Utilization Program (ADUP)**

The Provincial work in the area of drug utilization management began in 1994 with the Drug Plan Review Committee who in 1997 provided the Alberta government with recommendations on feasible initiatives to be implemented in order to reduce drug plan expenditure. Since this time Alberta Health and Wellness appointed members to the Alberta Management Committee on Drug Utilization (AMCDU). The AMCDU is responsible for developing and directing on a three year basis, the ADUP, which includes the Drug Utilization Review, the Academic Detailing and the Trial Prescription which was discontinued in 2004 and replaced with the Community Patient Safety Initiative to facilitate improvements in the use of government paid prescription drugs in Alberta. The initial mandate of the ADUP (1999-2003) was focused building a solid foundation for stakeholder collaboration in the ADUP and its initiatives. The focus of the second mandate (2003-06) has been enhanced implementation of the ADUP interventions and program monitoring and evaluation.
ADUP Vision

“The Alberta Drug Utilization Program is valued by the community it serves. It is an integral component of the health system and is effective in continuously improving drug use management strategies in the promotion of optimal health of Albertans. “

ADUP Mission

“To ensure that drug use management strategies deployed for Albertans are appropriate to their health needs. “

ADUP Goals

- To employ a multi-faceted intervention strategy to optimize drug management strategies and behaviours.
- To determine and put into place effective provincial drug use management directions, approaches and systems.
- To monitor trends and utilize knowledge about advances in drug management in the work of the AMCDU.
- To identify 'best practices' and make them available to all professionals and the public.
- To create a culture of continuous innovation in drug utilization review, trial prescriptions and academic detailing.
- To develop success criteria for the AMCDU governance and operational structures and processes.
- To liaise with the developers of We//net to ensure development of an appropriate pharmaceutical database of utilization.

ADUP Core Businesses

- The development and evaluation of selected drug use management strategies.
- The facilitation of the implementation of effective and efficient drug management strategies through delivery organizations and systems.

Over the past five years the ADUP has developed a strategic plan to take action in the following four areas:

1. Behavioural Change Initiative (Academic Detailing)
2. Drug Utilization Review
3. Trial Prescription Program (Checkpoint)
4. Community Patient Safety Initiative
**Behavioural Change Initiative (Academic Detailing)**

The goal of BCI is to optimize physician prescribing behaviour by communicating evidence-based, cost-effective, unbiased drug information to physician and non-physician providers. The intended outcomes are reflected by changes in prescribing patterns, improvement of quality of patient care, drug therapy and cost effectiveness. The process is intended to be proactive, educational and non-punitive. The BCI includes multiple strategies and tools to influence behaviour and include:

- Dissemination of clinical practice guidelines.
- Academic detailing.
- Development tools to assist opinion leaders in RHA’s.
- Continuing medical education events.
- Multi-disciplinary education forums in regions involving physicians, pharmacists and nurses.
- Comparative prescribing feedback reports to physicians.
- Structured medication review with feedback to individual physicians.

**Drug Utilization Reviews**

Drug Utilization Review are defined as an authorized, structured, and continuing program that reviews, analyzes, and interprets patterns (rates and costs) of drug usage in a given health care delivery system against predetermined standards.

Drug utilization review programs include efforts to correct inappropriate patterns of drug use (including misuse, overuse and under use), and include a mechanism for measuring the effectiveness of corrective actions taken to normalize undesirable patterns of drug use.

DUR may be concurrent, prospective or retrospective. The Alberta Drug Utilization Program DUR model is a retrospective model using Alberta Health and Wellness administrative databases.

**Trial Prescription Program (Checkpoint Program)**

In the Trial Prescription program a prescription is dispensed in two parts: an initial prescription containing a small quantity of the newly prescribed drug (trial quantity) and where appropriate, the remainder of the prescription (balance quantity). The trial quantity introduces an opportunity to test how the patient tolerates and responds to a newly prescribed medication before obtaining a large quantity. The purpose of two- part dispensing is to decrease drug wastage and improve patient care. Drug wastage is reduced when patients are prescribed the trial prescription and it is not well tolerated and the prescription is discontinued. Patient care is improved when a new prescription is filled in a smaller quantity because it provides an opportunity to assess how the patient tolerates and responds to the medication.

**Community Patient Safety Initiative**

The Community Patient Safety Initiative is a community based pharmacy program. The purpose of the CPSI is to enhance patient safety and quality of care through a pharmacy-based continuous quality improvement processes that focus on patient education and medication error prevention. (For a complete description of CPSI see Appendix A)
ADUP Program History and Key Milestones

Over the course of the last five years, the ADUP has been working diligently to impact optimal drug use in Alberta. The following list outlines the key milestones of the ADUP:

- **1999** Program Coordinator hired, ADUP launched
- **1999** ADUP Business Plan 1999-2002 outlined
- **2000** Trial Prescription initiative launched
- **2000** Drug Utilization Reviews were developed for otitis media, acute pharyngitis, bronchitis, sinusitis and pneumonia
- **2001** Interim Evaluation was completed
- **2001** Behavioural Change Intervention Demonstration Project (Academic Detailing) was launched in the David Thompson Health Region
- **2002** Trial Prescription Program Impact Evaluation
- **2002** ADUP Impact Evaluation
- **2003** ADUP Business Plan 2003-2006 outlined
- **2003** DUR for anti-infectives in respiratory infections completed
- **2004** Trial Prescription program suspended
- **2004** Behavioural Change Intervention demonstration project expanded to the Calgary Health Region
- **2005** Community Patient Safety Initiative launched
- **2005** Influencing Provider Behaviour in the Medication Use Process Conference

ADUP Data Requirements

The ADUP requires health information from Alberta Health and Wellness for planning, implementation, monitoring and evaluation activities. The majority of the health information is used for program evaluation activities. The information required for the program activities is aggregate information pertaining to drug and pharmacy claims. Data from Alberta Health and Wellness and Alberta Blue Cross is used in completing the Drug Utilization Reviews and assessing changes in prescribing practices among physicians who have participated in the BCI. This non-identifiable individual information is collected from Alberta Health and Wellness databases, Alberta Health Care Insurance Plan (AHCIP) registry, AHCIP billing, and Alberta Blue Cross. Currently the ADUP has significant challenges in accessing appropriate and timely data to satisfy the programming needs.

The ability to measure the contributory and ultimate outcomes as outlined in the ADUP Accountability Framework and reporting on the program outcomes outlined in the ADUP Business Plan requires access to these data sources. Difficulties in accessing data as well as challenges in importing and analyzing data has frustrated attempts to produce sufficient data on which to determine the impacts and outcomes of the ADUP.
Purpose and Scope of Evaluation

The goal of this evaluation is to assess the achievements of the Alberta Drug Utilization Program and Alberta Management Committee on Drug Utilization since 2002 and determine the long-term direction for the program. The information outlined in this evaluation will:

- Account for what has been accomplished by the ADUP since 2002.
- Promote learning about what ADUP strategies have been effective and which have not.
- Provide feedback to inform decision makers at local, regional and provincial levels.
- Contribute to the body of knowledge about effective drug utilization management strategies.
- Position the ADUP for future funding opportunities.
- Increase the effectiveness of the project and program management.
- Contribute to policy development.

Information outlined in this evaluation is intended to be used to guide program improvement. There are a number of areas of the ADUP which are highlighted in the evaluation as working well and should be built on in the future, conversely, there are areas highlighted in the evaluation that have not been as successful and should changes be considered in outlining the future direction of the program.

It is hoped that the AMCDU can use the information outlined in this evaluation to reflect on previous program successes and challenges and use these learnings to refine and direct the ADUP and position it for future success.

The evaluation was guided by the following questions:

1. Has the AMCDU/ADUP achieved program goals and objectives?
2. Has the AMCDU/ADUP met its performance targets since 2002?
3. Has the AMCDU/ADUP met its mandate since 2002 as outlined in the Accountability Framework?
4. What progress has the AMCDU/ADUP made in realizing benefits from the implementation of the Recommendations of the Impact Evaluation of July, 2002?
5. To what extent does AMCDU/ADUP strategies and initiatives for drug use management align with pan-Canadian, provincial and RHAs?
6. Are there ramifications resulting from AMCDU/ADUP initiatives?
7. Do AMCDU/ADUP initiatives positively impact other related programs? (e.g. private sector) If so, how?
8. What are the major lessons learned since 2002?
9. What organizational changes would have to occur if the AMCDU/ADUP was to continue as the provincial drug use management program?
Methods

Both qualitative and quantitative methods were used in conducting this evaluation. Twenty four interviews were conducted with key stakeholders, physicians and pharmacists. Fifteen interviews were conducted with AMCDU members or working group participants, six with pharmacists and three with physicians who participated in the BCI. Selection of the interview participants was purposeful. Key stakeholders were selected through a review of the membership of both the AMCDU and the ADUP working groups. Individuals who were represented on a working group and the AMCDU were selected. Once this initial criterion was met, additional stakeholders were identified with assistance from ADUP Program Coordinator to ensure that all of the partner organizations involved in the ADUP had an opportunity to participate. In addition to these key stakeholders, all of the members of the evaluation working group participated in interviews. The selection of the physician and pharmacists who participated in the BCI or Trial Prescription Program was provided by the ADUP Program Director.

All of the interviews were semi-structured and conducted over the telephone. Although telephone interviews have a number of limitations, it did provide an opportunity to interview individuals representing a wide variety and number of organizations and geographic regions of the province. The interview protocol was developed using the criteria from the accountability framework and can be found in appendix C. In addition to the qualitative data collected, a thorough review of business plans, annual, monthly, program and newsletters, poster presentations and presentations were reviewed.
Attainment of Strategic Goals and Objectives

Attainment of the goals and objectives was assessed through a review of monthly reports, newsletters annual reports and feedback provided through interviews with key stakeholders, physicians and pharmacists. For each of the three initiatives of the ADUP the program objectives, a description of how they were assessed and results of the assessment are outlined below.

Behavioural Change Intervention

Eight objectives are outlined in the 2003 Business Plan for the Behavioral Change Intervention.

1. To increase the strength of the intervention by adding complimentary multifaceted and multidisciplinary educational interventions.

   Assessment Methods:
   – A review of Annual Reports.
   – Feedback from key stakeholders in interviews with TkMC.

   Results:
   The BCI has been enhanced through the addition of a number of key components, including the addition of:
   – Opinion Leader, who participated in both the introductory education sessions as well as the academic detailing.
   – Comparative prescribing feedback reports to provide physicians with data on personalized prescribing habits and comparisons with regional prescription use.
   – Multi-disciplinary continuing education sessions; pharmacists have been active participants in continuing education sessions provided.

2. To develop and integrate prescriber feedback intervention (comparative feedback and medication review) into behavioural change intervention.

   Assessment Methods:
   – A review of annual and monthly reports.
   – Physician feedback documented by academic detailer.

   Results:
   ADUP Annual Reports indicate that in 2003-04, an estimated 160 comparative feedback reports were completed and in 2004-05, an estimated 225 comparative prescribing feedback reports were provided to physicians. In the evaluation of the academic detailing physicians were asked to comment on their level of interest in written material provided. Over the four academic detailing events and based on a scale of 1 to 5, with 5 being most interested, physicians were interested in the written materials provided (4.37).
3. To expand the intervention into a large metropolitan region.

**Assessment Methods:**
- A review of planning documents, monthly reports.
- Feedback from key stakeholders in interviews with TkMC.

**Results:**
Based on this assessment, it is evident that the BCI has been recently implemented in the Calgary Health Region (March 15, 2005). Results from the expansion project are not available to date, however 40 physicians attended the initial education session. The program has been slightly modified to meet the needs in this region; however multiple stakeholders interviewed commented that the expansion of the program is extremely positive. It provides opportunity to increase the impact on optimal drug utilization increases the visibility of the ADUP and allows for additional learnings in how to implement a complex program in a complex environment. A variety of key stakeholders interviewed commented on the complexity of implementing the BCI in a large metropolitan region with the large number of RHA stakeholders required for program success and how program implementation in this setting will provide lessons for further program expansion.

4. To routinize the intervention.

**Assessment Methods:**

**Results:**
The standardized protocol for the BCI is detailed in the Academic Detailing Initiative Operational Plan and states:

"The project will be co-managed by the Alberta Drug Utilization Program and the College of Physicians and Surgeons. The project will consist of the following sessions and interventions:

- CME event- A two-hour CME event will be held with physicians and pharmacists in attendance. The session will provide background information and progress updates on the academic detailing project. A physician specialist in the topic area will provide an overview of the clinical practice guidelines and how to apply them to practice.

- Academic detailing visits- Academic detailers will conduct one or more visits per guideline. Visits will be about 15 minutes long and will take place in the physician’s office. Detailers will provide physicians with a copy of the clinical practice guideline that is being discussed, a detailing (summary) sheet, patient information or brochures and any reference material required.

