

## Treating the right patient at the right time: Access to specialist consultation and noninvasive testing

Merril L Knudtson MD<sup>1,2</sup>, Rob Beanlands MD<sup>3</sup>, James M Brophy MD<sup>4</sup>, Lyall Higginson MD<sup>3</sup>, Brad Munt MD<sup>5</sup>, John Rottger MD<sup>6</sup>, on behalf of the Canadian Cardiovascular Society Access to Care Working Group

ML Knudtson, R Beanlands, JM Brophy, L Higginson, B Munt, J Rottger, on behalf of the Canadian Cardiovascular Society Access to Care Working Group. Treating the right patient at the right time: Access to specialist consultation and noninvasive testing. *Can J Cardiol* 2006;22(10):819-824.

The Council of the Canadian Cardiovascular Society commissioned working groups to examine issues of access to, and wait times for, various aspects of cardiovascular care. The present article summarizes the deliberations on targets for medically acceptable wait times for access to cardiovascular specialist evaluation and on the performance of non-invasive testing needed to complete this evaluation. Three categories of referral indications were identified: those requiring hospitalization due to substantial ongoing risk of mortality and morbidity; those requiring an expedited early review in an ambulatory setting; and, finally, a larger category in which delays of two to six weeks can be justified. The proposed wait time targets will provide guidance on the timeliness of care to busy clinicians charged with the care of patients with cardiovascular disease, help policy makers appreciate the clinical challenges in providing access to high quality care, and highlight the critical need for a thoughtful review of cardiology human resource requirements. Wait time implementation suggestions are also included, such as the innovative use of disease management and special need clinics. The times proposed assume that available clinical practice guidelines are followed for clinical coronary syndrome management and for treatment of associated conditions such as hypertension, diabetes, renal disease, smoking cessation and lipid disorders. Although media attention tends to focus on wait times for higher profile surgical procedures and high technology imaging, it is likely that patients face the greatest wait-related risk at the earlier phases of care, before the disease has been adequately characterized.

**Key Words:** Access; Canadian Cardiovascular Society; Consultation; Noninvasive testing; Wait times

In 2004, the Council of the Canadian Cardiovascular Society formed a working group ('Working Group') to address issues of access to care for a wide range of cardiovascular services in Canada. The intention was not to define maximal limits of wait time acceptability. Rather, the goal was to propose targets for medically acceptable wait times that paid due regard to specific clinical indications and the time-related impact of disease on patients. Furthermore, these access reviews were to include practical implementation recommendations to promote reduced patient morbidity and mortality, and to minimize the

### Traiter le bon patient au bon moment : l'accès aux spécialistes et aux examens non effractifs

Le Conseil de la Société canadienne de cardiologie a demandé à des groupes de travail d'examiner les problèmes liés à l'accès aux soins cardiovasculaires ainsi qu'au temps d'attente. L'article présente un résumé des discussions sur l'établissement des cibles pour des délais d'attente médicalement acceptables en vue d'évaluations par des spécialistes en médecine cardiovasculaire ainsi que sur la réalisation d'examens non effractifs, nécessaires à la conduite de ces évaluations. Trois catégories d'indications ont été établies pour les renvois : hospitalisation nécessaire en raison d'un risque important et persistant de mortalité ou de morbidité; examens précoces, dans un bref délai, en service de soins ambulatoires; examens dans un délai acceptable de deux à six semaines (catégorie la plus importante). Les cibles proposées relativement aux délais d'attente guideront les cliniciens très occupés, chargés de traiter les patients cardiaques quant à la rapidité des soins, aideront les décideurs à évaluer l'ampleur des difficultés cliniques à offrir des soins de grande qualité, qui soient à la fois accessibles et feront ressortir avec acuité la nécessité absolue de procéder à un examen exhaustif des ressources humaines en cardiologie. On y trouvera également des suggestions sur la mise en œuvre des cibles relatives au temps d'attente, par exemple l'application novatrice de la prise en charge des maladies et les services de besoins particuliers. Les délais proposés supposent l'application des lignes directrices en matière de pratique clinique pour la prise en charge de syndromes coronariens cliniquement décelables et pour le traitement d'affections associées comme l'hypertension artérielle, le diabète, les maladies rénales, l'abandon du tabagisme et les dyslipidémies. Même si les médias ont tendance à porter leur attention sur les délais d'attente en vue d'interventions chirurgicales délicates et d'imagerie à la fine pointe de la technologie, les risques les plus grands liés à l'attente se situent plutôt au début du processus de soins, avant que la maladie ait été correctement diagnostiquée.

personal, financial and work-related stress that can lead to care delays.

