

**National Divisions Diabetes Program**



# **Cardiovascular – quality of care and health outcomes**

**National Divisions Diabetes Program  
Divisions Diabetes & CVD Quality Improvement Project**

*Divisions improving quality of care &  
health outcomes in chronic disease*

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## 1.0 Purpose of the study

The study aimed to describe the quality of care being offered by GPs who participate in Division based cardiovascular programs over the three years of the study 2000-2002. In this case, quality of care is interpreted as care according to clinical management guidelines for patients with cardiovascular disease and/or diabetes. The data presented are aggregated data from Divisions of General Practice with an active cardiovascular program or a cardiovascular and diabetes integrated program using CARDIAB as the Division register. There were 10 Divisions with a combined cardiovascular and diabetes program (with 4 Divisions included with patient registrations of <10). There were 8 Divisions with a cardiovascular program (with 3 Divisions with patient registrations of <10).

## 1.1 Methods used

Criteria for inclusion: Only Divisions with active registers were included. Data were reported separately for programs where patients were registered only for cardiovascular programs compared to those programs where patients were registered in both CVD and diabetes programs.

Quality of care indicators:

QOC: this indicator describes the percent of registered patients having the nominated assessment where the GP was seen at least once in that year. It does not represent the total numbers of patients on the register for each year. The two tables are results where patients were enrolled in a CVD program only and where patients were enrolled in both a CVD and diabetes program.

## 1.2 Key findings

Increase in numbers of patients having assessments in different programs:

- For all programs, the numbers of patients having assessments increased over the three years.
- The increase in total patient registrations who saw the GP in the given year was similar from 2000-2001 (42.2%) and 2001-2002 (45.2%).
- The increase in patient numbers was greatest in CVD only programs in 2001-2002 (65%).
- Quality of Care (QOC) improved across the three years for all indicators in diabetes and CVD programs, except for HbA1c and microalbumin.
- QOC improved across the three years for all indicators in CVD only programs except for blood pressure and total cholesterol (decreases occurred).
- QOC for BMI improved in both CVD only and diabetes and CVD programs. The health outcome indicator for BMI was much better for the CVD only program, than the CVD and diabetes program.
- QOC for blood pressure and total cholesterol improved in diabetes and CVD combined programs, whereas it decreased for CVD only programs.

## Health outcomes

- The health outcome indicators of patients registered on both a diabetes and CVD program were not as favourable as those on a diabetes program alone.
- Net improvements in health outcomes across the three years were found for total cholesterol, LDL, and triglycerides for patients registered on a diabetes and CVD program.
- Patients enrolled on a CVD only program had improved health outcome indicators overall for BMI, total cholesterol, HDL and LDL.
- There was a difference in the percentage of patients with health outcomes within target across the three years for BP depending on whether patients were in a CVD only or combined diabetes/CVD program. There were less patients within target in the combined program. This is only partly due to the different BP targets applicable to these two groups (<140/90 for CVD only and <130/85 for diabetes/CVD). The difference remains when the diabetes/CVD group are analysed with the target of 140/90 although it is not as great.

## 1.3 Detailed findings

### Implications (GP, patient, Division, health care planners)

#### **Consumers:**

Patients on CVD programs (including diabetes and CVD) are improving, but could benefit from prompting their GP to measure and record their blood pressure and cholesterol, according to the guidelines, to receive better health outcomes.

#### **GPs:**

GPs need to pay more attention to conducting blood pressure and total cholesterol assessments on all patients more regularly. For patients with comorbidities (ie: those enrolled in diabetes and CVD programs), this is particularly important, as the targets for control are even lower. Interventions, such as dietary changes, increased physical activity and prescription of pharmacotherapies may be initiated to assist in achieving better health outcomes.