- Opinion leader (optional) - The opinion leader is an individual that is seen in the region, town or clinic to be a leader to other physicians and the “go to” person for questions, concerns, educational needs or consults. If such an individual is identified in a community, participating physicians are encouraged to meet with the opinion leader once during the intervention period to discuss the guidelines and their application to practice."
Prescribing Feedback Reports- Each participating physician will be sent a prescribing feedback report before and after the above interventions. The report will include the physician’s personal prescribing data vs. the comparator physician group. The information will be kept strictly confidential and will be mailed to the physician directly and will not be seen by program staff.

The project will be evaluated by four methods. The documentation reports from detailers will outline physician interest and enthusiasm, a post-visit and post-project physician questionnaire will highlight physician opinions, and a pre and post CPG questionnaire will assess change in physician knowledge. The ability of the program to cause a change in behaviour will be determined through comparison of drug utilization data before and after the intervention was conducted.”

5. To continue with a credible intervention.

Assessment Methods:
- A review of annual reports.
- Feedback provided through the physician satisfaction surveys.
- Feedback provided by physician and key stakeholders in interviews with TkMC.
- Number of physicians participating in the voluntary program.

Results:
In 2003-04, 63 physicians participated in the BCI, and in 2004-05 annual reports indicate that approximately 150 physicians participated in the BCI initiative. All three of the physicians interviewed reported that the information provided by the ADUP was extremely credible and they were extremely positive about being provided with unbiased information. Additionally the physicians have a high level of satisfaction with the knowledge and credibility of the academic detailer.

Over the timeframe of 2002-2005 the program has been able to continue to provide a credible intervention. Key stakeholders interviewed were very supportive of the BCI and consistently reported that the BCI was highly credible. In light of this program result, a number of key stakeholders interviewed expressed a strong desire to expand the scope of the project, and some frustration in the time required for expansion, and the program’s inability to expand within a shorter timeframe.

6. To evaluate the intervention (BCI) and make improvements.

Assessment Methods:
- A review of annual reports, monthly reports and newsletters.

Results:
There is some evidence that certain the components of the BCI have been evaluated, however, a comprehensive formal evaluation of this specific initiative has not been completed. This being said, the Academic Detailing Initiative Operational Plan does outline an evaluation plan for the BCI and states:
“The project will be evaluated by four methods. The documentation reports from detailers will outline physician interest and enthusiasm, a post-visit and post-project physician questionnaire will highlight physician opinions, and a pre and post CPG questionnaire will assess change in physician knowledge. The ability of the program to cause a change in behaviour will be determined through comparison of drug utilization data before and after the intervention was conducted.”

The academic detailer has provided a number of notes on the implementation process used in the David Thompson Regional Health Authority. Additionally, there is summary data on the Continuing Medical Education (CME) sessions and the post visit statistics and a number of documents which provide information on a number program activities, however this information has not been formally pulled together and from it recommendations for improvements made. Feedback from physicians on the CME sessions indicates that the quality of the session, outline, package, content, organization of the session and materials were good to excellent. In 2002-3, an initial evaluation of the Crossroads pilot was conducted. The results were presented at 2 professional and scientific conferences. In 2004-05, a further internal evaluation was conducted in parallel with this external evaluation. Delays in data access and manpower shortages limited the evaluation to the impact of the BCI on anti-infective and osteoporosis drug utilization review

7. To make key stakeholders aware of intervention and impact.

Assessment Methods:
Key stakeholders were identified as physicians and pharmacists in the targeted RHA’s, RHA decision makers, physicians across the province, the AMCDU members, and the organizations they represent. Assessment of their awareness of the BCI intervention was through:
- A review of newsletter content and distribution, monthly report content, annual reports and webpage content.
- Feedback from key stakeholders, physicians and pharmacists in interviews with TkMC.

Results:
There have been a number of communication tools implemented to enhance the awareness of the BCI. These include:
- The May 2002 Alberta Drug Utilization Program Report: which provided an overview of the Academic Detailing initiative and the current status of this initiative.
- The November 2004 Alberta Drug Utilization Program Report reviewed the Anti-Infective Drug Utilization Review in Alberta- Respiratory Tract Infections. In this newsletter a recommended action item in response to DUR was for physicians to participate in academic detailing activities. This newsletter is distributed to all physicians, pharmacists in the province, selected targets within the Regional Healthy Authorities and selected organizations such as those represented on the AMCDU and others like the Alberta Association of Registered Nurses.
- Distribution of the annual report to AMCDU members.
- Information posted on the ADUP website and specifically the posting of the ADUP Newsletters and annual report.
Key stakeholders and physicians interviewed for the project were asked to comment on how effective the ADUP has been in increasing awareness of the program among physicians, pharmacists, patients and other stakeholders. Overall individuals have indicated that the ADUP has not been successful in communicating with the broad physician and pharmacy communities particularly well. However a number of key interviews framed this comment, reminding that the BCI to date has been a demonstration project and a province-wide communication plan of the initiative may be premature at this time. Key stakeholders did report that they thought that the ADUP had increased awareness among physicians and pharmacists involved in the program initiatives, and that organizations represented on the AMCDU were aware of the program.

8. To collaborate with other agencies with similar interests and mandates.

Assessment Methods:
- A review of the monthly reports and documented collaboratives outlined in the annual reports.
- Interview with ADUP Program Director by TkMC.

Results:
Collaborations exist with the following organizations
- Towards Optimal Practice (previously the AMA CPG Program): ADUP works together with this initiative to ensure that the clinical practice guidelines are developed and verified. They also provide the ADUP with printed educational materials.
- University of Alberta Continuing Medical Education (CME) office: ADUP contracts the CME office to provide the educational component of the BCI. This collaborative ensures that physicians receive CME credits for the education sessions.
- Calgary Continuing Medical Education (CME) office: the ADUP has just recently started working with the CME office to provide education sessions on optimal drug utilization.
- Alberta Blue Cross and First Nations Inuit Health Branch: the ADUP partners with these two organizations to access data which can be analyzed by the ADUP to reflect changes in prescribing habits from drug usage information.
- Capital Health Regional Drug Information Centre: A partnership between U of A Libraries, Capital Health, and private industry that allows for the provision of drug information for health care professionals and students. This service is used by the ADUP.
- Calgary Health Region: The ADUP has been working with a number of departments and working groups of the Calgary Health Region to expand the BCI. These specific groups include the Department of Family Medicine, Chronic Disease Management Program, the Chronic Pain Unit and the Lipid Interest group.
- David Thompson Regional Health Authority: This collaborative with ADUP allowed for the development and implementation of the BCI.
- Alberta Improvements for Musculoskeletal Disorders (AIMS): The ADUP has worked to build a relationship with this organization to explore opportunities for collaboration for BCI on drugs used to address musculoskeletal disorders.
National Collaborative on Academic Detailing: through this collaborative the five provinces involved in academic detailing are working to produce an international synthesis of programs involved in detailing, a review of printed materials provided to physicians and attempted to engage and mirror international programs.

**Drug Utilization Review**

Six objectives were outlined in the 2003 Business Plan for the drug utilization program.

1. **To expand the DUR model.**

   **Assessment Methods:**
   
   Expansion of the DUR model was understood to mean that additional drug groupings were selected, data from Alberta Health and Wellness was requested, the drug review methodology conducted, technical reports were written and results were presented at conferences and through newsletters. Assessment was completed through:
   
   - A review of monthly and annual reports and newsletter content.

   **Results:**
   
   The DUR initiative has undertaken the reviews:
   
   - Acute pharyngitis (Acute Pharyngitis, Acute Otitis Media, Bronchitis/Sinusitis/ Pneumonia).
   - GERD (gastro-esophageal reflux disease)/Dyspepsia/H. Pylori.
   - Dyslipidemia.
   - Osteoporosis.
   - COPD data request made to AHW.

2. **To routinize the retrospective DUR process.**

   **Assessment Methods:**
   
   - Evidence of documented DUR procedure and processes.

   **Results:**
   
   Based on the information provided, there is no evidence of a formally documented routinized process for the DUR process. However, based on a review of an ADUP research proposal for osteoporosis and a review of ADUP monthly reports the following procedure seems to be followed in completing the DUR’s:
   
   - Issue identification (e.g. COPD).
   - Literature Review completed for the DUR proposal to highlight potential drugs.
   - DUR proposal outlined.
- Form an expert review panel.
- Proposal reviewed by expert panel.
- Amendments made to proposal based on expert panel feedback.
- Data request made to Alberta Health and Wellness.
- Verification of the data specifications/ data transfer.
- Data analysis.
- Preliminary DUR report written.
- Preliminary DUR report reviewed by expert panel.
- Second (third) draft(s) of DUR report are developed based on feedback from expert panels.
- DUR report constructed into a technical report and newsletter.
- Technical report and Newsletter disseminated.

3. To continue with a credible and reliable DUR process.

**Assessment Methods:**
- Review of monthly and annual reports.
- Feedback from key stakeholders, physicians and pharmacists in interviews with TkMC.

**Results:**
Evidence of the work completed on the DUR process is clearly outlined in the monthly reports. Based on the number of checks and balances in the DUR process with key opinion leaders in the specific content areas, there is an understanding that the process is both credible and reliable. Additionally it is assumed that the acceptance of a number of poster presentations at academic conferences support the credibility of the DUR process.

4. To evaluate behavioural change strategies and drug use management initiatives using DUR.

**Assessment Methods:**
The ability to evaluate the BCI using DUR is not currently possible because the data available from AHW is retrospective and dates back prior to the implementation of the program. Once data is available which is reflective of post BCI implementation, analysis of this information will be able to provide concrete data on a difference in physician prescribing behaviours.

5. To make key stakeholders aware of the DUR process and results.

**Assessment Methods:**
- A review of content of the newsletters.
- The distribution of the technical reports.
- Presentations and poster presentations made at both academic and practitioner conferences.
Results:
The following technical reports have been written and distributed by the AMCDU:

In addition to the technical reports two poster presentations were made on the completed DUR’s.

6. To collaborate with other programs with similar mandates.

Assessment Methods:
Collaborations with agencies (or initiatives) with similar interests and mandates was assessed through:
- A review of the monthly reports.
- Documented collaboratives outlined in the annual reports.
- Interview with ADUP Program Director by TkMC.

Results:
Documented collaborations include:
- Alberta Health and Wellness: The ADUP participated in the “Prudent Use and Antibiotics” and “Reducing Antimicrobial Resistance” task forces. As well an AHW Expert Committee used the anti-infective DUR report in their review of current listings and policies for the Drug Benefit List.
- First Nations Inuit Health Branch (FNIHB), who supplies the ADUP with data for the purpose of program evaluation. In turn, these evaluations inform FNIHB on the impact the initiatives are having on their clientele.
- College of Physicians and Surgeons: The ADUP has worked to build a relationship with this organization to explore opportunities for collaboration using the DUR model to evaluate injectable Demerol and Oxycontin.
- Alberta Improvements for Musculoskeletal Disorders of Canada: The ADUP has worked to build a relationship with this organization to explore opportunities for DUR’s on high cost drugs associated with treating these disorders.

Trial Prescription Program (Checkpoint Program)
The 2003 ADUP Business Plan outlines the following objectives for the Trial Prescription Program:

1. To develop a transition plan for Checkpoint to move from a pilot to a mainstream pharmacy service.
2. To maintain current program participation levels and program volumes until March 31, 2005.
3. To continue with AMCDU/ ADUP governing responsibilities and monitoring responsibilities until the program is transferred.
4. To maintain credibility of intervention.
5. To continue to monitor the intervention and make improvements.
6. To make key stakeholders aware of trial prescription interventions and impacts.

**Results:**
Objectives for the Trial Prescription program will not be assessed in detail due to the decision to discontinue the program in 2004 and the completion of the *Trial Prescription Initiative Program Evaluation*. A copy of the executive summary can be found in Appendix B. However, interviews were conducted with a number (6) of pharmacists and key stakeholders who were able to comment on the Trial Prescription Initiative during their semi-structured interviews.

There was strong support from the community pharmacists for a program of this style which reduces drug wastage and improves client care. Pharmacists expressed an interest and need for front line professionals to be involved in program development and implementation in order to ensure the effectiveness of the program and to ensure that the program is congruent with current information systems in pharmacies. Additionally one key stakeholder interviewed stressed the point that the ADUP must ensure that anything implemented to address drug utilization management “cannot be an add-on to their current workload.”

Based on comments similar to these and some of the evaluation findings reported in the *Trial Prescription Initiative Program Evaluation* in February 2005 the *Research Proposal for Community Patient Safety Initiative* was developed. The Community Patient Safety Initiative was chosen as a vehicle to continue to engage a key player in drug utilization management, namely the community pharmacist, and to tackle the challenge of medication errors such as drug distribution practice, incorrect drug administration, failed communication and lack of patient education. The following key learnings from the Trial Prescription Program were considered in the development of the Community Patient Safety Initiative:

- Inflexibility of pharmacy software: the Community Patient Safety Initiative will not require program components to be integrated into the pharmacy software systems.
- Prescription Manager: The Trial Prescription program employed a Prescription Manager for a short period of the program. The Prescription Manager’s role was responsible to monitor and promote the program among pharmacists. This was an effective method during the initiation of the program to increase the awareness and participation of pharmacists. In the Community Patient Safety Initiative there is a program coordinator who will have a very similar role for this program.