Although queues for bypass surgery and the potential impact of their delays have historically attracted the most access-related media attention, the greatest delay-related risk exists at an earlier stage in the care process, before the diagnosis and disease severity have been adequately characterized (1,2). The current report is directed to these very early stages of care, specifically, access to specialist consultation and the noninvasive testing strategies necessary to complete this timely

<sup>1</sup>Libin Cardiovascular Institute of Alberta; <sup>2</sup>Department of Cardiovascular Science, University of Calgary, Calgary, Alberta; <sup>3</sup>Division of Cardiology, University of Ottawa, Ottawa, Ontario; <sup>4</sup>Division of Cardiology, McGill University Health Centre, McGill University, Montreal, Quebec; <sup>5</sup>St Paul's Hospital, Vancouver, British Columbia; <sup>6</sup>Private practice, Pincher Creek, Alberta

Correspondence: Dr Merrill L Knudtson, Department of Cardiovascular Science, University of Calgary, 1403-29th Street Northwest, Calgary, Alberta T2N 2T9. Telephone 403-944-1559, fax 403-944-1592, e-mail knudtson@shaw.ca

Received for publication May 24, 2006. Accepted July 10, 2006

**TABLE 1**  
**Medically acceptable wait times (MAWTs) for hospital-based referral and expedited consultation**

Indication	Priority categories	MAWT	Comment on MAWT
<b>Hospital-based referral and testing</b>			
Acute coronary syndromes	Known or suspected STEMI or NSTEMI	–	These indications would be best facilitated by hospital-based evaluation and urgent referral
	Rest pain consistent with ischemia	–	
Arrhythmias	Hemodynamically significant or conduction disorder (including atrial fibrillation with rapid ventricular response)	–	
	New onset of New York Heart Association class III or IV	–	
Heart failure	Known or suspected	–	
Endocarditis	–	–	
Cardiac tamponade	–	–	
Aortic dissection	–	–	
Pulmonary embolism	Suspected or untreated known	–	
Assessment for urgent noncardiac surgery	–	–	
Embolism	With suspected cardiac source	–	
Postcardiac transplantation	With suspected rejection	–	
Syncope	With prior myocardial infarction or significant left ventricular dysfunction or aortic stenosis	–	
Prosthetic valve dysfunction	Suspected with hemodynamic compromise	–	
Hypertensive crisis	–	–	
<b>Expedited consultation</b>			
Atrial fibrillation	Initial onset without associated chest pain or hemodynamic compromise	Within 1 week	These indications are best dealt with in the emergency department setting
Supraventricular tachycardia	Symptomatic or hemodynamic instability	Within 1 week	
Ventricular tachycardia	Asymptomatic	Within 1 week	
Angina	Crescendo or initial onset without rest pain	Within 1 week	A rapid assessment chest pain clinic environment is particularly suited to this indication
Congestive heart failure	New onset or known with deterioration in patients with ischemic and nonischemic heart disease	Within 1 week	This indication should receive expedited handling by echocardiography laboratories whether ordered by primary care physicians or cardiologists*
Syncope	With structural heart disease	Within 1 week	–
	With electrocardiographic evidence for possible cause	Within 1 week	–

\*See reference 2. NSTEMI Non-ST segment elevation myocardial infarction; STEMI ST segment elevation myocardial infarction

consultative process. In addition, geographic and other socio-cultural variables are likely to have a greater impact on access to specialist consultation than on access to highly centralized specific surgical and nonsurgical interventions, which may be proposed once the nature and extent of disease have been adequately characterized.

In this review process, a full electronic review of literature was performed in a quest for guidance on the issue of specialist access. While clinical practice may be guided by published best clinical practices, there are little data available on timing aspects of care, except in the most acute cardiac conditions. For this reason, the specialist access timing recommendations contained herein are largely based on the expert opinions of the Working Group. Studies identified in literature reviews that bear on the general issues of access and noninvasive testing are cited herein.

### HOSPITAL-BASED REFERRAL AND TESTING

Timely access to specialist referral and noninvasive assessment are generally available to patients directly admitted to hospital after presenting to an emergency department with acute symptoms of putative cardiac origin. Early specialist access in these cases may be motivated more by diagnostic uncertainty than by identifiable risk. There is, however, an important group of

patients with referral indications who do require in-hospital care for the very real risk of death and disability that can persist even after initiation of definitive therapy. Preference for a hospital environment exists for these indications even though specialists may be available for outpatient assessment on short notice. The top portion of Table 1 (“Hospital-based referral and testing”) lists these priority cardiac indications.