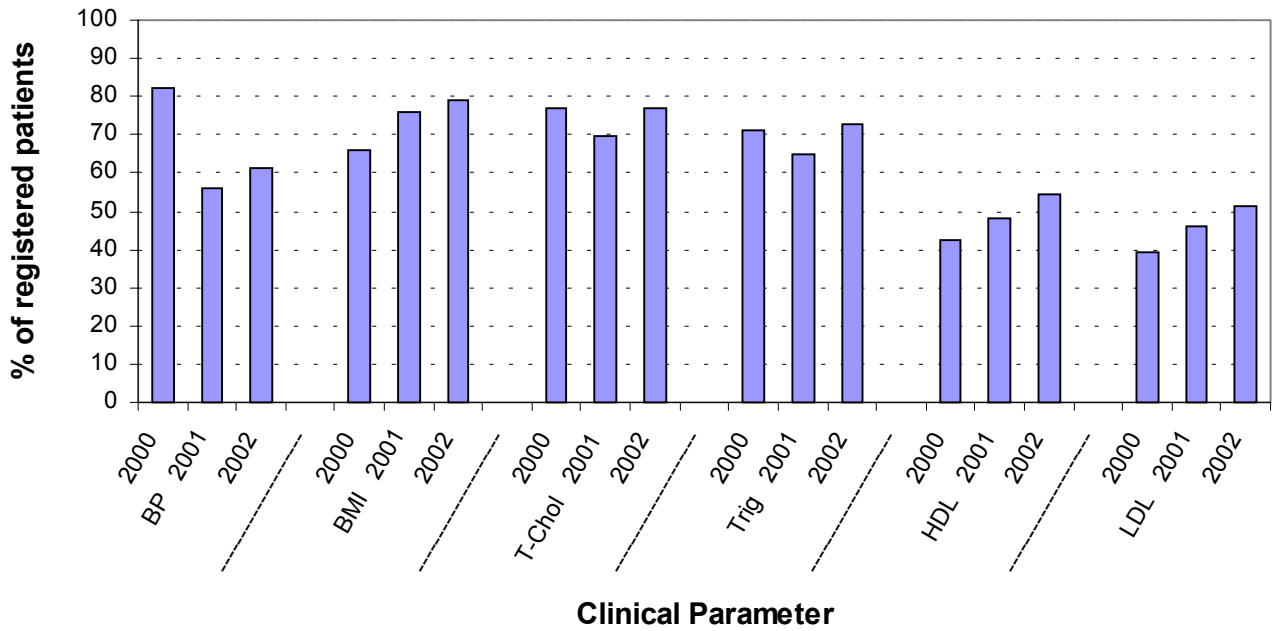
#### **Divisions:**

CVD programs are feasible and can be conducted in association with a diabetes program, as the indicators are similar between diseases. Divisions could assist their members by providing support and education in conducting recall and appropriate assessment of all patients with cardiovascular disease and detecting at risk populations. Exercise programs may produce an impact on BMI and HDL, particular for CVD patients. Better health outcomes were seen for patients enrolled in CVD only programs (compared to diabetes and CVD programs) in regard to BMI. This is particularly so for patients who are overweight or obese, meaning that improvements in these groups are possible.

