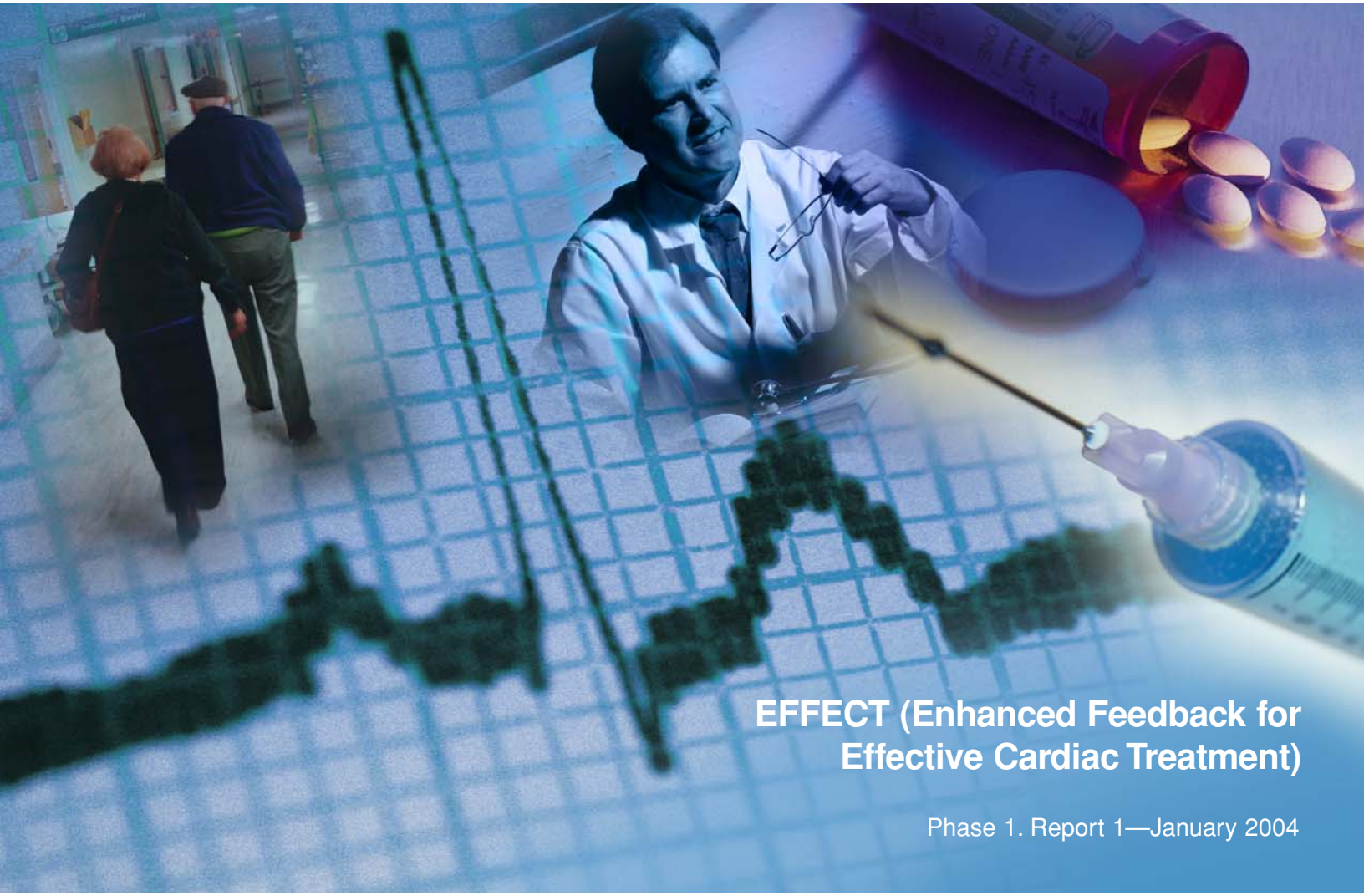
Canadian Cardiovascular Outcomes Research Team

CCORT

Quality of Cardiac Care in Ontario

Executive Summary



EFFECT (Enhanced Feedback for Effective Cardiac Treatment)

Phase 1. Report 1—January 2004

ICES Institute for Clinical Evaluative Sciences

Ontario's research resource for informed health care decision-making

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HEART AND STROKE FOUNDATION

Executive Summary

Background

Cardiovascular disease continues to claim the lives of many Canadians and creates enormous disability for those who survive. While considerable progress has been made in developing effective treatment and therapies, significant opportunities remain to improve the quality of cardiac care provided for the benefit of all Canadians.

It is well known that there is an unacceptable delay between the availability of conclusive clinical trial evidence and its application to patient care. At the same time, it is challenging for clinicians to stay current due to the rapidly increasing volume of available information. Improving the quality of care increasingly rests on the ability to efficiently translate research knowledge into practice, so that patients may benefit sooner from the available scientific evidence.

Many jurisdictions, including Canada, have identified goals for improving the quality of cardiac care by improving the use of evidence-based therapies. The **Enhanced Feedback For Effective Cardiac Treatment (EFFECT) Study** focuses on a number of well-defined quality indicators demonstrated to improve patient outcomes and can provide direction and focus to quality improvement efforts for cardiac care. The investigators hope that the EFFECT Study will assist Ontario health care organizations to reduce the gap between research and practice and to continue to improve the quality of cardiac care for all Ontarians.

EFFECT Study

The EFFECT Study is one of the largest and most comprehensive initiatives in the world to measure and improve the quality of cardiac care. Using a randomized trial of cardiac care report cards, the study's objective is to determine whether developing and publishing report cards based on clinical data collected from patient charts leads to greater use of evidence-based therapy at hospitals that receive them.