### EXPEDITED CONSULTATION

The term ‘expedited consultation’ is applied when clinical circumstances require assessment and treatment within a matter of a few days, and not necessarily in the hospital setting. Such conditions are outlined in the lower portion of Table 1 (“Expedited consultation”). Although some cardiology specialist practices have the short-term flexibility to accommodate these referrals, most do not due to complex and variable professional demands. An expedited consultation request usually requires direct discussion between the referring doctor and the specialist to clarify the level of diagnostic certainty, the clinical need and the most appropriate course of action. Options for expedited consultation include:

- Assessment by a specialized multidisciplinary team, eg, for heart failure (3);

- Referral to another specialist who is able to accommodate the time target;
- Referral to a rapid assessment chest pain clinic; and
- Urgent specialist evaluation performed in an emergency department or suitable outpatient area.

Who is responsible for setting the level of referral urgency? The view is widely held that until a family physician verbally discusses a case with a specialist, a written or faxed consultation request is insufficient to transfer the responsibility for delay-related risk to the specialist. The Working Group encourages the practice of verbal exchanges between primary care physicians and specialists, particularly when compliance with the proposed wait times is not thought to be achievable.

### OUTPATIENT SPECIALIST REFERRAL AND NONINVASIVE TESTING

Table 2 outlines the proposed medically acceptable wait times for less urgent, but more common, referral indications. The appropriate timing of indicated noninvasive testing is also provided.

A specialist assessment delay of one to two weeks or longer is reasonable for referral indications in this category. It is less clear which upper wait time limits should be placed on the lowest priority indications for specialist referral. Delays in the diagnosis of cardiac disease, and in the subsequent clarification of treatment options and prognosis, often impose profound psychosocial, professional and financial stress on patients quite independently of the risk of death and significant morbidity. There is no objective way to modify medically acceptable wait times to adequately reflect these concerns. For this reason, the strong opinion-based consensus emerged among the Working Group members that six weeks should be adopted as the absolute upper wait time target for lower urgency referral indications. Furthermore, the intervals proposed herein should include the performance of all noninvasive tests required to complete a consultation. The six-week limit would not apply to scheduled follow-up visits, patient-initiated risk-factor assessments or medical review requests, or to job or insurance-related requests for a specialist opinion. Also, there may be exceptions to this six-week limit in the case of a primary specialist referral to a subspecialist. For instance, delays of up to three months may be appropriate when a general cardiologist has assessed a patient and then requests an electrophysiology consultation for certain indications.

### PRECONSULTATION NONINVASIVE TESTING AND INFORMATION TRANSFER

Consultation efficiency is, in part, determined by effective pre-referral screening and appropriate data exchange between the referring physician and the consultant. The minimum information accompanying new referrals should include:

- The details of the most recent cardiac investigations or procedures;
- Copies of the most recent cardiovascular consultations;
- The indication for reassessment, if a patient has been previously evaluated; and
- A current list of medications, noncardiac diseases and allergies.

For many referral indications, members of the Working Group believed that consultants would prefer to see, or at least discuss, the patient before arranging for noninvasive testing (other than basic blood work, electrocardiography and a chest x-ray), even at the cost of potentially delaying completion of the consultative process. Clearly, there are some exceptions to this. For patients with congestive heart failure (CHF)-related indications for specialty referral, increasing general practitioner access to echocardiography has been shown to result in improved diagnostic certainty and the adoption of treatment strategies more in keeping with treatment guidelines (4). On the other hand, the routine use of transthoracic echocardiography for indications such as assessment for noncardiac surgery is of limited value (5).

The potential does exist for unnecessary noninvasive tests being performed during the specialist assessment waiting period in a well-meaning attempt by referring physicians to secure a more favourable queue position for their patients. The avoidance of unnecessary noninvasive testing in the preconsultation period would result in better access to testing by patients in need. Unnecessary testing may be minimized by more effective communication at the time of referral.

