

## Concluding Remarks

The ACSIS 2006 National Survey has demonstrated once again the importance of national surveys and registries for the ongoing monitoring of the health of the population, for the surveillance of health care and medical interventions, for quality control and for the evaluation of health outcomes.

This survey, which is carried out every two years by the Israel Heart Society with the support of the Ministry of Health, serves as an essential tool for the monitoring of acute coronary syndromes in patients hospitalized in cardiology departments and intensive care units in hospitals throughout Israel. The database created by the surveys allows for the detailed examination of adherence to treatment guidelines and the evaluation of the effects of treatment on the reduction of mortality. In addition, it provides the opportunity for each medical center to evaluate its activities and outcomes with respect to that of the other participating centers; and the overall findings of the survey serve as a comparison with other countries who conduct similar studies.

The 2006 booklet provides us with an interesting documentation of the higher mortality rates of patients presenting with ST elevation on admission as compared to those with no ST elevation, in spite of the worse risk factor profile and cardiovascular history of those with no ST elevation. Other comparisons include characteristics of patients with a discharge diagnosis of AMI as compared to those diagnosed with UAP; gender differences; and differences between Jewish and Israeli Arab patients.

The trends presented with regard to the management and outcomes of patients with ACS in the 21st century illustrate the changes that have taken place in the management and treatment of ACS, in particular, the increase in the use of lipid-lowering drugs and clopidogrel, the decline in use of thrombolytic treatment in favor of primary PCI, and the continued reduction in short-term and long-term mortality.

I would like to congratulate the Working Groups of the Israel Heart Society, and the Israel Society for the Prevention of Heart Attacks on their valuable contribution to the monitoring of acute coronary syndromes in Israel. It has been clearly demonstrated that registries such as ACSIS have a significant impact on the improvement of the quality of health care. We look forward to our continuing and fruitful cooperation in the building of this important database.

**Manfred S. Green MD, PhD**  
**Director, Israel Center for Disease Control**  
**Israel Ministry of Health**

## Appendix

### THE ISRAELI NATIONAL SURVEY - ACSIS 2006 - STUDY GROUP PARTICIPATING CENTERS AND RESEARCH TEAMS

<b>Assaf Harofeh Hospital, Zrifin</b>	Z. Vered, MD; E. Kaluski, MD; D. Israelov, RN; V. Nachman, RN; S. Zur, RN
<b>Barzilai Medical Center, Ashkelon</b>	A. Katz, MD; Y. Blaer, RN, MSc; V. Shlykhver, MD
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<b>Bikur Cholim Hospital, Jerusalem</b>	S. Gottlieb, MD; A. Keren MD; A. Shama, RN, C. Cohen, RN
<b>Bnei-Zion Medical Center, Haifa</b>	U. Rosenschein, MD; S. Rauchfleisch, MD
<b>Carmel Hospital, Haifa</b>	B. Lewis, MD; R. Wolff, MD; L. Rosenblum, MD
<b>Central HaEmek Hospital, Afula</b>	T. Rosenfeld, MD; S. Atar, MD; O. Broudner, MD; G. Shafir
<b>Hadassah Hospital, Ein Kerem, Jerusalem</b>	H. Lotan, MD; A. Pollack, MD; S. Massarwa, RN; S. Shahar, MD
<b>Hadassah Hospital, Mt. Scopus, Jerusalem</b>	T. Weiss, MD; M. Sananes, RN , A. Veselov, RN
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<b>Kaplan Medical Center, Rehovot</b>	A. Caspi, MD; O. Kracoff, MD; L. Krasov , MD; N. Roitberg, RN; N. Bellinson, MD
<b>Laniado Hospital, Netanya</b>	R. Lior, MD; S. Gmach, MD; B. Glouzman, MD; D. Ben-David
<b>Meir Hospital, Kfar-Saba</b>	D. David, MD, M. Mosseri, MD; C. Pauzner, MD; M. Qasim, MD
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<b>Shaare Zedek Medical Center, Jerusalem</b>	D. Tzivoni, MD; J. Balkin, MD
<b>Sheba Medical Center, Tel-Hashomer</b>	M. Eldar, MD; H. Hod, MD; P. Fefer, MD; U. Osherov, MD
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<b>Sourasky Medical Center, Tel-Aviv</b>	G. Keren, MD; A. Roth, MD; D. Fourey, MD
<b>Western Galilee Hospital, Nahariyah</b>	N. Roguin, MD; N. Klausner, MD
<b>Wolfson Medical Center, Holon</b>	Y. Rozenmann, MD; M. Kriwisky, MD; L. Manevitch, MD; A. Aronov, MD