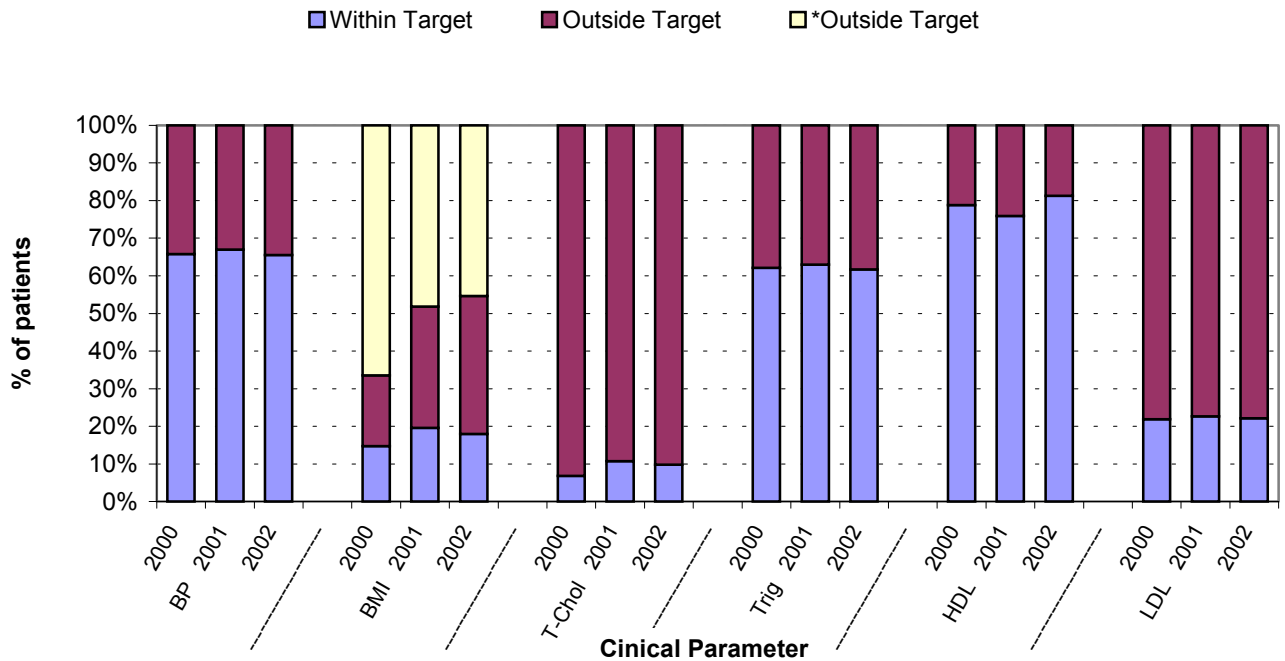
**Policy makers:**

Due to the small numbers enrolled in CVD programs overall, caution should be given when making conclusions about the health outcomes of the data. The results indicate that the increase in numbers of patients on registers, numbers of patients having assessments and median numbers of patients across Divisions have all increased across the three year period. It could be argued that these increases reflect the impact of the NIDP diabetes incentives for patients enrolled on combined programs (ie: diabetes and CVD). This is illustrated particularly in the results for blood pressure and total cholesterol in CVD only programs, compared to diabetes and CVD programs. The better monitoring of patients with CVD could be due to the structured care format of the diabetes incentives, which measure cardiovascular activities (such as BP, BMI, lipids). The results of BMI and the focus on physical activity in CVD programs (as part of SNAP) and provision of dietetic and education services may be having a real impact on BMI and HDL levels, but further research would be required to confirm this.