**Community Patient Safety Initiative (CPSI)**
The following objectives for the Community Patient Safety Initiative are outlined in the *Proposal for Community Patient Safety Initiative*:

1. To develop effective tools to be used by community pharmacists relating to the ACP Standards of Practice for patient education and quality improvement programs.
2. To develop a prototype community pharmacy patient safety model.
3. To develop an effective patient education tool.
4. To identify implementation barriers and strategies for overcoming barriers.
5. To evaluate the prototype model and make improvements.
6. To collaborate with other agencies with similar interests and mandates.
7. To suggest strategies for implementation of the program province wide.

The Community Patient Safety Initiative was implemented in April 2005. Assessment of the objectives is not possible at this time because of the limited amount of time the program has been in place. The only objective which can be assessed effectively at this time is “to collaborate with other agencies with similar interests and mandates.” Based on information outlined in the monthly reports the ADUP has worked collaboratively with three large community pharmacy chains (Safeway, London Drugs and Shopper’s Drug Mart), Health Quality Council and the Canadian Patient Safety Institute in designing and implementing this initiative.
Attainment of Performance Targets

Performance targets for the three ADUP initiatives are outlined in both the 1999 and 2003 business plans. Overall, the ADUP was successful in attaining the targets outlined in the business plans for the BCI and the DUR. The assessment of the attainment of the performance targets was completed through a review of the 2002-03, 2003-04 and 2004-05 annual reports. These data included measures of participation rates, physician satisfaction, participation in program components, collaborations, DUR studies completed, publications.

The ADUP was successful in meeting both the outcome and process performance targets for the DUR initiative in both 2003-04 and 2004-05. The outcome performance measures for the BCI were not able to be assessed or reported due to the data limitations associated with the program; however the ADUP was successful in meeting the process performance targets for the BCI.

Behavioural Change Intervention (BCI)

Recommendations from the initial mandate of the ADUP provided support for the continuation of the Academic Detailing program, later called the Behavioural Change Intervention. During the second mandate of the ADUP the BCI continued to focus primarily on physicians, however pharmacists were invited to the education sessions and visited briefly by the Academic Detailer.

Based on a review of the performance targets for the BCI and the information presented in the ADUP Annual Reports, it is evident that the ADUP was affective in attaining the process performance targets. Data limitations lead to incomplete information to assess the attainment of the outcome performance targets for this intervention. However preliminary data provided through the Program Director reviewing Alberta Blue Cross and Health Canada (FNIHB) claims were used to assess guideline adherence on upper respiratory infections among physicians in the Crossroads Health Region from October 2000- June 2003 and revealed a small but sustained effect (maximum 13%), however did not reveal a consistent effect on the average claim prescription cost. Additionally Alberta Blue Cross data from the David Thompson Health Region on adherence to clinical practice guidelines for osteoporosis reviewed from October 2003-April 2004 indicate a small impact (effect size was approximately 10%) and the average prescription claim increased 5% for the test physicians.

Figure 1 outlines the behavioural change intervention business plan performance measure, targets and results for 2002-2005.
### Figure 1

**Behaviour Change Intervention Performance Measures, Targets, and Results**

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clinical Practice Guideline adherence</strong> (based anti-infective DUR activities)</td>
<td><strong>First line medication used</strong></td>
<td>12-65%</td>
<td>↑ 10%</td>
<td>↑ 13% (URTI) ↑ 10% (OST)</td>
<td>↑ 10%</td>
</tr>
<tr>
<td><strong>Recommended dosage or duration followed</strong></td>
<td>50%</td>
<td>↑ 10%</td>
<td>N/A</td>
<td>↑ 10%</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Diagnostic test supports prescribing decision</strong></td>
<td>25-50%</td>
<td>↑ 10%</td>
<td>N/A</td>
<td>↑ 10%</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Drug consumption</strong> (based on Alberta Health and Wellness 1999-00 reports)</td>
<td><strong>Total annual regional costs for drugs included in project</strong></td>
<td>$34 Million</td>
<td>↓ cost AI &amp; GI ↑ cost LR &amp; OD</td>
<td>N/A</td>
<td>↓ cost AI &amp; GI ↑ cost LR &amp; OD</td>
</tr>
<tr>
<td><strong>Prescription volumes eligible for intervention</strong></td>
<td>540,000</td>
<td>↓ volume AI &amp; GI ↑ volume LR &amp; OD</td>
<td>N/A</td>
<td>↓ volume AI &amp; GI ↑ volume LR &amp; OD</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Defined daily dose (baseline expressed as DDD/1000 persons/day for province)</strong></td>
<td>21.4 AI 62.8 GI 95.5 LR</td>
<td>↓ DDD AI &amp; GI ↑ DDD LR &amp; OD</td>
<td>N/A</td>
<td>↓ DDD AI &amp; GI ↑ DDD LR &amp; OD</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Individual drug related problems solved through med review</strong></td>
<td>0</td>
<td>50</td>
<td>N/A</td>
<td>100</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Number of participating centres</strong></td>
<td>8</td>
<td>12</td>
<td>15</td>
<td>14</td>
<td>16</td>
</tr>
<tr>
<td><strong>Number of participating physicians</strong></td>
<td>40</td>
<td>80</td>
<td>63</td>
<td>160</td>
<td>150</td>
</tr>
<tr>
<td><strong>Full intervention</strong></td>
<td>0</td>
<td>0</td>
<td>N/A</td>
<td>80</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Partial intervention</strong></td>
<td>0</td>
<td>0</td>
<td>N/A</td>
<td>80</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Level of physician satisfaction</strong></td>
<td>75%</td>
<td>75%</td>
<td>80%</td>
<td>80%</td>
<td>85%</td>
</tr>
<tr>
<td><strong>Number of participating pharmacists</strong></td>
<td>30</td>
<td>80</td>
<td>N/A</td>
<td>160</td>
<td>N/A</td>
</tr>
<tr>
<td><strong># of comparative feedback reports distributed</strong></td>
<td>0</td>
<td>160</td>
<td>160</td>
<td>480</td>
<td>225</td>
</tr>
<tr>
<td><strong>Number of medication reviews performed</strong></td>
<td>0</td>
<td>100</td>
<td>N/A</td>
<td>200</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Number of challenges to CPG limiting knowledge transfer</strong></td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Number of collaborations/partnerships with other change mgmt initiatives</strong></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>
Drug Utilization Review (DUR)

Drug Utilization Reviews are seen as the foundation of the ADUP. They provide the data necessary to guide the behaviour change intervention as well as assess the effectiveness of interventions implemented. Over the course of the ADUP’s history there have been a number of challenges in completing the DUR’s, namely, the ability to gather the necessary retrospective data however, that being said, key stakeholders interviewed have indicated that there has been a good methodology developed for the continuation of DUR’s in the future. Since 2002 the program has been successful in completing DUR’s for proton pump inhibitors and the use of statins for dyslipidemia.

Figure 2 outlines the DUR business plan performance measure, targets and results for 2002-2005.

**Figure 2**

**Performance Measures and Result for DUR’s for 2002-2005**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of DUR studies complete</td>
<td>5</td>
<td>1-2</td>
<td>1</td>
<td>1-2</td>
<td>1</td>
</tr>
<tr>
<td>Number of uses of DUR data for intervention evaluations</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Number of professional/ research publications</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Number of DUR reports for external dissemination</td>
<td>2</td>
<td>1-2</td>
<td>1</td>
<td>1-2</td>
<td>2</td>
</tr>
<tr>
<td>Number of RHA’s</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Number of Prescriptions Studied</td>
<td>45,000</td>
<td>60,000</td>
<td>77,500</td>
<td>60,000</td>
<td>75,000</td>
</tr>
<tr>
<td>Number of collaborative proposals and or agreements</td>
<td>1</td>
<td>1-2</td>
<td>1</td>
<td>1-2</td>
<td>3</td>
</tr>
<tr>
<td>Number of times data received from other databases</td>
<td>1</td>
<td>1-2</td>
<td>1</td>
<td>1-2</td>
<td>2</td>
</tr>
</tbody>
</table>

Figure 3 outlines the state of completion of the various DUR’s based on the routinized model at the time of the evaluation.
Figure 3
Current State of DUR’s

<table>
<thead>
<tr>
<th>DUR Process</th>
<th>Upper Respiratory Tract Infections</th>
<th>Proton Pump Inhibitors</th>
<th>Dyslipidemia</th>
<th>Osteoporosis</th>
<th>COPD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue identification (e.g. COPD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literature Review completed for the DUR proposal to highlight potential drugs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DUR proposal outlined</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>March 2004</td>
</tr>
<tr>
<td>Form an expert review panel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>March 2004</td>
</tr>
<tr>
<td>Proposal reviewed by expert panel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>December 2004</td>
</tr>
<tr>
<td>Amendments made to proposal based on expert panel feedback</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data request made to Alberta Health and Wellness</td>
<td></td>
<td></td>
<td>February 2004</td>
<td>February 2004</td>
<td>March 2004</td>
</tr>
<tr>
<td>Verification of the data specifications/ data transfer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>March 2004</td>
</tr>
<tr>
<td>Data analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preliminary DUR report written</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preliminary DUR report reviewed by expert panel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second (third) draft(s) of DUR report are developed based on feedback from expert panels</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DUR report constructed into a technical report and newsletter</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical report and Newsletter disseminated</td>
<td>January 2004</td>
<td>December 2004</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Trial Prescription Program**

The Trial Prescription Program was implemented in September 2000 and was discontinued in March 2004. Figure 4 outlines the Checkpoint Program business plan performance measure, targets and results for 2002-2005.

**Figure 4**

**Performance Measures and Result for Trial Prescription Program 2002-2005**

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>OUTCOMES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of trials initiated</td>
<td>7,200</td>
<td>2967</td>
<td>2,500</td>
<td>2437</td>
</tr>
<tr>
<td>Number of trials discontinued</td>
<td>1,440</td>
<td>575</td>
<td>430</td>
<td>275</td>
</tr>
<tr>
<td>Satisfaction level of participants (pharmacist, patient or physicians)</td>
<td>50-75%</td>
<td>N/A</td>
<td>50-75%</td>
<td>&lt; 50%</td>
</tr>
<tr>
<td>Annual drug cost avoidance ($)</td>
<td>80,600</td>
<td>39,610</td>
<td>24,200</td>
<td>27,771</td>
</tr>
<tr>
<td>Savings to cost index (ratio of drug cost avoidance to actual pharmacy payments)</td>
<td>1.38</td>
<td>1.31</td>
<td>.97</td>
<td>1.53</td>
</tr>
<tr>
<td><strong>PROCESS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Blue Cross messages sent to pharmacies indicating potential trials</td>
<td>185,000</td>
<td>93,735</td>
<td>80,000</td>
<td>83,814</td>
</tr>
<tr>
<td>Number of eligible prescriptions</td>
<td>60,000</td>
<td>N/A</td>
<td>40,000</td>
<td>42,850</td>
</tr>
<tr>
<td>Annual pharmacy payments ($)</td>
<td>72,000</td>
<td>30,150</td>
<td>25,000</td>
<td>18,190</td>
</tr>
</tbody>
</table>
Attainment of Accountability Framework Outcome Measures

The AMCDU Accountability Framework was developed in order to provide key stakeholders (Alberta Health and Wellness, the Alberta Medical Association and the Alberta Pharmaceutical Association) with a clear understanding of the long-term objectives and resourcing. The Accountability Framework was developed in a collaborative fashion to outline clear expectations, role and responsibilities of the AMCDU. Initial feedback from the AMCDU key stakeholders indicates that the framework has served an essential process in grounding the program; however this is seen as complicated and difficult to assess. This being said, the semi-structured interview protocol developed for key stakeholders of the AMCDU was developed based on the criteria and definitions outlined in the Accountability Framework.

There are a number of criteria in the Accountability Framework which are difficult to assess. An example of a contributory outcome that was difficult to assess was “awareness and buy-in,” which was defined as an increase in the number of stakeholders who are aware/understand the interventions. Criteria such as this were assessed through the interviews with key stakeholders and pharmacists, however the information gathered this way is based on the informants perception of the program and the results cannot reported with any degree of rigor.

Contributory Outcomes

The contributory outcome criteria are outlined in the AMCDU Accountability and include an assessment of credibility, buy-in/awareness and behaviour change. Outcomes are defined by the United Way of America Outcome Resource Network as the benefits for participants during or after their involvement with a program and can include various “levels” of outcomes with initial outcomes leading to longer-term ones. The AMCDU Accountability Framework outlines process, output, contributory (intermediate) outcomes and ultimate (final) outcomes.

The contributory outcomes were assessed through the semi-structured interviews with key stakeholders and physicians. The questioned posed in the interviews required key stakeholders and physicians to comment on the critical success factors outlined in the AMCDU Accountability Framework and the ability of the ADUP to meet these criteria.

Credibility

The criteria for assessing credibility in the Accountability Framework are:

- Increase in the number of stakeholders who see the ADUP and the initiatives as credible. In addition these stakeholders recognize the credibility of the research findings.
- Increase in the number of drugs evaluated as appropriately used (DUR, Trial Rx, and Academic Detailing).
- There is an increase in the number of drugs and conditions assessed through the initiative (DUR, Trial Rx, Academic Detailing).

