



האיגוד הקרדיולוגי בישראל  
ISRAEL HEART SOCIETY



החוג הישראלי  
לטפול נמוץ לב



THE ISRAEL WORKING GROUP  
ON INTENSIVE CARDIAC CARE

## Acute Coronary Syndromes Israeli Survey **ACSIS 2013** כנס הצגת נתונים ראשוניים מסקר

3 בינואר, 2014, הדר סיטי טאואר, רמת גן

# 30 Days Outcome – ACSIS 2013

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# Comments

- Missing data – 39% to 75% (“smoking” data).
- “Other” category = Out of hospital sudden death, VF, Hypothermia, etc.
- 30 days events = including index hosp.
- Procedures = from discharge from cardiology to 30 days

# Re-hospitalization rates

ACS (n=1144)

Re-hosp.  
(n=162, 14.1%)

Non-cardiac  
(n=61)

cardiac  
(n=101, 8.8%)

**NSTEMI**  
(n=31, 2.7%)

**Re-STEMI**  
(n=3, 0.26%)

**Angina**  
(n=69, 6.03%)

**Stent Thrombosis**  
(n=7, 0.61%)

# ACSIS 2010

**Table 1.32: Re-Hospitalization\* within 30 Days of Admission**

	ST ↑ (N=755) (%)	Non ST ↑ (N=988) (%)	Total (N=1,743) (%)	p
<b>Re-hospitalization % (n)</b>	17.3% (119)	18.0% (163)	17.7% (282)	.744
<b>Reason for Re-hospitalization</b>				.097
<b>Scheduled</b>	23.7	32.1	28.6	
<b>Cardiac event driven</b>	54.3	41.4	46.8	
<b>Non-cardiac hospitalization</b>	22.0	26.5	24.6	

\* Rehospitalization among hospital survivors

# 30 Days Mortality

Discharge Diagnosis	30 Days MORTALITY		
	Alive	Died	Total
STEMI	458 93.85	30 6.15	488 40.36
NSTEMI	493 97.05	15 2.95	508 42.02
UAP	173 99.43	1 0.57	174 14.39
OTHER	33 84.62	6 15.38	39 3.23
<b>Total</b>	1157 95.70	52 4.30	1209 100.00
<b>Missing Data = 689</b>			

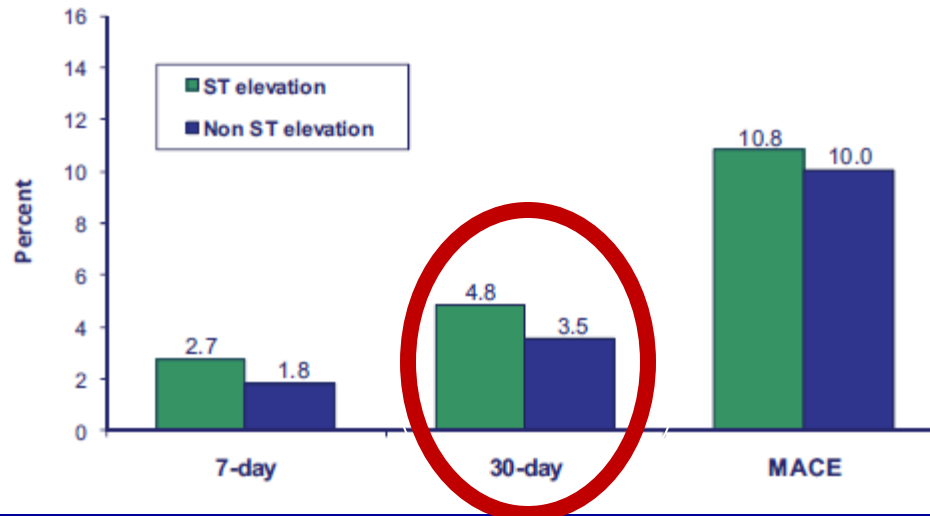
# ACSIS 2010

Table 1.33: Unadjusted Rates of 7-Day Mortality, 30-Day Mortality and MACE

Mortality	ST ↑ (N=776) (%)	Non ST ↑ (N=1,005) (%)	Total (N=1,781) (%)	p
7-day	2.7	1.8	2.2	.188
30-day	4.8	3.5	4.1	.170
MACE*	10.8	10.0	10.4	.595

\*definition includes: recurrent MI, recurrent ischemia, stent thrombosis, ischemic stroke, urgent revascularization (follow-up) or death occurring within 30 days from hospitalization.