### PRECONSULTATION TREATMENT

For patients with established cardiac disease, clinical practice guidelines are readily available for treatment of diabetes, hypertension and hyperlipidemia, as is the appropriate medical management after acute myocardial infarction, stable angina, atrial arrhythmia, heart failure and postintervention care. If these easy-to-follow guidelines were adhered to and smoking cessation strategies were initiated during the waiting period, the medical consequences of delays in specialist referral and testing would be reduced. Creative ways to achieve guideline compliance before consultation include:

- Encouraging primary care continuing medical education event organizers to include a discussion of all relevant clinical practice guidelines and a presentation of the wait time targets proposed herein;
- Encouraging regional primary care clinical practice guideline 'power users' to establish prereferral clinics;
- Encouraging the development of disease management programs, particularly for patients with ischemic heart disease, atrial fibrillation and CHF (3,6,7); and
- Asking cardiologists, on receipt of referral requests, to inform primary care physicians of the existence of relevant guidelines and how to access them.

### ALTERNATIVES TO SPECIALIST REFERRAL

In regions with an inadequate number of cardiovascular specialists, general internists and even family physicians with additional training in cardiology have been called on to deal with the unmet demand for cardiac assessments. The quality of this alternative referral route is variable, but may not be the optimal strategy in some cases. For patients with CHF, cardiologists have been shown to exhibit a greater level of adherence to clinical practice guidelines than family physicians or internal medicine specialists (8-10). In addition, greater guideline compliance following cardiology referral is evident in elderly patients with acute coronary syndromes

**TABLE 2**  
**Medically acceptable wait times (MAWTs) for outpatient referral and noninvasive testing**

Indication	Priority categories	MAWT	Comment on MAWT	Indication-specific treatment-to-target recommendations	Noninvasive testing
Chest pain	Stable angina	4 weeks	The observation of strongly positive stress test results should lead to immediate telephone contact with the consultant as more urgent invasive testing may be indicated. This MAWT requires considerable discretion as there may be important modifiers based on patient anxiety levels and career implications	Acetylsalicylic acid, beta-blockers, lipid-lowering medications, nitrates	The MAWT should include performance of the tests below (exercise treadmill test, and exercise or pharmacological imaging study), when appropriate. Waits for regular or nuclear stress tests should not exceed two weeks because there are frequently personal and professional implications of prolonged waits once a stress test is proposed. <ul style="list-style-type: none"> <li>• Exercise treadmill testing – for the chest pain indications (above), consultation is commonly initiated after the treadmill testing due to the presence of a positive test or confounding factors</li> <li>• Exercise or pharmacological imaging study (echocardiographic or nuclear). To be considered in the presence of exercise limitations, ECG abnormalities or other confounding factors</li> </ul>
	Atypical chest pain	6 weeks	This limit may not always be appropriate in women because presenting symptoms of serious disease are frequently atypical. If a stress test has been performed with no evidence of ischemia, and risk factors have been appropriately modified, the need for consultation could be reassessed		
NYHA class I or II heart failure	Valvular heart disease			Beta-blockers, ACE inhibitors, statins, acetylsalicylic acid	Echocardiography – there is evidence to support routine ordering of echocardiography by referring physicians with this indication. It should be performed before consultation and within one week of ordering the test
	With aortic stenosis	2–4 weeks	Depending on level of symptoms		
	With deterioration	1–2 weeks	Depending on clinical course		
	Without deterioration	4 weeks	–		
	Ischemic heart disease	4 weeks	This is a very common clinical problem effectively handled by many family physicians and internists		
	Known CHF without deterioration				
	Nonischemic heart disease	6 weeks	–		
	Known CHF without deterioration				
Dizziness or syncope	Recurrent syncope	–	Committee opinions vary widely as nature and consequences of symptomatic episodes must be factored in. Telephone discussion between referring physician and cardiologist is desirable. Often a simple review of the baseline ECG will give valuable diagnostic clues well before full assessment (eg, long QT, WPW, Brugada syndrome)	Identify potentially proarrhythmic medications Identify and treat electrolyte disorders Examine for orthostatic hypotension and institute precautionary measures before consultation	Considering urgency and range of diagnostic possibilities, no tests should be mandated before consultation, apart from an ECG. Tests are usually best left to the discretion of the cardiologist. The tests may include: <ul style="list-style-type: none"> <li>• Ambulatory ECG (Holter or loop recorder) – MAWT: 2 weeks</li> <li>• Echocardiography – MAWT: 2 weeks</li> <li>• Stress test – after consultation, if needed</li> <li>• Tilt-table – after consultation, urgency to be determined</li> </ul>
	Orthostatic hypotension	6 weeks	–		
Atrial fibrillation	Chronic or recurrent	6 weeks	More urgent consultation and treatment with uncontrolled rates	Anticoagulation (in all cases; if contraindication, this is indication for urgent telephone consultation) Rate control with beta-blockers, digoxin or calcium antagonists	Ambulatory ECG (Holter or loop recorder) – when diagnosis is suspected, but not confirmed. To be performed within the above 6-week MAWT total Echocardiography – evidence supporting routine prereferral testing is weak
Heart murmurs	Initial discovery – asymptomatic	6 weeks	–	Bacterial endocarditis prophylaxis for lesions prone to infection	Chest x-ray
	Chronic – asymptomatic	6 weeks	–		Echocardiography – not routinely needed before consultation. If it has been performed, the report should accompany referral