All of the key stakeholders, physicians and pharmacists interviewed indicated that the information provided by the ADUP was credible. In fact among the physicians interviewed they unequivocally indicated that the information provided by the ADUP BCI was credible, reliable and unbiased. They also reported that they appreciated that drug classes were presented to them, rather than information about specific drugs, as might be the case when they are visited by a pharmaceutical representative.
When asked to comment on an increase in the number of physicians and pharmacist using best practices in dispensing and prescribing because of efforts of the ADUP the majority of the key stakeholders indicated something similar to one respondent who stated: “I would hope so, but the impact has been small.” Most key stakeholders commented on the difficulty in extracting the information to report on this contributory outcome.

Based on the information outlined in the annual reports it is evident that the ADUP has been successful in increasing the number of drugs and conditions assessed through the DUR process. Key stakeholders reported that the ADUP has developed an effective methodology for completing the DUR’s despite the ongoing challenges of acquiring data to complete the reviews.

**Buy-In/ Awareness**

The criteria for assessing buy-in and awareness in the Accountability Framework are:

- Increased number of physicians, pharmacists and stakeholders participating in the ADUP initiatives.
- Increase in the number of pharmacists, physicians, patients and stakeholders who are aware of and understand the initiatives.

Physician rates have increased in David Thompson Health Region (63 in 2003/04 to 150 in 2004/05) and the expansion of the BCI into the Calgary Health Region has reached approximately 55 additional physicians and nurses. Participation rates by pharmacists have decreased substantially since the previous evaluation. This can be explained by the discontinuation of the Checkpoint Program. There is an opportunity for additional pharmacy participation with the launch of the Community Patient Safety Initiative. In addition to the changes in participation by program participants, additional key stakeholders such as the Calgary Health Region and the First Nations Inuit Health Branch are actively involved in the ADUP.

There are a number of key activities the ADUP has completed to increase awareness of the program. These include the expansion of the BCI into the Calgary Health Region, the ADUP hosting the “Influencing Provider Behavior in the Medicine Use Process” conference, the distribution of newsletters, inserts in the Alberta Medical Association newsletter and presentations and poster presentations at conference. Despite these efforts to communicate ADUP initiatives and impacts, overall key stakeholders indicated that awareness among physicians and pharmacists not directly involved has not been enhanced. One of the key stakeholders interviewed shared this thought and commented that due to limited opportunities for direct involvement “most physicians in the province would not know what the ADUP is or what they do.”

**Behaviour Change**

The criteria for assessing behaviour change in the Accountability Framework are:

- An increase in the number of interventions introduced to change or improve prescribing and dispensing habits.
- An increase in the quality, completeness and validity of information sharing among physicians, pharmacists, industry and patients (DUR, Trial Rx, Academic Detailing).
- An increase in the number of pharmacists and physicians employing best practices in dispensing and prescribing (DUR, Trial Rx, Academic Detailing).
The number of interventions introduced to change or improve prescribing and dispensing habits has increased since the 2002 Impact evaluation. These include:

- Completion of two DUR’s.
- Three DUR’s have been initiated.
- Expansion of the BCI into the Calgary Health Region
- Initiation of the Community Patient Safety Initiative.

The assessment of whether there has been an increase in the quality, completeness and validity of information sharing among physicians, pharmacists, industry and patients was not able to be assessed effectively through the interviews with key stakeholders and physicians.

The completion and dissemination of the DUR’s and the implementation of the BCI are intended to increase the number of drugs prescribed appropriately. Substantial evidence is not available to assess whether these two ADUP activities have increased adherence to clinical practice guidelines (CPG) or improved prescribing behaviours of physicians. Without the ability to acquire accurate and reflective data on those impacted by the program limit the ability to assess these contributory outcomes. Based on feedback from those interviewed there is a belief that these two ADUP activities have improved prescribing however, none of the key stakeholders interviewed could report with any certainty that the development and dissemination of the DUR’s or the implementation of the BCI has resulted in an increase in the number of drugs prescribed appropriately, or that there was an increase in the number of stakeholders meeting the guidelines. That being said, literature from the Cochrane Collaboration\textsuperscript{10} on academic detailing reports that outreach visits, particularly when combined with social marketing are a promising approach to modifying health professional prescribing behaviour.

**Ultimate Outcomes**

The Accountability Framework outlines that the ultimate outcomes will be assessed and evaluated in 2005. The ultimate outcomes were not fully assessed and measured through the course of this evaluation. The research required to completely assess the following ultimate outcomes is outside the scope of this evaluation for the following reasons:

1. Availability of data on a timely basis.
2. Sampling effect: difficulty in identifying a measurable effect due to small sample size and short duration of the initiatives.
3. Completion of population based surveys: public perception and increased awareness require population surveys.

The ultimate outcomes were assessed through a review of Trial Prescription Final Evaluation.

If the ultimate outcomes were measured, identified changes in these criteria could not necessarily be attributed to the work done by the ADUP because of the numerous initiatives directed at improving patient care such as hospital quality programs, patient information services, work of the Canadian Patient Safety Initiative, etc. Once the ADUP has been able to broaden the scope of its initiatives it will be necessary and important to assess these ultimate outcomes.

The Ultimate Outcome Criteria are outlined in the Accountability Framework as an assessment of the following three components:
1. **Increased Management and Allocation of Resources**: there is a decrease in the rate of increase for drug expenditures covered by Alberta Blue Cross, or actual cost reductions may be achieved. Further the expenditure reductions may result in improved allocation of funding for drugs.

   The ultimate outcome may be supported by and achieved through decreased drug wastage, improved drug therapy and associated costs, decreased hospitalization normally associated with drug use management activities, and or from improved use of diagnostics associated with drug use management activities.

2. **Increased quality of care and health of patients**: there is an increase in quality of patient care and the health of people.

   The ultimate outcome may also result in decreased morbidity or mortality associated with drug use activities.

3. **Improved public awareness and perception**: There is an increase in the number of Albertans with a positive image of physicians and pharmacists in the delivery of quality and affordable health care.

   The ultimate outcome may result from an increased satisfaction and understanding of drug use management activities.
Progress on Impact Evaluation Recommendations

In 2002 an evaluation of the AMCDU/ADUP was conducted. The goal of the evaluation was to determine the value of the AMCDU/ADUP activities to Albertan's current and future health. The evaluation was guided by a number of evaluation questions pertaining to (1) how well the program and initiatives fulfilled directions outlined in the strategic plan and met the Accountability Framework performance measures; (2) major lessons learned; (3) comparison of ADUP results to other jurisdictions; (4) should the program and its initiatives be sustained; (5) changes required if the program is sustained; and (6) outlining transitioning recommendations.

Based on the completion of qualitative interviews with key stakeholders and program participants and key document reviews the evaluation supported the work of the AMCDU/ADUP and recommended the continuation of the program initiatives into the following mandate. Based on this evaluation a number of recommendations were presented to the AMCDU. This current evaluation report will outline the action taken on the 2002 evaluation recommendations and the current status of the activity. Overall there were three actions taken on the impact evaluation recommendations.

Progress on the impact evaluations was assessed through an interview with the ADUP Program Director. The Program Director was asked to comment on the action taken on each of the 9 impact evaluation recommendations. Based on this information it was evident that there were a number of recommendations which were acted upon, some which guided changes in the program approach and some which the ADUP was unable to act upon.

The AMCDU/ADUP has continued to use a multi-disciplinary approach to support the vision, mission and goals of the ADUP and the mandate of the AMCDU. This was raised as a success of the AMCDU/ADUP in 2002 and based on feedback from key stakeholder interviews this continues to be a highlight of the program. The majority of the stakeholders interviewed indicated that all of the ‘key players’ are participating in the AMCDU, however believed that there are opportunities to enhance communication and participation among members within these key organizations.

The AMCDU/ADUP has taken action to increase visibility in the target audience and stay connected with both national and international forums. The most significant example is the example of this is the recently hosted conference “Influencing Provider Behaviour in the Medication Use Process.” This conference targeted both policy and decision makers and well as professionals working to address drug management both on a regional, provincial, national level. In addition to the conference the ADUP communicates with target audiences through newsletter development and dissemination, poster presentation and presentations at both academic and non-academic conferences.

One recommendation from the Impact evaluation was to develop expansion criteria for the ADUP initiative. Expansion criteria were not developed for the BCI; however the criteria developed for the Trial Prescription program were used in the decision to discontinue the program. Additionally, the evaluation recommended a review of the AMCDU/ADUP mandate, goals, scope, strategic direction, accountability and roles and membership of various committees. The ADUP outlined goals, objectives, performance targets and vision and mission in the 2003-2006 Business Plan; however there is no documentation of a review of the AMCDU mandate, scope, accountability, roles and responsibilities.

The impact evaluation recommended that the ADUP stay connected with the Pharmaceutical Information Network (PIN). The ADUP has provided PIN with a copy of the Trial Prescription Program Evaluation, which outlined suggested actions for PIN. Once this information was provided to PIN, no additional action has been taken with this organization.
Figure 5 provides an overview of the action taken on each of nine recommendations from the 2002 Impact Evaluation.

**Figure 5**  
*Progress in Achieving Impact Evaluation Results 2002-2005*

<table>
<thead>
<tr>
<th>Recommendation from 2002 Impact Evaluation</th>
<th>Action Taken</th>
</tr>
</thead>
</table>
| The program continues to use a multi-stakeholder approach to developing plans and implementing initiatives | - Continued with the model of multi-disciplinary steering committee and working groups  
- Added new stakeholders including the involvement of FNIHB  
- Tried to connect with Alberta Improvements for Musculoskeletal Disorders Study (AIMS)  
- Continue to work within a multi-disciplinary approach  
- Partnered with Calgary Health Region and the Chronic Disease management program |
| Develop transfer criteria to be used in considering which initiatives are ready for integration into the broader system of health | - In the Trial Prescription Program criteria were developed and used to evaluate whether the program could/should be expanded  
- Trial Prescription Program was discontinued based on criteria |
| Become more visible with target audiences | - Raised profile at the provincial level through the “*Influencing Provider Behaviour in the Medication Use Process*” conference  
- 17 poster presentations completed  
- 4 presentations at academic conferences  
- Program Coordinator and Chair of AMCDU meet with the Minister, DM and ADM at least once a year  
- ADUP submits articles into the AMA digest, ACP News, RxA publications  
- Quarterly newsletter distributed to all physicians, pharmacists, selected targets within the RHA’s and targeted organizations  
| Continue to explore new areas of importance (environmental scan) | - No formal process for environmental scanning in place  
- Beers criteria and defined daily dosing were explored as approaches to scanning  
- Current process includes constant review of what has been published in peer reviewed journals |
| Revisit expectations and what can realistically be achieved within the set timelines | - AMCDU has done some advocating about the expectations to the ministry and that the cost savings challenges  
- Expectations and ultimate outcomes outlined in the Accountability Framework have been reviewed |
| Revisit the mandate of the program—goals, scope, strategic direction, accountability and the roles and membership of various committees | - 2003 Business Plan written |
| Stay connected and participates in both national and international forums | - See above on staying connected with key stakeholders |
| Establish a connection with the | - ADUP provide PIN with a copy of “Alberta’ Prescription Checkpoint
<table>
<thead>
<tr>
<th>Recommendation from 2002 Impact Evaluation</th>
<th>Action Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmaceutical Information Network (PIN)</td>
<td>Program Trial Prescription Initiative: Program Evaluation*</td>
</tr>
<tr>
<td></td>
<td>■ No connection currently established</td>
</tr>
<tr>
<td>Continue to measure outcomes by establishing a research/ evaluation agenda to improve measurement success</td>
<td>■ Formal program evaluation conducted at the end of the term and at the end of initiatives.</td>
</tr>
</tbody>
</table>
Alignment with Provincial, National and International Plans and Goals

Information on ADUP alignment with international and national drug utilization management strategies is outlined in Figure 6. Information on program goals was gathered through a review of program/organizational websites, program strategic plans and annual reports. Based on this review, the ADUP is well aligned with both international (World Health Organization) and national (Canadian Coordinating Office for Health Technology Assessment (CCOHTA): Canadian Optimal Medication Prescribing and Utilization Services (COMPUS)).

A detailed description of provincial, national, state level and international drug utilization management programs which also align nationally and internationally is available in Appendix D.