Figure 1.24: Unadjusted Rates of 7-Day Mortality, 30-Day Mortality and MACE



# ACSIS – Mortality trends

Table 2.12: Rates of Mortality and MACE

Year	2000 N=1,794 %	2002 N=2,048 %	2004 N=2,094 %	2006 N=2,075 %	2008 N=1,746 %	2010 N=1,781 %	p for trend
<b>Mortality:</b>							
on discharge	5.2	3.5	3.2	2.8	2.5	2.1	<.0001
7-day	5.1	3.6	3.1	3.0	2.6	2.2	<.0001
30-day	8.5	5.6	5.5	4.6	4.4	4.1	<.0001
1 year	13.5	11.0	11.2	9.8	8.2	--	<.0001
30-day MACE	26.5	18.7	14.6	16.6	12.5	10.4	<.0001

<b>RE-UAP/NSTEMI</b>	<b>Discharge Diagnosis</b>			
	<b>STEMI</b>	<b>NSTEMI</b>	<b>UAP</b>	<b>Total</b>
<b>NO</b>	436 96.25	474 98.34	169 96.57	1113 97.29
<b>YES</b>	17 3.75	8 1.66	6 3.43	31 2.71
<b>Total</b>	453 39.60	482 42.13	175 15.30	1144 100.00
<b>Missing Data = 717</b>				

P = ns



<b>FU Cor. angiography</b>	<b>Discharge Diagnosis</b>				
	<b>STEMI</b>	<b>NSTEMI</b>	<b>UAP</b>	<b>OTHER</b>	<b>Total</b>
<b>NO</b>	429 91.28	468 92.31	169 95.48	34 100.00	1100 92.59
<b>YES</b>	24 5.11	15 2.96	6 3.39	0 0.00	45 3.79
<b>Total</b>	470 39.56	507 42.68	177 14.90	34 2.86	1188 100.00
<b>Missing data = 673</b>					

P = ns

<b>FU CABG</b>	<b>Discharge Diagnosis</b>				
	<b>STE MI</b>	<b>NSTEMI</b>	<b>UAP</b>	<b>OTHER</b>	<b>Total</b>
<b>NO</b>	434 95.81	447 92.36	165 94.29	31 91.18	1077 93.98
<b>YES</b>	19 4.19	37 7.64	10 5.71	3 8.82	69 6.02
<b>Total</b>	453 39.53	484 42.23	175 15.27	34 2.97	1146 100.00
<b>Missing data = 715</b>					

# Clinical Events – 30 Days FU

	%
<b>New AF</b>	<b>0.7</b>
<b>Aborted SCD</b>	<b>0.09</b>
<b>Major Bleeding</b>	<b>1.22</b>
<b>Revascularization</b>	<b>10.47</b>
<b>CABG</b>	<b>6.02</b>
<b>PCI*</b>	<b>4.45</b>
<b>CRTD/ICD</b>	<b>0.18</b>
<b>Pacemaker</b>	<b>0.35</b>

\* PCI = 2.6% in STEMI, 1.83% in NSTEMI

# Medications at 30 days

**At discharge  
Clopidogrel**

**FU TREAT.  
Clopidogrel**

	NO	YES	Total
NO	583 92.54	47 7.46	630 55.51
YES	69 13.66	436 86.34	505 44.49
Total	652 57.44	483 42.56	1135 100.00

**Clopidogrel**

**Prasugrel**

**At discharge  
Prasugrel**

**FU TREAT. Prasugrel**

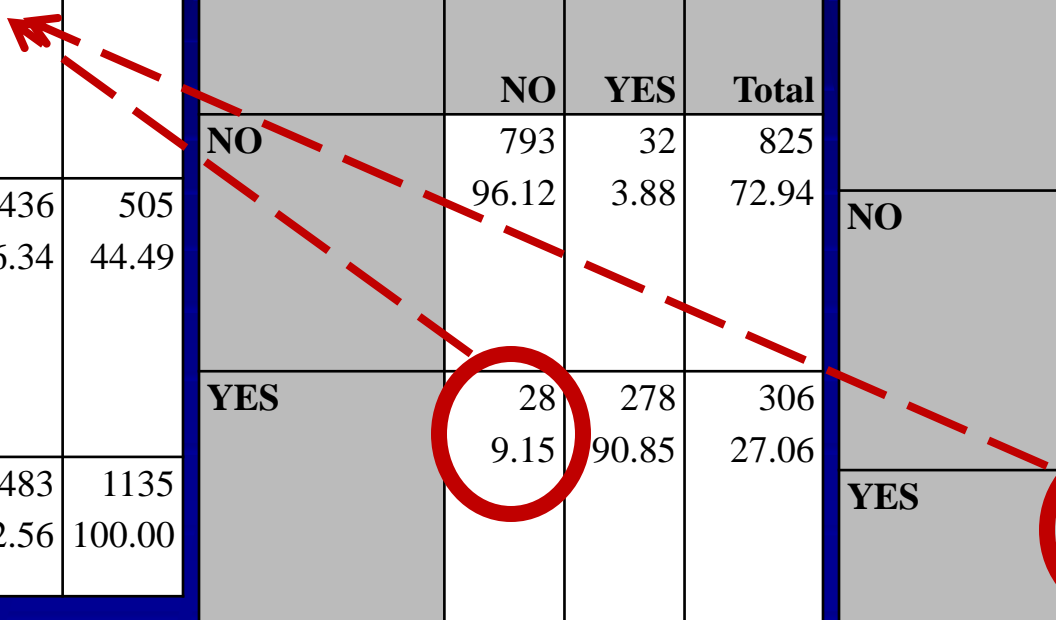
	NO	YES	Total
NO	793 96.12	32 3.88	825 72.94
YES	28 9.15	278 90.85	306 27.06
Total	821 72.59	310 27.41	1131 100.00