*Continued on next page*

**TABLE 2 – continued**  
**Medically acceptable wait times (MAWTs) for outpatient referral and noninvasive testing**

Indication	Priority categories	MAWT	Comment on MAWT	Indication-specific treatment-to-target recommendations	Noninvasive testing
Assessment for noncardiac surgery*	Need for urgent noncardiac surgery	Before optimal surgical date	Such as cancer, unstable vascular disease, abdominal or orthopedic disease	–	Routine testing is not indicated before consultation
	Other	4 weeks	Planned nonurgent noncardiac surgery		
Palpitations	Intermittent supraventricular tachycardia documented	6 weeks	Hemodynamically stable and unsustained	–	Not routinely needed, but report should be faxed to cardiologist's office with referral request when event recording or echocardiography has been performed
	Other	6 weeks	–	–	
Pregnancy-related assessment	Prepregnancy risk assessment	6 weeks	Management and family counselling before or during pregnancy in adults with congenital heart disease or significant valvular heart disease	–	Apart from ECG, not indicated before consultation
	Pregnancy with known structural heart disease	2 weeks	can be complex and is often best managed through multidisciplinary specialized clinics		
Nonspecific assessment requests	–	6 weeks	–	–	–

\*Known coronary artery or structural heart disease. ACE Angiotensin-converting enzyme; CHF Congestive heart failure; ECG Electrocardiogram; NYHA New York Heart Association; WPW Wolff-Parkinson-White syndrome

(11), and it has been confirmed that cardiologists are more likely than general internists to promote more focused investigation strategies in patients with complex presentations (12).

Perhaps a more efficient alternative to asking physicians with less cardiovascular training to handle complex assessments is the adoption of regional disease management programs, with design and operations input from regional cardiology programs, and operating with published treatment algorithms that follow published clinical practice guidelines. Rapid assessment chest pain clinics, for example, have proven effective in expediting consultation with reduction in hospital admissions for patients with atypical pain syndromes (1,13,14).

The important issue of cardiology human resources is being separately addressed by the Canadian Cardiovascular Society. The society has found a significant shortfall in the number of cardiovascular specialists, with 21% of consulting cardiologists reporting outpatient consultation waits of more than three months (15). In other jurisdictions, both nationally and internationally, this shortfall has been addressed by different methods. The Access to Specialist Group strongly recommends that these innovative methods be investigated, particularly the advanced access approaches involving regional multidisciplinary teams grounded in clinical practice guideline compliance. There is promise that these techniques may significantly reduce wait times, improve both patient and provider satisfaction, and reduce risk in patients awaiting consultation.

#### COMPLIANCE WITH WAIT TIME INTERVALS

The timelines proposed herein should be posted and readily available in the offices of cardiologists and referring physicians. It is hoped that the present dissemination will lead to their acceptance, adoption and adherence. No unifying solution was identified for a case in which regional circumstances prevented

a cardiologist from complying with these timelines. It was believed, however, that specialists have an obligation to let referring doctors know if they are unable to see a patient within the safe access target times outlined in the present paper. It is then the expectation that a physician-to-physician discussion should take place to better characterize the wait-related risk and to explore investigation and treatment options.

A thorough evaluation is urgently needed in cardiology to address the training positions needed to develop an adequate number of subspecialty cardiologists. But apart from training and recruitment, are there other steps that can be taken to improve access to specialist referral? The Working Group identified three areas worthy of consideration. First, it is thought that a national discussion is overdue on the legal and professional obligations of specialists to perform more routine follow-up testing and consultation. For example, does a patient who has been successfully revascularized and is clinically stable after a myocardial infarction, with secondary prevention measures in place, need recurrent visits to the cardiovascular specialist, often with repeated follow-up echocardiography and treadmill testing? Will freeing our cardiology clinics from these 'walking well', by returning them to their primary caregivers, free space for more timely consultations for those in greatest need? The issue is complex because diligent specialists are not always confident that important issues such as medication and lifestyle modification are monitored adequately by primary care physicians, who are in short supply in many regions. Most specialists would agree, however, that the accumulated demands of 'old patients' and post-discharge care expectations render specialists progressively less available to patients who require new investigation the longer a cardiologist is in practice. Second, there may be ways that operations and scheduling efficiencies can be improved in individual and group practices, for example, through the use of new

electronic medical record and communication technology. Improved integration and transfer of clinical assessments and diagnostic testing information would expedite care and minimize morbidity. Finally, there should be a coordinated assault on the dearth of information available on the access to specialist problem. Governments, research organizations and clinical specialty groups should encourage innovation in service delivery models, including the prospective collection of meaningful outcome-focused data to inform policy, practice and funding.