All of the Provinces involved in drug utilization management in Canada provide academic detailing, education courses and distribute a newsletter. The scope and depth of the programs implemented vary from one area to the next, however overall these major components are represented in the provincial programs.
Figure 6
Alignment with International, National and Provincial Goals/Strategies

<table>
<thead>
<tr>
<th>World Health Organization Program Goals/Strategies</th>
<th>ADUP Goals</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>People everywhere have access to the essential medicines they need; that the medicines are safe, effective, and of good quality; and that the medicines are prescribed and used rationally. Definition of rational use of medicines: “Patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost to them and their community.” (WHO, 1985). WHO advocates 12 Key Interventions to promote more rational use:</td>
<td>To employ a multi-faceted intervention strategy to optimize drug management strategies and behaviours. To determine and put into place effective provincial drug use management directions, approaches and systems. To monitor trends and utilize knowledge about advances in drug management in the work of the AMCDU. To identify ‘best practices’ and make them available to all professionals and the public. To create a culture of continuous innovation in drug utilization review, trial prescriptions and academic detailing. To develop success criteria for the AMCDU governance and operational structures and processes. To liaise with the developers of We//net to ensure development of an appropriate pharmaceutical database of utilization.</td>
<td>The ADUP is strategically aligned with the WHO Medicines Strategies: Countries at the Core 2004-7. There are a number of key interventions outlined in the WHO strategy which are outside of the scope of the ADUP and include: Public education about medicines Inclusion of problem based pharmacology training in undergraduate curricula Use of appropriate and enforced regulation.</td>
</tr>
<tr>
<td>1. Establishment of a multidisciplinary national body to coordinate policies on medicine use.</td>
<td></td>
<td></td>
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<tr>
<td>2. Use of clinical guidelines</td>
<td></td>
<td></td>
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<tr>
<td>3. Development and use of national essential medicines list</td>
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<td></td>
</tr>
<tr>
<td>4. Establishment of drugs and therapeutics committees in districts and hospitals</td>
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<tr>
<td>5. Inclusion of problem based pharmacotherapy training in undergraduate curricula</td>
<td></td>
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<tr>
<td>6. Continuing in-service medical education as a licensure requirement</td>
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<tr>
<td>7. Supervision, audit and feedback</td>
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<td></td>
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<tr>
<td>8. Use of independent information on medicines</td>
<td></td>
<td></td>
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<tr>
<td>9. Public education about medicines</td>
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<td></td>
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<tr>
<td>10. Avoidance of perverse financial incentives</td>
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<td></td>
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<tr>
<td>11. Use of appropriate and enforced regulation</td>
<td></td>
<td></td>
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<tr>
<td>12. Sufficient government expenditure to ensure availability of medicines and staff</td>
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</tbody>
</table>
### Canadian Coordinating Office for Health Technology Assessment (CCOHTA): Canadian Optimal Medication Prescribing and Utilization Services (COMPUS) Program Goals/Strategies

<table>
<thead>
<tr>
<th>ADUP Goals</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>To employ a multi-faceted intervention strategy to optimize drug management strategies and behaviours.</td>
<td>The ADUP is well aligned with the strategies and goals of COMPUS. In a review of COMPUS key activities and strategies it is apparent that the ADUP could significantly benefit from the work of COMPUS.</td>
</tr>
<tr>
<td>To determine and put into place effective provincial drug use management directions, approaches and systems.</td>
<td></td>
</tr>
<tr>
<td>To monitor trends and utilize knowledge about advances in drug management in the work of the AMCDU.</td>
<td></td>
</tr>
<tr>
<td>To identify 'best practices' and make them available to all professionals and the public.</td>
<td></td>
</tr>
<tr>
<td>To create a culture of continuous innovation in drug utilization review, trial prescriptions and academic detailing.</td>
<td></td>
</tr>
<tr>
<td>To develop success criteria for the AMCDU governance and operational structures and processes.</td>
<td></td>
</tr>
<tr>
<td>To liaise with the developers of We/Net to ensure development of an appropriate pharmaceutical database of utilization</td>
<td></td>
</tr>
<tr>
<td>Alberta Health and Wellness Goal and Strategic Priority 2005-08&lt;sup&gt;12&lt;/sup&gt;</td>
<td>ADUP Goals</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Goal 6: Health system efficiency, effectiveness and innovation</td>
<td>To employ a multi-faceted intervention strategy to optimize drug management strategies and behaviours.</td>
</tr>
<tr>
<td><strong>Strategic Priority</strong></td>
<td>To determine and put into place effective provincial drug use management directions, approaches and systems.</td>
</tr>
<tr>
<td>Pharmaceuticals and new medical technology - Collaborate with other provinces and partners (e.g., Canadian Coordinating Office for Health Technology Assessment and the Common Drug Review) to manage the growing costs of emerging technologies and pharmaceuticals. Albertans have benefited from the introduction of new technologies and pharmaceuticals. These opportunities come at a cost and the challenge is to determine which investments will give the best results. Health and Wellness will work with health authorities and health care professionals so that the right technologies and drugs are used at the right time and for the right condition. It is important that all Albertans have access to quality pharmaceutical services regardless of their financial situation. Therefore, the department will also explore and evaluate the extent of drug insurance coverage, including pharmacare.</td>
<td></td>
</tr>
<tr>
<td><strong>Responsibility:</strong> Health Authorities, Health and Wellness, Physicians, and Federal, Provincial and Territorial Governments.</td>
<td>To monitor trends and utilize knowledge about advances in drug management in the work of the AMCDU.</td>
</tr>
<tr>
<td></td>
<td>To identify 'best practices' and make them available to all professionals and the public.</td>
</tr>
<tr>
<td></td>
<td>To create a culture of continuous innovation in drug utilization review, trial prescriptions and academic detailing.</td>
</tr>
<tr>
<td></td>
<td>To develop success criteria for the AMCDU governance and operational structures and processes.</td>
</tr>
<tr>
<td></td>
<td>To liaise with the developers of Wel/net to ensure development of an appropriate pharmaceutical database of utilization.</td>
</tr>
<tr>
<td></td>
<td>The AMCDU is appointed by Alberta Health and Wellness and supported by this Alberta Health and Wellness Strategic Priority.</td>
</tr>
</tbody>
</table>
Downstream Effects of ADUP and Impact on Other Programs

This section of the evaluation will assess how the ADUP has collaborated with partners in addressing optimal drug use and learned from previous experiences to increase the impact on drug utilization management in Alberta.

A current partnership with the ADUP and the ability to learn from previous experiences to enhance the impact on optimal drug use in the province was assessed through interviews with key stakeholders, physicians and pharmacists. Specifically informants were asked the following questions:

1. There are a number of activities that have been enhanced since the conception of the AMCDU and the ADUP, such as the positioning within the Calgary Health Region and the decision to move into the area of patient safety. Are there initiatives that the AMCDU/ADUP are involved in that should be built on in the future?

2. Where do you think the ADUP fits into the provincial “scheme”-the big picture? The National Scheme?

3. In your opinion what have been the most significant program accomplishments or results since 2002? How credible are these results or accomplishments?

Overall there were two initiatives identified by key stakeholders as initiatives that should be built on in the future. The first was the expansion of the BCI into more regional health authorities. Most of the key stakeholders interviewed expressed that the BCI should be built on and expanded in the future. Specific comments included the “get other regional health authorities involved” and “enhance the academic detailing initiative by looking at how other programs have expanded.” The second was to build on the work in the local primary health initiatives (LPCI’s). A number of key stakeholders and physicians commented that the ADUP should seek out opportunities to work with the LPCI in the regions. One region spoke about a current arrangement where a pharmacist supports patient education to complex chronic disease cases, or patients taking multiple drugs. Although this informant had a specific suggestion for integrating drug utilization management into the LPCI’s a number of key stakeholders suggested that the LPCI’s could provide additional opportunities to enhance optimal drug use.

There were three common themes presented on where the ADUP fits into the provincial and national picture. First, key stakeholder supported the ADUP’s participation in the National Collaboration as a way to connect with both provincial and national partners and ensure the ADUP is in line with the Provincial and National priorities. This being said, there was some concern about the amount of time required by the ADUP to support this initiative. Second, key stakeholders consistently identified patient safety as both a future provincial and national priority and supported the Community Patient Safety Initiative in addressing this issue. Lastly, key stakeholders expressed some concerns about the ADUP and its partners working in “silos” and that in order to significantly impact drug utilization they would need to involve additional stakeholders outside of the health field.

The ADUP has been actively engaged in working with key stakeholders on a provincial and national level to increase the impact on optimal drug use. The conference “Influencing Provider Behaviour in the Medication Use Process” is one example of an initiative that was highlighted by numerous key stakeholders as a significant accomplishment and an example of an ADUP initiative that was effective in increasing the awareness of the issues pertaining to optimal drug use. Key stakeholders commented that they appreciated the opportunity to learn from other jurisdictions and saw the conference as an opportunity to advance the optimal drug use “agenda.”
Lessons Learned

Findings in this section were derived through the interviews with key stakeholders of the ADUP. Individuals were asked to comment on the lessons learned since the 2002 Impact Evaluation. There were a number of responses which were similar to those identified in 2002 however the program has evolved since 2002 and some of the lessons learned pertain to program scope.

A Multidisciplinary Approach to Drug Management

A number of individuals interviewed reinforced their amazement that all of these diverse partners continue to participate in the AMCDU and work collectively towards the ADUP mandate. Most emphasized the importance of the multi-disciplinary approach in addressing drug utilization management. One key stakeholder interviewed expressed his satisfaction and excitement in stating "we can do it, we can work together and we can succeed."

Limited Project Scope

The scope of project has been slow to expand. It takes a long time to implement and expand the program. In the Impact Evaluation of 2002 key stakeholders reported some frustration with the length of time required and the effort necessary for program start up. Though these comments were not raised in this evaluation, key stakeholders did indicate that there was some frustration and disappointment in the limited scope of the program. Expansion of the BCI into the Calgary Health Region was identified as a significant program success; however stakeholders raised some concerns that if the program is going to be supported into the future, additional expansion will be necessary. One interview respondent acknowledged some frustration with the low physician participation in Alberta in comparison to “Saskatchewan RxFiles which has been able to do a lot, involve 400 physicians and complete over 1000 visits.”

Physician Behaviour Change Takes Significant Time and Effort

A number of interview respondents commented on the amount of time and effort required in assisting physicians update their prescribing habits. There was significant recognition of the benefits of the face-to-face interaction with both the academic detailer and the physician key opinion leader. However there was also discussion on the labour intensive nature of this initiative and some concerns about how the initiative can be expanded using this model.

Comprehensive Marketing Strategy Needed to Increase Awareness of ADUP

Several respondents expressed some concern that there has not been an increase in the number of stakeholders aware of the ADUP, program initiatives or accomplishments and that there is a need to increase the awareness of the program. The following statement made by one informant was consistent with a number of informants: “ADUP has a profile amongst organizations sitting at the table (AMCDU) but not within constituents of these organizations.” Suggested strategies for increasing the profile of the ADUP included a comprehensive social marketing campaign which was suggested would be valuable in raising the profile of the program and assist in expansion of the program in the future. They suggested that communication messages be targeted at provincial organizations, regional health authority decision makers, physicians, pharmacists and the general public. This being said, a comprehensive marketing campaign may be more appropriate when the ADUP initiatives are expanded beyond demonstration projects.
Local Level Champions Key to Success

Physicians and key stakeholders stressed the importance of identifying local level champions as an important component of the program success for the BCI. Local level champions have been able to facilitate communication with program participants to initiate participation, raise the profile of the program and assist with the academic detailing component of the BCI. Local level champions bridge the gap between a provincial program and tailoring the program at a local level to increase success.

Information Technology Must Support Program

Most of the interview informants stressed the importance of information technology in supporting the ADUP interventions and improved drug utilization. Pharmacists interviewed continually indicated that programs implemented in the pharmacies must account for the current IT realities in the community pharmacies. Family physicians shared a need for electronic medical records (EMR) which would ensure improved drug utilization as their patients move from the community to hospitals, to specialists and back to the community. Key stakeholders supported and spoke to both of the above issues. Effective IT technologies will help to ensure effective and efficient use of practitioner’s time.

Data Availability

Key stakeholders interviewed for this evaluation did not express the same concerns about access and the availability of data as they did in the 2002 Impact Evaluation. However, it is apparent from the completion of this evaluation that timely access and the availability of data continues to present problems for the ADUP. Without timely and appropriate data, the ADUP is unable to produce results of its interventions.

Evaluation Monitoring

The ADUP has been actively involved in implementing three key interventions to advance optimal drug use in Alberta. However it is evident through the completion of this evaluation that ongoing monitoring and evaluation of the specific interventions will ensure process improvements are identified and program enhancements are made. The ADUP has engaged in overall program evaluations which have informed the program strategic direction, however evaluations of the three ADUP interventions would provide a level of detail over and above this evaluation, and provide specific feedback and recommendations to improve the delivery of services and further enhance optimal drug use in Alberta.
AMCDU/ ADUP Recommendations

Findings for this section were developed through a strategic planning exercise with the AMCDU and select program partners and ADUP staff. The session allowed for brainstorming and crafting of critical success factors, goals, measures and strategic activities to be outlined for the next mandate of the AMCDU/ ADUP (2006-09). There are a number of significant changes from previous mandates, which are highlighted below. What follows is an overview of each of the critical success factors identified by the group, the corresponding goals, measures and strategic activities. Figure 7 provides an overview of the alignment of the ADUP with international, national and provincial drug strategies and the links with the critical success factors.

Figure 7
ADUP Program Vision and Supporting Critical Success Factors

<table>
<thead>
<tr>
<th>WHO Medicines Strategies: Countries at the Core 2004-07</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Pharmaceutical Strategy</td>
</tr>
<tr>
<td>Alberta Health and Wellness: Goals and Strategic Priorities 2005-08</td>
</tr>
</tbody>
</table>

**ADUP Vision**

The Alberta Drug Utilization Program is valued by the community it serves. It is an integral component of the health system and is effective in continuously improving drug use management strategies in the promotion of optimal health of Albertans.