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## List of Abbreviations

<b>ACE-I</b>	ACE-Inhibitor
<b>ACS</b>	Acute Coronary Syndrome
<b>AF</b>	Atrial Fibrillation
<b>AMI</b>	Acute Myocardial Infarction
<b>AP</b>	Angina Pectoris
<b>ARB</b>	Angiotensin II Antagonist
<b>ASA</b>	Aspirin
<b>AVB</b>	Atrial Ventricular Block
<b>BB</b>	Beta blocker
<b>CABG</b>	Coronary Artery Bypass Graft
<b>CAD</b>	Coronary Artery Disease
<b>CHF</b>	Chronic Heart Failure
<b>CI</b>	Confidence Interval
<b>CRF</b>	Chronic Renal Failure
<b>CVA</b>	Cerebrovascular Accident
<b>ECG</b>	Electro-cardiogram
<b>ER</b>	Emergency Room
<b>IABP</b>	Intra-aortic Balloon Pump
<b>ICCU</b>	Intensive Coronary Care Unit
<b>LBBB</b>	Left Bundle Branch Block
<b>LLD</b>	Lipid-lowering drugs
<b>LMWH</b>	Low Molecular Weight Heparin
<b>MI</b>	Myocardial Infarction
<b>MR</b>	Mitral Regurgitation
<b>OR</b>	Odds Ratio
<b>PCI</b>	Percutaneous Coronary Intervention
<b>PPCI</b>	Primary Percutaneous Coronary Intervention
<b>PVD</b>	Peripheral Vascular Disease
<b>RBBB</b>	Right Bundle Branch Block
<b>RVI</b>	Right Ventricular Infarction
<b>SCD</b>	Sudden Cardiac Death
<b>TIA</b>	Transient Ischemic Attack
<b>TLx</b>	Thrombolytic therapy
<b>UAP</b>	Unstable Angina Pectoris
<b>VF</b>	Ventricular Fibrillation
<b>VSD</b>	Ventricular Septum Defect
<b>VT</b>	Ventricular Tachycardia



Center		Ward		Patient #			

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**Mode of Transportation:**

- Mobile ICCU (*specify*)
  - MADA  SHAHAL  NATALI
- Regular ambulance
- Private car / independently
- Not relevant (in-patient)

**Therapy during Transportation:**

- |                  | No                    | Yes                      |                 | No                    | Yes                      |
|------------------|-----------------------|--------------------------|-----------------|-----------------------|--------------------------|
| Aspirin .....    | <input type="radio"/> | <input type="checkbox"/> | Narcotics ..... | <input type="radio"/> | <input type="checkbox"/> |
| Clopidogrel .... | <input type="radio"/> | <input type="checkbox"/> | Antiarrhythmics | <input type="radio"/> | <input type="checkbox"/> |
| Heparin .....    | <input type="radio"/> | <input type="checkbox"/> | ECG .....       | <input type="radio"/> | <input type="checkbox"/> |
| Beta blockers... | <input type="radio"/> | <input type="checkbox"/> | CPR / DC shock  | <input type="radio"/> | <input type="checkbox"/> |

**3. Emergency Room – Vital Signs and Management:**

- Presenting Symptoms:**  Typical angina  Chest pain  Heart failure  Syncope/ aborted SCD  
 Arrhythmia  Dyspnea

**Killip class:**  1  2  3  4

**Heart Rate:** |\_|\_|\_| **Blood Pressure (mmHg):** Systolic |\_|\_|\_| / Diastolic |\_|\_|\_|

**ECG (first in ER):** |\_|\_| / |\_|\_| / 2006 ⊕ |\_|\_| : |\_|\_| **NSR:**  No  Yes

- Treatment:**  Aspirin:..... |\_|\_|\_| mg  Heparin  Nitrates  
 Clopidogrel ..|\_|\_|\_| mg  LMWH  CPR/ DC shock  
 Beta blockers  GP IIb/IIIa antagonists

<b>Admission ECG Findings:</b>	
<input type="checkbox"/> ST-elevation	<input type="checkbox"/> ST-depression <input type="checkbox"/> T inversion only <input type="checkbox"/> No new ST- T changes
<input type="checkbox"/> Undetermined ECG findings ( <i>LBBB, Pacing, Severe LVH</i> )	
<b>“Spontaneous” Reperfusion</b> <input type="radio"/> No <input type="checkbox"/> Yes → <b>Early Resolution (&gt;70%) of:</b> <input type="checkbox"/> ST↑ <input type="checkbox"/> symptoms	
/_ _  /  _ _  / 2006 ⊕  _ _  :  _ _  NA day month hour min Δ	