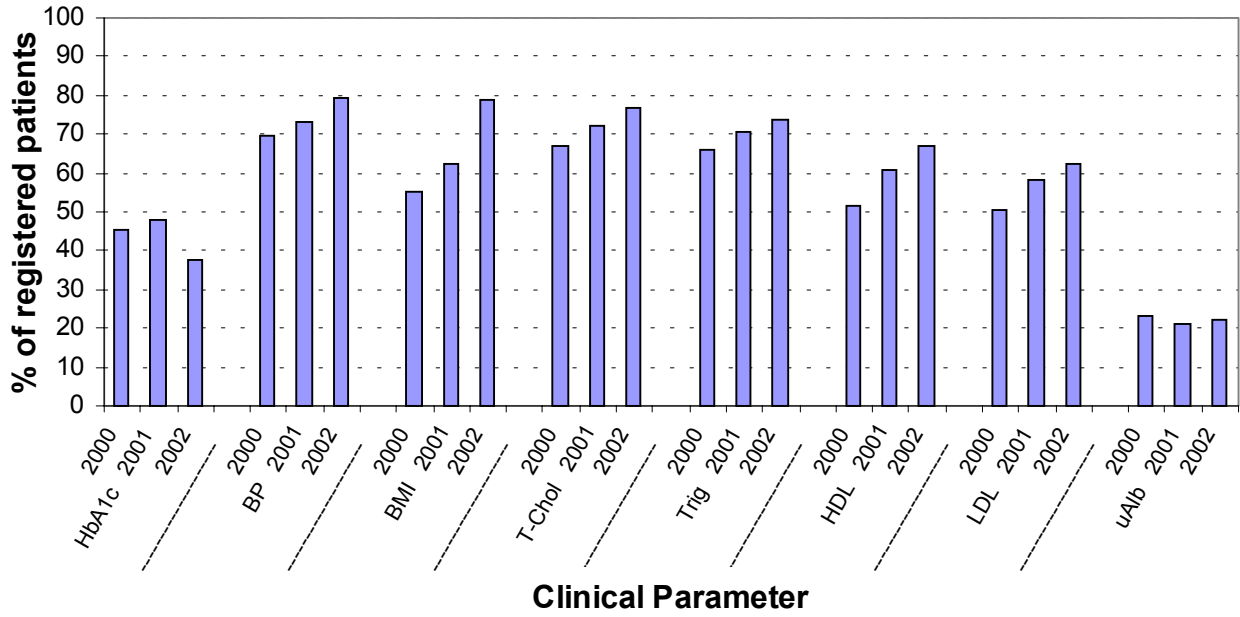
## Quality of Care for CVD only program



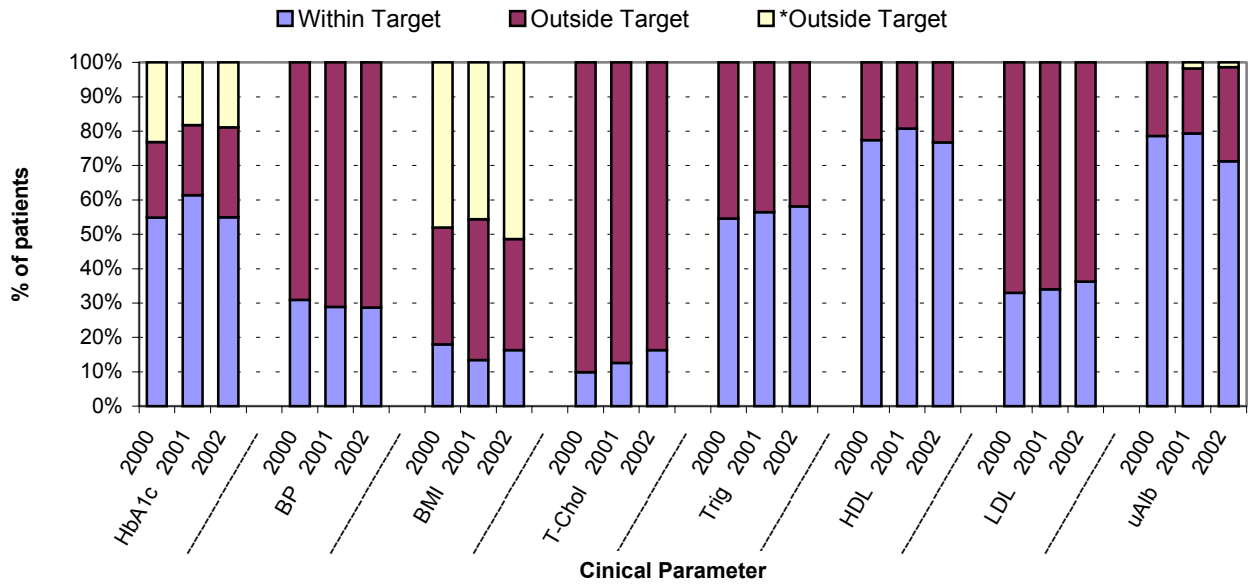
## Health Outcomes for CVD only program



## Quality of Care for CVD and Diabetes program



## Health Outcomes for CVD and Diabetes program



**Table 1: Percent of patients having assessment where the GP was seen at least once that year for CVD only program, 2000-2002 aggregate data**

Assessment	Percent of patients having assessment, all Divisions (n=8) 2000		Percent of patients having assessment, all Divisions (n=8) 2001		Percent of patients having assessment, all Divisions (n=8) 2002	
	%	n	%	n	%	n
BP	82.0	219	55.9	203	61.4	368
BMI	65.9	176	76.0	276	79.1	474
Total cholesterol	77.72	206	69.4	252	76.8	460
HDL cholesterol	42.3	113	47.9	174	54.4	326
LDL cholesterol	39.3	105	46.3	168	51.3	307
Triglycerides	71.2	190	64.7	235	72.8	436

**Table 2: Percent of patients having assessment where the GP was seen at least once that year for CVD and Diabetes program, 2000-2002 aggregate data**

Assessment	Percent of patients having assessment, all Divisions (n=10), 2000		Percent of patients having assessment, all Divisions (n=10), 2001		Percent of patients having assessment, all Divisions (n=10), 2002	
	%	n	%	n	%	n
HbA1c	45.3	82	48.2	132	37.4	122
BP	69.6	126	73.4	201	79.1	258
BMI	55.2	100	62.4	171	78.8	257
Total cholesterol	66.9	121	72.3	198	77.0	251
HDL cholesterol	51.4	93	60.6	166	67.2	219
LDL cholesterol	50.3	91	58.0	159	62.6	204
Triglycerides	65.7	119	70.4	193	73.9	241
Microalbumin	23.2	42	21.2	58	22.4	73