- Build Effective Partnerships
- Implement Effective Drug Utilization Management Strategies
- Gain Timely Access to Data
- Attract and Use Resources Wisely
- Set Priorities based on Maximum Impact
- Raise Awareness through Education and Marketing
Critical success factors (CSF’s) were described to session participants as those things that the ADUP must concentrate on to accomplish the vision:

“The Alberta Drug Utilization Program is valued by the community it serves. It is an integral component of the health system and is effective in continuously improving drug use management strategies in the promotion of optimal health of Albertans. “

The ADUP outlined six CSF’s for realizing their vision and are detailed below.

<table>
<thead>
<tr>
<th>Build Effective Partnerships</th>
</tr>
</thead>
<tbody>
<tr>
<td>In order to accomplish the ADUP’s vision we establish and maintain partnerships within the health system. These partnerships are based on a clear and realistic purpose, commitment, ownership and trust developed through honest, frequent and effective communication.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Implement Effective Drug Utilization Management Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>We work in partnership with key stakeholders to develop drug use management strategies which have been identified through promising practice literature, research and needs of practitioners and organizations. We assess the effectiveness of the strategies by monitoring and evaluating initiatives against agreed expectations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gain Timely Access to Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to quality data on a timely basis is essential for establishing priorities, conducting studies and for evaluation and monitoring.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Attract and Use Resources Wisely</th>
</tr>
</thead>
<tbody>
<tr>
<td>We are able to acquire adequate direct and indirect resources to realize our vision. Resources are leveraged through strategic partnerships that establish common priorities and actions to improve health.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Set Priorities Based on Maximum Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>We will work with our partners to establish and follow a process for priority setting. The following factors will be considered in establishing priorities: the burden of disease, opportunities for partnership and economic impact.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Raise Awareness Through Education and Marketing</th>
</tr>
</thead>
<tbody>
<tr>
<td>We will work with our partners to increase awareness of optimization of drug therapies and the role and activities of the ADUP through educational activities, marketing and communication.</td>
</tr>
</tbody>
</table>

The CSF’s highlight the importance of partnerships, data, awareness and education, best practice strategies employed and setting priorities in the area of the optimization of drug therapies. These CSF’s were revealed through the completion of this evaluation. Key stakeholders, physicians and pharmacist highlighted all of these factors in the interview process. The program has been working diligently and strategically to this end, however the work completed on the strategic framework outlined below will provide a shift in direction in the ADUP
to being strategically focused on what they do (BCI, DUR, CPSI and future initiatives) to how they effectively and efficiently work towards the optimization of drug therapies in Alberta.

The strategic framework that follows includes goals, measures and strategic activities for the next AMCDU/ADUP mandate. Goals statements were developed based on each these critical success factors. The goals outlined are intended to be realistic and achievable within the next ADUP mandate (2006-09). The measures outlined are intended to provide an assessment of the progress towards the attainment of the goal statements. Lastly, for each CSF, goal and measures there are a number of strategic activities outlined. Together these activities will provide direction to the ADUP in working towards to the specified goals.

Outlined below are six figures, one for each critical success factor outlined above.

**Figure 8**

**Build Effective Partnerships**

<table>
<thead>
<tr>
<th>Critical Success Factor</th>
<th>Goal</th>
<th>Measure</th>
</tr>
</thead>
</table>
| Build Effective Partnerships | Through partnership the ADUP provides leadership in the optimization of drug therapies | Effectiveness of partnership:  
- Commitment and ownership  
- Trust  
- Common purpose/ goals  
- Partnership agreements |

**Strategic Activities**

- Develop a partnership process.
- Build and enhance international partnerships to contribute and acquire promising practices and strategies in the optimization of drug therapies.
- Build and enhance national level partnerships to support and advance the implementation of CCOHTA strategies in Alberta.
- Foster partnerships with provincial organizations to assist in the deployment of best practices in the optimization of drug therapies.
- Work with provincial changes initiatives to integrate/ contribute knowledge of best practices in the optimization of drug therapies.
**Figure 9**
Implement Effective Drug Utilization Management Strategies

**Critical Success Factor**
Implement Effective Drug Utilization Management Strategies

**Goal**
To implement best practice interventions to optimize drug therapy

**Measure**
- Number of and type of professionals participating in interventions
- Locations of interventions implemented
- Documentation of effectiveness of the intervention(s)

**Strategic Activities**
- Match strategy design to priorities based on best practices to implement current and additional strategies targeting similar and new professionals.
- Develop strategies in close coordination with implementation partners and considers local environment.

---

**Figure 10**
Gain Timely Access to Data

**Critical Success Factor**
Gain Timely Access to Data

**Goal**
Improved access to timely and appropriate data

**Measure**
- Number of data sources accessible
- Number of data elements within data sources
- Cycle time from data requests to receipt of data

**Strategic Activities**
- Identify essential data elements and sources that are aligned with priorities.
- Increase number of data sources (e.g., RHA’s, AHW, CIHI and other 3rd party payers).
- Work with others to improve data access efficiencies to ensure that adequate systems exist to support and monitor drug management strategies.
  - e.g., Direct access to data banks, ABC/AHW data process.
- Develop process templates to access appropriate and timely data.
**Figure 11**  
Attract and Use Resources Wisely

<table>
<thead>
<tr>
<th>Critical Success Factor</th>
<th>Goal</th>
<th>Measure</th>
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</thead>
</table>
| Attract and Use Resources Wisely | Resources are available to achieve the three year goals of the ADUP | • Change in annual budget  
• Financial leverage for projects  
• Number and type of partners contributing in-kind resources |

**Strategic Activities**

• Look at benchmark investments in jurisdictions with best practices in drug use management.  
• Develop and articulate the current and potential contribution of the program to the optimization of drug therapy in the province.  
• Identify and engage potential partners who will share resources and funding sources.

**Figure 12**  
Set Priorities Based on Maximum Impact

<table>
<thead>
<tr>
<th>Critical Success Factor</th>
<th>Goal</th>
<th>Measure</th>
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<tbody>
<tr>
<td>Set Priorities Based on Maximum Impact</td>
<td>Priorities are established based on the burden of disease, opportunities for partnership, economic impact and the efficacy of the intervention</td>
<td>Presence of impact measures for stated priorities (burden of disease, partnership opportunities, economic impact and efficacy)</td>
</tr>
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</table>

**Strategic Activities**

• Obtain clear and strong mandate from Alberta Health and Wellness.  
• Implement the most appropriate governance structure based on the mandate.  
• Design an effective consultation process with stakeholders in the system.  
• Develop criteria to collect information on the burden of disease, partnership opportunities, economic impact and the efficacy of the intervention.  
• Complete the assessment of the burden of disease, partnership opportunities, economic impact, the efficacy of the intervention and consultation with key stakeholders.  
• Based on the completed assessment, establish program priorities.
**Next Steps**

Based on the information presented in the AMCDU/ADUP evaluation and the work outlined in the strategic framework above there are a number of next steps suggested for the AMCDU and include:

1. Development of role statements for the AMCDU and the ADUP Director and Staff
2. Prioritization of the strategic activities
3. Development of action plans for the strategic activities
4. Development of a resource plan
5. Implementation of the action plans

Role statements for the AMCDU and the ADUP Director and staff should outline how these individuals or organizations contribute and play a role in the realization of the critical success factors.

The ADUP Strategic Framework outlines 23 strategic activities for the 2006-09 AMCDU/ADUP mandate. Although all the strategic activities will require action taken during the next mandate, it is recommended that they are prioritized in order to continue to build the foundation of the ADUP and use these steps and integrate this information into the next strategic activities. This will provide the AMCDU with a plan to move forward and report progress.

Once the strategic activities have been prioritized a next step will be to outline the specific activities required in order to accomplish the strategic activity and work towards the ADUP goals. These activities should be concrete steps that can be taken by the AMCDU, ADUP staff or partners and be linked to specific timelines.
Upon completion of the initial three steps, the development of a resource plan which outlines the human resource and budget requirements will be necessary. Lastly, the action plans will need to be implemented and put into action.
Conclusion

It is evident through the completion of this evaluation that during the last three years the AMCDU/ADUP has achieved its program goals and objectives, performance targets and mandate as outlined in the Accountability Framework, original strategic plan and the 2003-06 Business Plan. The ADUP has been successful in learning from previous evaluations and taking action on the recommendations outlined in the Impact Evaluation of 2002. This being said the credibility of the program evaluation could be enhanced with increased accesses to much needed quantitative data. Access to this data would improve the overall assessment of the program.

The ADUP/AMCDU has been able to use the evaluation process and results to engage provincial partners in a strategic planning session in order to build a foundation for the development of the ADUP business plan and prepare the program for its third mandate. The strategic framework highlights the value of the ADUP working collaboratively in order to optimize drug therapies in Alberta, the need for solid support of the mandate and the consideration of the resources required for the ambitious program.

Thank you to our Project Sponsor Harold Lopatka for all of his guidance and assistance in the completion of this program evaluation. Additionally we would like to thank Lynne Moser, the ADUP Evaluation Steering Committee and the AMCDU in supporting the completion of the AMCDU/ADUP program evaluation and strategic framework development.
Appendix A: Community Patient Safety Initiative

The Community Patient Safety Initiative is a community base pharmacy program. The purpose of the CPSI is to enhance patient safety and quality of care through a pharmacy-based continuous quality improvement processes that focus on patient education and medication error prevention.

This multi-strategy initiative was developed in 2004 and was implemented in April 2005 and includes the following components:

- **Continuing education**: sessions will be held at the initiation and completion of the trial project. Initial sessions include information on patient safety and errors and an overview of the program tools. The second session will provide pharmacist with the results of the pilot project.

- **Internal Quality Improvement Protocols**: includes tools and processes which will be used in the community pharmacies and includes: pharmacy self-assessment safety quiz, practice guideline checklist, patient printed educational materials (pamphlet), physician communication form, quality improvement report and medication error reporting form, quality improvement lead pharmacist available for assistance with the program.

- **Pharmacy self-assessment safety quiz**: the tool assesses individual safety characteristics relating to patient education process. The data is gathered and presented back to pharmacists by the QI leaders after 6 months.

- **Practice guideline checklist**: the checklist will be used a practice tool and as a data collection tool.

- **Printed Patient Education Materials**: the printed materials will provide information about medication safety and the pharmacist practice standards.

- **Physician Communication Form**: provides pharmacies a form to communicate with physicians (if one is not currently available in the pharmacy).

- **Quality Improvement Report**: quality improvement changes made in pharmacies over the course of the project will be documented by the QI leaders.

- **Medication Error Reporting Form**: this voluntary component of the program will collect information on medication errors.
Appendix B: 
Alberta’s Prescription Checkpoint Program Trial Prescription Initiative, Program Evaluation: Executive Summary

Alberta’s Prescription Checkpoint Program (trial prescription program) has been in operation for three years. This initiative is a drug use management strategy where a community pharmacist performs an intervention for patients starting a new medication. There is a standardized protocol that is followed by pharmacists when participating in the Checkpoint Program. All key stakeholders (pharmacists, physicians and participants) agree with the program’s goals. During the early stages, the Checkpoint Program was thriving and performed at levels greater than those seen in any other province. Participation was high; positive results were realized and the program had proven successful. Unfortunately, the program has not been able to sustain these levels of participation.

During the past two years, a series of barriers have emerged limiting the ability to maintain initial levels of participation and decreasing the momentum of the Checkpoint Program. The pattern of participation the Checkpoint Program has undergone is not atypical of what has previously been seen in other provincial and national pharmacy initiatives. Barriers that remain include the inability of some of the current pharmacy information systems to support the technical requirements of the program; low pharmacist buy-in; and lack of a champion for the program. Enhancements made to the software have not been sufficient to address efficiencies pharmacies require in their daily use. Unfortunately, after pharmacists had engaged in the program and encountered some difficulties, they have not been receptive to retrying the program (even with program enhancements).

At the September 2003 Alberta Management Committee on Drug Utilization (AMCDU) meeting, a motion was passed for a transition document to be created to conclude the pilot trial prescription program (Checkpoint) and for it to be considered for rollout to a provincial initiative. That is, that the Checkpoint Program becomes a regular feature of pharmacy claims procedures for the Alberta Health and Wellness sponsored drug plans. This direction was given based upon the value that a trial prescription program provides and the levels that were once seen with the Checkpoint Program. After assessing the current state of the Checkpoint Program, it was revealed that there were no guaranteed solutions to provide a vibrant program prior to handover. Rather, a decision was made by AMCDU to provide an evaluation of the program, identify lessons learned and to prepare the program for the future. Incorporation of a trial prescription program into WellNet is attractive; however, this is not an immediate option as significant amount of work still needs to occur in this arena. Therefore, the following two options were considered by AMCDU for the Checkpoint Program:

1. Continue running the Checkpoint Program at its current levels. While support and satisfaction are low, the program is still operating as cost neutral. Interventions are continuing to occur and therefore there is an improvement in quality of patient care.