**4. Reperfusion Therapy in STEMI Patients:**

- Primary Reperfusion:**  No  Yes (*specify one below*)  
**Type of Reperfusion:**  Thrombolysis  Primary PCI  Angio without PCI (*open artery*)  
**Date and Time:** /\_|\_| / |\_|\_| / 2006 ⊕ |\_|\_| : |\_|\_| (*Angio/PCI-Complete No. of vessels on p.3*)  
 day month hour min

**I. For Thrombolytic Therapy (TLx):**

**TLx Agent :**  STK  tPA **Was TLx judged to be clinically successful?**  No  Yes

**II. For Primary PCI :**

- Infarct Related Artery (check one):**  LM  LAD  LCX  RCA  SVG  Unknown  
**PCI for Additional Lesions:**  Not required  
 In same procedure  Separate procedure  After discharge  
*(Complete details in section 5)*

Center			Ward		Patient #		

**Primary PCI with Use of:**

<input type="checkbox"/> IIB/IIIa Antagonist:	<input type="checkbox"/> Reopro	<input type="checkbox"/> Integrilin	<input type="checkbox"/> Aggrastat
	<b>Started:</b>	<input type="checkbox"/> Before PCI	<input type="checkbox"/> During/after PCI
<input type="checkbox"/> Clopidogrel →	<b>Loading Dose:</b>	_ _ _  mg	
	<b>Started:</b>	<input type="checkbox"/> Before PCI	<input type="checkbox"/> During/after PCI
<input type="checkbox"/> Angiomax			
<input type="checkbox"/> Stent →	<b>Type:</b>	<input type="checkbox"/> Bare	<input type="checkbox"/> Drug eluting
<input type="checkbox"/> Protective/Aspiration Device			

TIMI grade flow -following the procedure:  0  1  2  3

**Reasons for not Performing Primary Reperfusion (TLx or PCI) for ST Elevation or New LBBB**

(check all that apply):

<input type="checkbox"/> Spontaneous reperfusion	<input type="checkbox"/> Considered not indicated
<input type="checkbox"/> Late arrival at hospital:	<input type="checkbox"/> Died before decision
<input type="checkbox"/> Misdiagnosis	<input type="checkbox"/> Patient refusal
<input type="checkbox"/> Contraindication to TLx	<input type="checkbox"/> Other specify _____
<input type="checkbox"/> Contraindication to PCI	

**5. Additional Cardiac Interventions and Procedures During Hospitalization:**

**Coronary Angiography (excluding primaryPCI):**  No  Yes (Complete No. of vessels below)

If yes specify:  Event Driven  Ward policy

Date: |\_|\_| / |\_|\_| / 2006 ⊕ |\_|\_| : |\_|\_|  
day month hour minutes

**Was Coronary Angiography Followed by Intervention?**  No  Yes (specify below)

PCI (excluding primary)

To (check all):  LM  LAD  LCX  RCA  SVG  Unknown

**With use of:**

<input type="checkbox"/> IIB/IIIa Antagonist:	<input type="checkbox"/> Reopro	<input type="checkbox"/> Integrilin	<input type="checkbox"/> Aggrastat
	<b>Started:</b>	<input type="checkbox"/> Before PCI	<input type="checkbox"/> After PCI
<input type="checkbox"/> Clopidogrel →	<b>Loading Dose:</b>	_ _ _  mg	
	<b>Started:</b>	<input type="checkbox"/> Before PCI	<input type="checkbox"/> After PCI
<input type="checkbox"/> Angiomax			
<input type="checkbox"/> Stent →	<b>Type:</b>	<input type="checkbox"/> Bare	<input type="checkbox"/> Drug eluting

CABG Date: |\_|\_| / |\_|\_| / 2006

**Number of Diseased Vessels (according to any angiography):** |\_|\_|

(0=None, 1, 2, 3, 4=Main left, 99=Unknown)

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Other Procedures:	No	Yes		No	Yes		No	Yes
DC shock .....	<input type="radio"/>	<input type="checkbox"/>	IA Balloon .....	<input type="radio"/>	<input type="checkbox"/>	AICD .....	<input type="radio"/>	<input type="checkbox"/>
Resuscitation (CPR)...	<input type="radio"/>	<input type="checkbox"/>	Echo .....	<input type="radio"/>	<input type="checkbox"/>	Temporary pacemaker	<input type="radio"/>	<input type="checkbox"/>
Ventilation .....	<input type="radio"/>	<input type="checkbox"/>	EPS .....	<input type="radio"/>	<input type="checkbox"/>	Permanent pac maker	<input type="radio"/>	<input type="checkbox"/>

EF Determined?  No  Yes (specify below)

By:  Echo  Ventriculography  Radionuclear scan

EF: %  Normal (>50%)  Mild (40-50%)  Moderate (30-39%)  Severe (<30%)