### CONCLUSIONS

The potential for significant delays exists at many points in the process of care after a patient develops clinically evident cardiac

disease. It is likely that the patient is most vulnerable to important delay-related risk in the earliest phases before the cardiac illness has been adequately characterized. Indication-based, medically acceptable wait times are proposed for a broad range of referral indications, and suggestions are included as to how these times may be adopted in clinical practice. Where resources appear incompatible with these time limit suggestions, effective communication among physicians is needed to clarify risk and define appropriate care plans. Although it is hoped that the recommendations and targets proposed herein will reduce the magnitude of the specialty access problem, it is clear that a critical shortage in cardiology human resources exists and demands an urgent systematic review by professional societies, universities and health ministries.

### REFERENCES

1. Natarajan MK, Mehta SR, Holder DH, et al. The risks of waiting for cardiac catheterization: A prospective study. *CMAJ* 2003;167:1233-40. (Erratum in 2003;168:152, 2003;168:1529).
2. Alter DA, Newman AM, Cohen EA, Sykora K, Tu JV. The evaluation of a formalized queue management system for coronary angiography waiting lists. *Can J Cardiol* 2005;21:1203-9.
3. McAlister FA, Stewart S, Ferrua S, McMurray JJ. Multidisciplinary strategies for the management of heart failure patients at high risk for admission: A systematic review of randomized trials. *J Am Coll Cardiol* 2004;44:810-9.
4. Francis CM, Caruana L, Kearney P, et al. Open access echocardiography in management of heart failure in the community. *BMJ* 1995;310:634-6.
5. Halm EA, Browner WS, Tubau JF, Tateo IM, Mangano DT. Echocardiography for assessing cardiac risk in patients having noncardiac surgery. Study of Perioperative Ischemia Research Group. *Ann Intern Med* 1996;125:433-41. (Erratum in 1997;126:494).
6. Smith LE, Fabbri SA, Pai R, Ferry D, Heywood JT. Symptomatic improvement and reduced hospitalization for patients attending a cardiomyopathy clinic. *Clin Cardiol* 1997;20:949-54.
7. Young W, Rewa G, Goodman SG, et al. Evaluation of a community-based inner-city disease management program for postmyocardial infarction patients: A randomized controlled trial. *CMAJ* 2003;169:905-10.
8. Baker DW, Hayes RP, Massie BM, Craig CA. Variations in family physicians' and cardiologists' care for patients with heart failure. *Am Heart J* 1999;138:826-34.
9. Bellotti P, Badano LP, Acquarone N, et al; OSCUR Investigators. Specialty-related differences in the epidemiology, clinical profile, management and outcome of patients hospitalized for heart failure; the OSCUR study. Outcome dello Scompenso Cardiaco in relazione all'Utilizzo delle Risorse. *Eur Heart J* 2001;22:596-604.
10. Philbin EF, Weil HF, Erb TA, Jenkins PL. Cardiology or primary care for heart failure in the community setting: Process of care and clinical outcomes. *Chest* 1999;116:346-54.
11. Reis SE, Holubkov R, Zell KA, Edmundowicz D, Shapiro AH, Feldman AM. Unstable angina: Specialty-related disparities in implementation of practice guidelines. *Clin Cardiol* 1998;21:207-10.
12. Glassman PA, Kravitz RL, Petersen LP, Rolph JE. Differences in clinical decision making between internists and cardiologists. *Arch Intern Med* 1997;157:506-12.
13. Dougan JP, Mathew TP, Riddell JW, et al. Suspected angina pectoris: A rapid-access chest pain clinic. *QJM* 2001;94:679-86.
14. Reeder GS. Exercise testing in rapid-access clinics for assessment of chest pain. *Lancet* 2000;356:2116.
15. Higginson LA. Profile of the cardiovascular specialist physician workforce in Canada, 2004. *Can J Cardiol* 2005;21:1157-62.