2. Suspend the Checkpoint Program and redirect the efforts being utilized for the program toward other drug use management strategies.

At the November 2003 meeting, AMCDU was of the opinion that option (ii) is the preferred route. It is believed that the program will continue to have diminishing returns due to constant decline in program participation. Opportunity costs associated with continuing the trial prescription program would be better realized by pursuing other initiatives such as multifaceted educational interventions.
Appendix C: Interview Protocols

Interview Confirmation and Protocol: AMCDU Steering Committee

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<td>TkMC Lead Interviewer:</td>
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<td>Alternate Interviewer:</td>
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<td>TkMC contact:</td>
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Introduction:

As you know, the Alberta Management Committee on Drug Utilization was appointed in 1998 to develop and direct drug utilization review initiatives that facilitate improvements in the prescription and use of drugs in Alberta. The Alberta Drug Utilization Program (ADUP) was implemented in 1999 and as part of the process for renewal, a program evaluation is being conducted. The AMCDU has contracted the services of a management consulting firm, TkMC to complete this evaluation. The TkMC project team will work closely with physicians, advisory members, and a broad range of stakeholders to assess the achievements since 2002 and determine the long-term direction for the program.

The purpose of this interview is to:

- Assess the attainment of initiative performance targets from the business plan, achievement of outcomes measures from the accountability framework and strategic plan goals and objectives.
- Identify important lesson learned and alignment with national, provincial and regional plans and strategies.

**Drug Utilization**: is an authorized, structured and continuing program that reviews, analyzes and interprets patterns (rates and costs) of drug usage in a given health care delivery system against pre-determined standards.

**Trial Prescription**: in a trial prescription, a prescription is dispensed in two parts: an initial prescription containing a small quantity of the newly prescribed drug (trial quantity) and where appropriate, the remainder of the prescription (balance quantity). The trial quantity introduces an opportunity to test how the patient tolerates and responds to a newly prescribed medication before obtaining a large quantity.

**Academic Detailing**: goal is to optimize physician prescribing behaviour by communicating evidence based cost effective, unbiased drug information to the physicians, and non-physician providers.
Interview Questions:

1. Can you tell us how you have been involved with the AMCDU and/or ADUP?
2. What do you understand the purpose of the AMCDU/ADUP to be?
3. What is your understanding of what the ADUP is hoping to achieve?
4. In your opinion what have been the most significant program accomplishments or results since 2002? How credible are these results or accomplishments?
5. Do you think that there has been an increase in the number of stakeholders who see the AMCDU/ADUP and its initiatives as credible since 2002? (Provincial organizations, associations, educational institutions, service providers, national or international organizations?)
6. Do you think within the stakeholder organizations such as the AMA, AHW, APA there has been an increase in the number individuals who see the AMCDU/ADUP and its initiatives are credible since 2002? Why or why not?
7. Do you think that there has been an increase in participation in the program by pharmacists and doctors since 2002? Why?
8. How effective do you think that ADUP has been in increasing awareness of the program among pharmacists, physicians, patients and other stakeholders?
9. Has the number or intensity of interventions implemented to impact prescribing and dispensing habits of physicians and pharmacists changed since 2002? Program interventions include: (1) Behaviour change; (2) Drug Utilization Review; (3) Trial prescription program and (4) Community patient safety initiative.
10. In your opinion, has the ADUP been able to provide physicians and or pharmacists with quality, complete and valid information on best practices in dispensing and prescribing?
11. Has this information been successfully shared among physicians, pharmacists, industry and patients?
12. Do you believe there has been an increase in the number of pharmacists and physicians using best practices in dispensing and prescribing because of ADUP? Do you think that there have been other reasons why their behaviour has changed?
13. Are you familiar with the AMCDU Accountability Framework? The Accountability Framework allows key stakeholders such as AHW and the AMA and the APA to focus on long term objectives and resourcing based on a collaborative and facilitative framework and clear expectations, role and responsibilities. The accountability framework summarizes 27 organizational success criteria. The success criteria have been developed to be measured over time and include process criteria, output criteria, contributory outcomes criteria and ultimate outcomes criteria. In thinking of these different components do you think that the AMCDU/ADUP have met its mandate?
14. Where do you think the ADUP fits into the provincial “scheme”-the big picture? The National Scheme?
15. There are a number of activities that have been enhanced since the conception of the AMCDU and the ADUP, such as the positioning within the Calgary Health Region and the decision to move into the area of patient safety. Are there initiatives that the AMCDU/ADUP are involved in that should be built on in the future?
16. What do you feel are the major lessons learned since 2002?
17. Are there organizational changes that you think should be considered in the AMCU/ADUP was to continue as the provincial drug use management program?
18. Are there future initiatives that you think should be considered in the next mandate of the AMCU/ADUP?
19. Are there any additional comments you would like to make, things that may not have been addressed through the above questions?
Interview Confirmation and Protocol: Pharmacists

Interviewee:

Title/Department:

TkMC Lead Interviewer:

Date:

Time:

Interviewee’s Contact Info
(or assistant contact info if applicable)

TkMC Contact:

Introduction:

As you know, the Alberta Management Committee on Drug Utilization was appointed in 1998 to
develop and direct drug utilization review initiatives that facilitate improvements in the
prescription and use of drugs in Alberta. The Alberta Drug Utilization Program (ADUP) was
implemented in 1999 and as part of the process for renewal; a program evaluation is being
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determine the long-term direction for the program.

The purpose of this interview is to:

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an opportunity to test how the patient tolerates and responds to a newly prescribed medication
before obtaining a large quantity.

Academic Detailing: goal is to optimize physician prescribing behaviour by communicating
evidence based cost effective, unbiased drug information to the physicians, and non-physician
providers.
Interview Questions:

1. Can you tell me how you have been involved with the Alberta Drug Utilization Program (Drug Utilization Reviews, Academic Detailing, and Trial Prescription Programs)?

2. In your community pharmacy practice, what do you see as the top 5 issues pertaining to patient safety, cost containment and/or drug management?

3. Do you think that the ADUP has been effective in addressing any of these issues? Why or why not?

4. Is there a role you would be willing to play in addressing some of these issues? If so, what would it be?

5. Is there a role for the ADUP in addressing some of these issues? If so what would it be?

6. Are there any additional comments you would like to make, things that may not have been addressed through the above questions?
**Interview Confirmation and Protocol: Physicians**

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The purpose of this interview is to:

- Assess the attainment of initiative performance targets from the business plan, achievement of outcomes measures from the accountability framework and strategic plan goals and objectives; and
- Identify important lesson learned and alignment with national, provincial and regional plans and strategies.

**Drug Utilization**: is an authorized, structured and continuing program that reviews, analyzes and interprets patterns (rates and costs) of drug usage in a given health care delivery system against pre-determined standards.

**Trial Prescription**: in a trial prescription, a prescription is dispensed in two parts: an initial prescription containing a small quantity of the newly prescribed drug (trial quantity) and where appropriate, the remainder of the prescription (balance quantity). The trial quantity introduces an opportunity to test how the patient tolerates and responds to a newly prescribed medication before obtaining a large quantity.

**Academic Detailing**: goal is to optimize physician prescribing behaviour by communicating evidence based cost effective, unbiased drug information to the physicians, and non-physician providers.
Interview Questions:

1. Can you tell me how you have been involved with the Alberta Drug Utilization Program (Drug Utilization Reviews, Academic Detailing, and Trial Prescription Programs)?

2. Has the ADUP been able to provide you with quality, complete and valid information on best practices in prescribing?

3. How have you received information from the ADUP on best practices in prescribing?

4. Which of these have you used or consulted with most frequently?

5. In your practice, what do you see as the top 5 issues pertaining to patient safety, cost containment and/ or drug management?

6. Do you think that the ADUP has been effective in addressing any of these issues? Why or why not?

7. Is there a role you would be willing to play in addressing some of these issues? If so, what would it be?

8. Is there a role for the ADUP in addressing some of these issues? If so what would it be?

9. Are there any additional comments you would like to make, things that may not have been addressed through the above questions?
### Program Goals/ Mission

**BC Community Drug Utilization Program (British Columbia)**

To provide objective comparative drug information to physicians in North and West Vancouver (North Shore)

To encourage the use of therapeutically equivalent, less expensive medications in appropriate patients to reduce drug

To reduce drug expenditures on the North Shore.

**Therapeutics Initiative: Evidence Based Drug Therapy (British Columbia)**

To assess new and existing drug therapies by the standards of the best evidence of effectiveness in the scientific literature

To use these assessments to establish cost effective first choice drugs and recommendations for their optimal clinical use

To design and implement a variety of educational strategies to deliver the evidence and recommendations to physicians and pharmacists

To evaluate the impact of these educational approaches on physicians prescribing patterns using the Pharmacare/ Pharmanet data base and qualitative assessment methodologies

To collaborate with other national and international groups involved in education and assessment of drugs

To publish the results of the impact evaluations in peer reviewed journals

To utilize the feedback obtained to reinforce and improve the physician and pharmacist education

To act as an expert resource to Pharmcare, the provincial drug benefit program.

### Program Activities/ Initiatives

**BC Community Drug Utilization Program (British Columbia)**

- Newsletters
  - Research on each drug therapy topic is conducted
  - The information is summarized into a 2-4 page newsletter *(the review)* highlighting the comparative efficacy, safety, and costs of the drugs.
  - For a complete list of Newsletter topics see Appendix X

- Academic Detailing
  - Following distribution of *the review*, the program’s pharmacist conducts a 15-30 minute academic detailing session with participating family practice physicians.

**Therapeutics Initiative: Evidence Based Drug Therapy (British Columbia)**

- Drug Assessment
  - The Drug Assessment Working Group (DAWG) follows a predefined protocol with a research question, literature search strategy and seeks evidence regarding clinically validated outcome measures.

- Therapeutics Letter
  - Bi-monthly newsletter targeting identified problematic therapeutic issues.

- Courses
  - Offer a two day drug therapy course for physicians and pharmacists (and receive CME credits)

  - Offer “closer to home” community small group drug therapy educational session, focusing on Optimizing Patient Benefit, local pharmacare data is used to demonstrate current prescribing habits and includes post education evaluation on prescribing habits.