6. In Hospital Complications:

	No	Yes		No	Yes
CHF mild-moderate (Killip-2).....	<input type="radio"/>	<input type="checkbox"/>	High degree (2-3°) AVB .....	<input type="radio"/>	<input type="checkbox"/>
Pulmonary edema (Killip-3) .....	<input type="radio"/>	<input type="checkbox"/>	Sustained VT (>125 bpm) .....	<input type="radio"/>	<input type="checkbox"/>
Cardiogenic shock (Killip-4) .....	<input type="radio"/>	<input type="checkbox"/>	Primary VF .....	<input type="radio"/>	<input type="checkbox"/>
Hemodynamically significant RVL...	<input type="radio"/>	<input type="checkbox"/>	Secondary VF .....	<input type="radio"/>	<input type="checkbox"/>
Re-MI .....	<input type="radio"/>	<input type="checkbox"/>	AF .....	<input type="radio"/>	<input type="checkbox"/>
Post MI angina/re-ischemia .....	<input type="radio"/>	<input type="checkbox"/>	Asystole .....	<input type="radio"/>	<input type="checkbox"/>
Sub-acute stent thrombosis .....	<input type="radio"/>	<input type="checkbox"/>	TIA .....	<input type="radio"/>	<input type="checkbox"/>
Free wall rupture .....	<input type="radio"/>	<input type="checkbox"/>	Stroke: .....	<input type="radio"/>	<input type="checkbox"/>
Pericarditis .....	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/> Hemorrhagic		
Tamponade .....	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/> Ischemic		
VSD .....	<input type="radio"/>	<input type="checkbox"/>	Acute renal failure .....	<input type="radio"/>	<input type="checkbox"/>
Moderate – severe MR .....	<input type="radio"/>	<input type="checkbox"/>	Major bleeding .....	<input type="radio"/>	<input type="checkbox"/>
RBBB (new onset) .....	<input type="radio"/>	<input type="checkbox"/>	Other .....	<input type="radio"/>	<input type="checkbox"/>
LBBB (new onset) .....	<input type="radio"/>	<input type="checkbox"/>			

7. Laboratory Tests

CK maximal value: .....| | | | | IU/L Elevated ?  No  Yes  NA

CK-MB% .....| | |

CK-MB Mass Value (max): | | | | | ng/ml Elevated ?  No  Yes  NA

Troponin I (max): .....| | | | | ng/ml Elevated ?  No  Yes  NA

Troponin T (max): .....| | | | | ng/ml Elevated ?  No  Yes  NA

Cholesterol- Total..| | | | | mg/dl LDL.....| | | | | mg/dl HDL....| | | | | mg/dl

Triglycerides.....| | | | | mg/dl Creatinine...| | | | | mg/dl

Glucose: | | | | | mg/dl (First fasting measurement)

Hb... | | | | | mg/dl (First measurement)

Center			Ward		Patient #		

**8. Medical Treatment**

	<u>In Hospital</u>		<u>At Discharge from Hospital</u>		
	No	Yes	No	Yes	
Aspirin.....	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	
Anticoagulants:					
Warfarin or other anticoagulants ...	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	
Heparin (unfractionated/regular)...	<input type="radio"/>	<input type="checkbox"/>			
LMW heparin (fractionated).....	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	
Clopidogrel (or participating in TIMI38)	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	
ACE-I/ARB .....	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	
Aldosterone receptor antagonist.....	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	
Beta blockers.....	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	
IV inotropic agent.....	<input type="radio"/>	<input type="checkbox"/>			
Digoxin.....	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	
Diuretic.....	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	
Insulin.....	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	
Hypoglycemic drugs (Oral).....	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	
Statins .....	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	Specify _____
Fibrate .....	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	
Ezetimibe .....	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="checkbox"/>	

**Participation in a Clinical Trial:**  No  Yes: **Name of Trial :** \_\_\_\_\_

**9. Discharge**

**Status at Discharge:**

Alive → **Discharge Date:** \_\_\_\_/\_\_\_\_/2006  
 Discharged to:  Internal Medicine  Cardiothoracic Surgery  
 Other Ward  Home  Rehabilitation Unit  Other

Deceased → **Date of Death:** \_\_\_\_/\_\_\_\_/2006  
**Cause of Death:**  Non-cardiac  Cardiac      **Death was:**  Non-sudden  Sudden

**Discharge Diagnosis:**  STE MI  NSTEMI  UAP  Undetermined ACS

**ECG Findings:**

**Location:**  Anterior  Inferior  Right ventricle  Lateral  Posterior  Undetermined  
**Q-Waves:**  No  Yes

**Comments:** \_\_\_\_\_

<b>Name of Physician:</b> _____	<b>Signature:</b> _____
	<b>Date:</b> ____/____/2006