The three-phase study focuses on acute myocardial infarction (AMI) and congestive heart failure (CHF) and involves 85 hospital corporations (consisting of 103 acute care hospitals) in Ontario.

Phase I. A retrospective chart review of hospitalizations for clinical data from 1999/00 and 2000/01 is being conducted for the 85 Ontario hospital corporations, which were randomized to two groups: Group A, early feedback (44 hospital corporations/53 hospitals) and Group B, delayed feedback (41 hospital corporations/50 hospitals).
Report 1. Report Cards on Group A. Released January 2004
Report 2. Report Cards on Group B. Data collection is still ongoing, and following analysis, will be released to hospitals in the fall of 2004.

The Phase I. Report 1 study sample consists of 5,958 AMI charts and 5,296 CHF charts for the Group A hospitals. In addition to demographic and treatment information, data also focus on two sets of quality indicators (one for AMI care and one for CHF care) specifically developed for use in this study by two expert panels whose membership included clinical leaders in cardiology, internal medicine, family practice, nursing, pharmacy and epidemiology.

Phase II. Report Cards for Group A & B (Release in 2005/2006)
Group A. Retrospective chart review for 2004/05 hospitalizations
Group B. Retrospective chart review for 2003/04 hospitalizations

Phase III. Final Report (Release in 2006)
Impact Assessment: A comparison of results/improvement from Phase I to Phase II.

Key Findings

Discussion of key findings includes the term "ideal" patients. An ideal patient is one who has the condition of interest e.g., AMI, has no contraindications to the specified intervention and is alive at the time of intervention.

AMI Care

- **Most (80%) Ontario AMI patients have at least one modifiable cardiac risk factor**—similar to the rates reported in a recent U.S. study.[1] Thirty-three percent of AMI patients in the EFFECT Study were current smokers, 44% were hypertensive, 31% had hyperlipidemia and 26% were diabetic.
- **Median "door to needle" time** for thrombolytic reperfusion therapy in Ontario hospitals is 37 minutes and approaching the target of $\leq$ 30 minutes.[2] The "door to needle" times were 11 minutes less when the Emergency physician made the decision to administer thrombolytic therapy and 10 minutes less when thrombolytic therapy was administered in the Emergency Department rather than in CCU/ICU.
- **Aggregate secondary prevention rate of 79%** in ideal patients is good overall (target is $\geq$ 85%). However, approximately one in five Ontario AMI patients did not receive acetylsalicylic acid (ASA), beta-blockers, angiotensin converting enzyme (ACE) inhibitors or statins at hospital discharge when they were clinically indicated.
- **Potential to save 178–250 lives** of the approximately 17,000 new AMI patients in Ontario each year, if we can further improve the secondary prevention rate, by ensuring all appropriate patients receive ASA, beta-blockers, ACE inhibitors and statins at hospital discharge.
- **The 30-day mortality rate was 12% and the one-year-mortality rate was 20%** for AMI patients in the EFFECT Study. The one-year AMI re-admission rate was 11%.

AMI Care Areas Identified for Continued Improvement

- **Reperfusion therapy** could be made available to more patients—41% of patients presenting with ST-segment elevation MI (STEMI) did not receive this therapy.
- **"Door to needle" time** could be improved at a number of hospitals by ensuring thrombolytic therapy is initiated by the Emergency physician in the Emergency department rather than by a consultant or after transfer to CCU/ICU.
- **Lipid testing within the first 24 hours** of admission could be improved from the current level of 36%—target level is $\geq$ 85%.
- **Early administration of ASA and beta-blockers** in ideal patients warrants improvement, as does the rate of secondary prevention (ASA, beta-blockers, ACE inhibitors and statins) at many Ontario hospitals. Increased use of standard admitting orders and/or discharge plans could lead to higher utilization rates.

Key Findings

CHF Care

- **Most (71%) Ontario CHF patients have at least one modifiable cardiac risk factor**. Twelve percent of CHF patients were current smokers, 48% were hypertensive, 19% had hyperlipidemia and 34% were diabetic.
- **Most (82%) ideal CHF patients are receiving ACE inhibitor medications** which serve to improve survival and reduce hospitalization rates. The target level is ≥ 85%.
- **Less than half (39%) of ideal CHF patients are receiving beta-blockers at hospital discharge,** which improve survival and reduce hospitalization rates.
- **Potential to save 70–156 lives** of the 14,000 new CHF patients in Ontario each year, if all ideal CHF patients received ACE inhibitors and beta-blockers at hospital discharge.
- **The 30-day mortality rate was 12% and the one-year mortality rate was 33%** for CHF patients in the EFFECT Study. The one-year CHF re-admission rate was 26%.

CHF Care Areas Identified for Continued Improvement

- **More Ontario CHF patients could benefit from beta-blocker medications**, as current utilization of 39% among ideal patients at hospital discharge is below the target of ≥ 50%.
- **Improved access to and greater utilization of echocardiography** to measure left ventricular (LV) function would improve management of patients with CHF. Study data indicate 52% of patients had documented LV function measurement, whereas the target level is ≥ 75%.
- **More patients with atrial fibrillation could benefit from Warfarin therapy** as current utilization among ideal patients at discharge is 55% compared to the target level of ≥ 85%.
- **Provision and documentation of counselling (on topics such as diet, medications, symptoms, daily weights) for more CHF patients** could lead to improved patient outcomes. The current rate is 66% whereas the target is ≥ 90%.