- Evaluation
  - Evaluate the impact of the newsletters using RCT, teleconferences, courses are evaluated using a controlled time series design and one on one education is evaluated by both types of study design.
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<th>Program (location)</th>
<th>Program Goals/ Mission</th>
<th>Program Activities/ Initiatives</th>
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| Drug Evaluation Alliance of Nova Scotia (Nova Scotia)                             | The mission of the Drug Evaluation Alliance of Nova Scotia (DEANS) is to contribute to the health of Nova Scotians by encouraging appropriate drug use. | Academic Detailing  
• The ADS is available to all physicians in Nova Scotia, but participation is completely voluntary  
• DEANS provides direction on the topics addressed, monitors the execution and evaluation of each ADS topic and encourages and oversees complementary interventions. |
| The Rx Files Academic Detailing Program (Saskatchewan)                           | To provide objective, current, unbiased drug information to physicians  
To enhance patient care  
To encourage the use of therapeutically equivalent, less costly medications when appropriate | Newsletter  
• The RxFiles summarizes key therapeutic points and compares relative efficacy, safety and cost.  
Academic Detailing  
• Visits of 15-20 minutes cover newsletter highlights and specific questions related to the topic  
Email and Website Updates  
• Includes updated charts and questions and answers from the AD visits  
RXFiles Drug Comparison Charts in PALM Format  
Special Education Sessions related to RxFiles topics  
New Physician RxFiles Orientation  
RxFiles Binders:  
• With previous newsletters is available to Saskatchewan health professionals, |
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<th>Program (location)</th>
<th>Program Goals/ Mission</th>
<th>Program Activities/ Initiatives</th>
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| **Alberta Drug Utilization Program** *(Alberta)* | To employ a multi-faceted intervention strategy to optimize drug management strategies and behaviours. 
To determine and put into place effective provincial drug use management directions, approaches and systems. 
To monitor trends and utilize knowledge about advances in drug management in the work of the AMCDU. 
To identify 'best practices' and make them available to all professionals and the public. 
To create a culture of continuous innovation in drug utilization review, trial prescriptions and academic detailing. 
To develop success criteria for the AMCDU governance and operational structures and processes. 
To liaise with the developers of We//net to ensure development of an appropriate pharmaceutical database of utilization. |
|                                   | Academic Detailing                                                                                                                                                                                                                                                            | • To develop a prototype AD model 
• To identify major implementation barriers 
• To identify useful strategies for overcoming barriers 
• To evaluate the model according to contributory and ultimate outcome measures 
• To identify modifications required for use in other drug groups, clinical conditions and health regions 
• To suggest strategies for province wide implementation within other regions following evaluation of the project.  |
|                                   | Drug Utilization Reviews                                                                                                                                                                                                                                                     | • To conduct and implement DUR's on selected prescription drugs 
• For each utilization, data will be collected and analyzed, and analysis recommendations made for remedial action(s). 
• An "audit and feedback” system will be implemented to support and monitor clinical performance of health care over a specified period of time. 
• Both comparative and non-comparative feedback will be given to prescribers and dispensers. The impact from variations in feedback content, source, timing, recipient and format will be examined. |
<p>|                                   | Community Patient Safety Initiative                                                                                                                                                                                                                                         | Information unavailable: webpage in French                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <strong>Conseil du Medicament</strong> <em>(Quebec)</em> | Information unavailable: webpage in French                                                                                                                                                                                                                                  | Information unavailable: webpage in French                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |</p>
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| Drug Information and Research Centre (Ontario) | To contribute to improved health and quality of life for the people of Ontario through effective drug therapy. To help reduce health care costs caused by inappropriate prescribing, incorrect drug utilization and drug wastage. To support the key role of pharmacists in the health care system. | Drug Information  
- Drug Information Services  
- Call Centre  
- Sign-Up Drug Information Services  
- Publications  
- Web Access  
eDIRC bulletin  
Medical Information Services  
Consulting  
- New Drug Evaluations  
- Development of therapeutic guidelines  
- Medical writing  
- Continuing Education Consultation and Presentations  
- Content Experts  
- Clinical medication management  
Educational Services  
Research |
| Canadian Coordinating Office for Health Technology Assessment (CCOHTA): Canadian Optimal Medication Prescribing and Utilization Services (COMPUS) (Canada) | COMPUS will strive to achieve optimal drug related health outcomes, improved quality of life and cost effective use of medication by changing attitudes, knowledge, skills and ultimately behaviours of health care providers and patients/consumers. | Collect and evaluate information on best practices initiatives  
- Targeted information materials, (specific providers provided with CPG’s, physician decision support tools, drug bulletins, or self-education materials)  
- Active interventions (e.g. physician profiling, reminder systems, academic detailing, direct patient education and counselling)  
- Policy interventions (e.g. generic substitution, reference based pricing or special authorization).  
- Develop and maintain a catalogue of evidence based best practice information and cost effective best practice initiatives.  
Communication  
- Communicate information through web site, targeted email distributions, education activities, workshops and conferences  
Develop and disseminate strategies and tools that will assist in the implementation and evaluation of best practices initiatives.  
Support and encourage the implementation and evaluation of best practices initiatives  
Link and exchange information with national and international parties active in best practices  
Identify gaps in best practice knowledge that may guide research in the field |
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<td>National Pharmaceutical Strategy (Canada)</td>
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<td>• Catastrophic coverage: develop, assess and cost options</td>
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<td>• Safety and Effectiveness</td>
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<td>• Prescribing Behaviours: enhance action to influence prescribing behaviour</td>
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<td>• Cost Drivers and Cost-Effectiveness: enhance analysis of cost drivers and cost effectiveness, including best practices in drug plan policies</td>
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<td>• E-Prescribing: accelerate the development and deployment of HER</td>
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<td>Pricing and Purchasing</td>
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<td>• Overall purchasing strategies</td>
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<td>• Access to Non-Patented Drugs</td>
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<td>Pharmacoepidemiology &amp; Pharmacoeconomics (Massachusetts)</td>
<td>BWH Department of Medicine created the Division of Pharmacoepidemiology and Pharmacoeconomics to provide a setting for a wide range of activities related to the use and outcomes of medications, addressed from a variety of interdisciplinary perspectives.</td>
<td>Research</td>
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<td>• Carries forward the research agenda of the Program for Analysis of Clinical Strategies</td>
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<td>Training</td>
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<td>• On cost-effective prescribing, and analytic tools necessary to critically read and understand papers in the medical literature which relate drug benefits, risks, and costs.</td>
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<td>Academic Detailing</td>
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<td>Improving drug utilization at BWH</td>
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<td>• Assess drugs proposed for addition to the Hospital formulary</td>
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<td>• Monitor the appropriateness of use of existing drugs.</td>
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<td>• Educational interventions disseminated as needed to improve use of specific targeted agents.</td>
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<td>Center for Professional Drug Education (Pennsylvania)</td>
<td>The primary goal of our DPW contract work is to improve patient outcomes for the Medicaid population. The secondary goal is to decrease overall patient care costs. As part of its DPW contract, the Center also makes available educational pharmacotherapeutic materials to Pennsylvania physicians and publishes a quarterly newsletter, Counter Details, &quot;The Educational Difference.&quot;</td>
<td>Drug Utilization Review (DUR) program Education to Pennsylvania physicians. Newsletter</td>
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<td>Program (location)</td>
<td>Program Goals/ Mission</td>
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<td>Drug Management Review Advisory Board (Kentucky)</td>
<td>The purpose of the Drug Management Review Advisory Board is to serve in an advisory capacity to the Secretary of the Cabinet for Health and Family Services and the Commissioner of the Department for Medicaid Services on retrospective and prospective Drug utilization review and disease management.</td>
<td>Drug Utilization Reviews</td>
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<td>Program (location)</td>
<td>Program Goals/ Mission</td>
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<td>National Prescribing Service</td>
<td>To improve the health of all Australians through Quality Use of Medicines in partnership with stakeholders by: • Supporting nationally coordinated approaches to Quality Use of Medicines • Providing independent information about medicines to health professionals and consumers • Delivering messages about medicines to health professionals and consumers using multiple strategies and services to support change in behaviour • Encouraging and supporting cross-discipline and cross-sector collaborations that promote Quality Use of Medicines • Utilising incentives that support Quality Use of Medicines initiatives Undertaking ongoing evaluation.</td>
<td>Education and Quality Assurance Services for Health Professionals • Providing general practitioners, pharmacists, specialist medical practitioners, and hospital-based doctors with independent therapeutic information as well as the opportunity to review their own prescribing. • The program incorporates adult education, social marketing and behaviour change strategies and operates at national and local levels, providing evidence-based information and using evidence-based strategies where possible Curriculum and Training • Provides grounding in QUM for students and young prescribers in professional practice through formal education and training. Pharmaceutical Decision Support • Provides reliable information and prompts when the information is most pertinent to decision-making. • GPs provided with methods for extracting prescribing data for quality assurance purposes such as practice-based drug use evaluations, peer group discussions and clinical audit. • Develops software guides that promote the use of NPS patient materials or raise the GPs’ awareness of the functionality of their software to support QUM in the electronic prescribing environment. Community Quality Use of Medicines • Promoting consumer and community understanding and awareness of choices between the use of medicines and other approaches to health problems Australian Prescriber • Australian Prescriber is the leading therapeutics journal in Australia. • The journal contains information and reviews on a variety of therapeutic topics of interest to its readership. New Drugs • Provide timely and independent information to prescribers and consumers on new and revised listings to the PBS. Information Services • Telephone advice line for health professionals • Therapeutic advice and information service (TAIS), and a similar service for the community, Medicines Line Research and Development Programs • Provide innovative models or methods for program implementation that deal with barriers to change and gaps in the evidence-base to achieve sustainable improvements in the use of medicines.</td>
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| National Prescribing Centre (United Kingdom)  | To promote high quality, cost-effective prescribing and medicines management, in the wider context of evidence-based practice, through a coordinated and targeted programme of activities supporting relevant NHS professionals and senior managers | Education and Development  
- Delivers a coordinated programme of events aimed at supporting Strategic Health Authorities, Primary Care Trusts and practice-based prescribing advisers; support personnel; senior professionals and managers; prescribers and other relevant professionals across the NHS.  
- Provides a significant number of targeted therapeutic workshops, day seminars and national conferences are run throughout the year.  
Medicines Management Services (MMS)  
- Through The MMS project team manages the extensive National Medicines Management Services Collaborative Programme, the overall goal of which is: "… to help optimise prescribing, plus the experiences and outcomes for each patient, wherever medicines are involved".  
- This programme runs in both primary care and hospital environments.  
MeReC Publications  
- Produces three publications: MeReC Bulletin, MeReC Extra and MeReC Briefing.  
- The topics covered by these publications are usually clinical and are aimed at providing concise, evidence-based information about medicines and prescribing-related issues.  
New Medicines Scheme  
- Inform key purchasers, in both primary and secondary care, of new medicines that may have significant therapeutic, financial and service impact on the health service.  
- A number of information resources are produced each year to facilitate effective early consideration of any potentially necessary local management action.  
- by continuing to keep Strategic Health Authorities, Primary Care Trusts and other relevant NHS staff informed of key information emerging from both the NHS Research and Development and Health Technology Assessment initiatives, and by contributing to the identification of important technologies for further NHS funded research. |
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<td>National Prescribing Centre (United Kingdom) (continued)</td>
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<td>Non-Medical Prescribing Support</td>
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<td>• Provides significant input into national policy development and implementation, and</td>
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<td>also helps support the local introduction, of prescribing by professionals other than doctors.</td>
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<td>• A range of resources (paper and web-based), e.g. profession-specific competency</td>
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<td>frameworks, and provide therapeutic training to assist those with a prescribing role in</td>
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<td>maintaining their competence are produced.</td>
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<td>NPC Plus Programme</td>
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<td>• Develop and deliver more locally focused support to healthcare organisations.</td>
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<td>Dissemination of Good Practice</td>
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<td>Information Technology</td>
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<td>Regional Drug and Therapeutics Centre (Newcastle)</td>
<td>The aim of the Regional Drug Therapeutics Centre is to promote safe, effective and</td>
<td>• Adverse drug reaction monitoring</td>
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<td>economical use of medicines in the NHS in the Northern and Yorkshire Region</td>
<td>• Critical appraisal and drug evaluations</td>
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<td>• Education and training</td>
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<td>• Medicines information services</td>
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<td>• Poisons information services</td>
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<td>• Prescribing analysis and support</td>
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<td>• Teratology information services</td>
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<td>• WHO Collaborating Centre for Drug Policy</td>
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<td>FKL – The Research Centre for Quality in Medicine Use (Denmark)</td>
<td>The overall objectives of the projects are to provide scientific evidence to optimize</td>
<td>• Analysing associations between medicine use and the population’s health, health</td>
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<td>the professionals’ pharmacotherapy and the population’s medicine use.</td>
<td>behaviours and socio-economic conditions.</td>
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<td>• Analysing associations between prescribing behaviours and practice characteristics and</td>
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<td>performances.</td>
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<td>• Exploring the users’ experiences, assessments and strategies in medicine use.</td>
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<td>• Exploring the physicians’ intentions, rationales, and strategies in relation to medicine</td>
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<td>prescribing.</td>
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<td>• Interventions in health care aiming at optimising medicine use, including evaluation of</td>
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<td>processes and effects.</td>
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<td>• Analysing activities and processes in pharmacy practice.</td>
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<td>Program (location)</td>
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| Britain Nepal Medical Trust (Nepal) | BNMT aims to assist the people of Nepal to improve their health. We do this by working in partnership with the Ministry of Health, international and local NGOs, local committees and communities to establish and maintain sustainable basic health services | Training and Capacity  
People’s empowerment  
Advocacy  
Institutional development and strengthening |
| National Drug and Therapeutics Policy Advisory Committee (Zimbabwe) | To advise the Secretary for Health on all issues pertaining to drugs: Review Zimbabwe’s essential drug list and standard treatment guidelines. | Develop the national HIV/AIDS standard treatment guidelines  
Develop Zimbabwe’s antiretroviral guidelines  
Monitor the availability of drugs and rational use of drugs |
| Churches Health Association of Zambia | To provide access to quality, cost effective and safe drugs and medical supplies as close to the family as possible | Ensuring availability, accessibility and reliability of safe and high quality drugs by the most cost effective means  
Providing professional, technical and capacity building services on drug management in mission health institutions |
| Best Practice Advocacy Centre (New Zealand) | Best Practice Advocacy Centre New Zealand is an independent organization whose role is to promote the responsible use of pharmaceuticals to general practitioners and other health professional groups throughout New Zealand. | Develop and distribute resources that provide prescribers with a sound basis on which to review the way they prescribe for and treat their patients  
Provide clear, concise and relevant information based on the best available evidence  
Use a collaborative and cooperative approach coupled with appropriate marketing and market analysis to ensure we develop positive programs targeted to meet the needs of prescribers and patients. |
| AIS- Nicaragua | To promote the quality of care through promotion of access to and rational use of drugs, considering access to health care as a human right | Lack of access to essential drugs at an affordable price in the private market  
Lack of access to and use of independent information about drug use by doctors and other primary health care workers  
Lack of training on rational drug use and evidence-based medicine in health systems and medical schools  
Insufficient participation of civil society in implementation of the national drug policy. |
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<td>World Health Organization</td>
<td>People everywhere have access to the essential medicines they need; that the medicines are safe, effective, and of good quality; and that the medicines are prescribed and used rationally.</td>
<td>Establishment of a multidisciplinary national body to coordinate policies on medicine use. Use of clinical guidelines Development and use of national essential medicines list Establishment of drugs and therapeutics committees in districts and hospitals Inclusion of problem based pharmacotherapy training in undergraduate curricula Continuing in-service medical education as a licensure requirement Supervision, audit and feedback Use of independent information on medicines Public education about medicines Avoidance of perverse financial incentives Use of appropriate and enforced regulation Sufficient government expenditure to ensure availability of medicines and staff</td>
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Appendix E: References