**Ticagrelor**

**At discharge  
Ticagrelor**

**FU TREAT. Ticagrelor**

	NO	YES	Total
NO	926 98.41	15 1.59	941 83.20
YES	35 18.42	155 81.58	190 16.80
Total	961 84.97	170 15.03	1131 100.00



<b>F.U ASA+CLOPIDOGREL</b>	<b>FU PPI+H<sub>2</sub> Blocker</b>		
	<b>No</b>	<b>Yes</b>	<b>Total</b>
<b>No</b>	401 67.06	290 41.97	691 60.93
<b>Yes</b>	197 44.47	246 55.53	443 39.07
<b>Total</b>	598 52.73	536 47.27	1134 100.00

PPI + H<sub>2</sub> Blockers were also given to 26.4% of pts on ASA+ Prasugrel and to 14.2% of pts on ASA + Ticagrelor

# OAC & NOAC

- Warfarin – 6.44%
- Dabigatran – 0.79%
- Rivaroxaban – 0.44%



# Rehabilitation programs



# Referral to rehabilitation program

Rehabilitation Referral	Discharge Diagnosis				
	STEMI	NSTEMI	UAP	OTHER	Total
NO	136 31.12	211 45.09	113 67.66	22 64.71	482 43.58
YES	301 68.88	257 54.91	54 32.34	12 35.29	624 56.42
Total	437 39.51	468 42.31	167 15.10	34 3.07	1106 100.00
Missing Data = 713 (39%)					

P < 0.001

# Participation in rehabilitation program

Rehabilitation Participation	Discharge Diagnosis				
	STEMI	NSTEMI	UAP	OTHER	Total
NO	322 75.06	374 81.84	146 87.43	27 81.82	869 80.02
YES	107 24.94	83 18.16	21 12.57	6 18.18	217 19.98
Total	429 39.50	457 42.08	167 15.38	33 3.04	1086 100.00

Missing Data = 733

P = 0.0039

# Rehabilitation participation by gender

Rehabilitation Participation	Gender		
	MALE	FEMALE	Total
NO	676 78.33	193 86.55	869 80.02
YES	187 21.67	30 13.45	217 19.98
Total	863 79.47	223 20.53	1086 100.00

Missing Data = 733

P = 0.006

# Referral to rehabilitation program by region

Rehabilitation Referral	REGION				
	NORTH	CENTER	JERUSALEM	SOUTH	Total
NO	204 62.39	203 40.60	60 32.26	15 16.13	482 43.58
YES	123 37.61	297 59.40	126 67.74	78 83.87	624 56.42
Total	327 29.57	500 45.21	186 16.82	93 8.41	1106 100.00
<b>Missing Data = 713</b>					

$P < 0.001$



פ"נ

תושב הצפון

מת 8 שנים

מוקדם מדי

ת.נ.צ.ב.ה

ארץ נעדרת  
המקומות שהינ

# Participation in rehabilitation program by region

Rehabilitation Participation	REGION				
	NORTH	CENTER	JERUSALEM	SOUTH	Total
<b>NO</b>	290 88.96	358 73.51	157 84.41	64 73.56	869 80.02
<b>YES</b>	36 11.04	129 26.49	29 15.59	23 26.44	217 19.98
<b>Total</b>	326 30.02	487 44.84	186 17.13	87 8.01	1086 100.00
<b>Missing Data = 733</b>					

$P < 0.001$



פ"נ

תושב הצפון

מת 8 שנים

מוקדם מדי

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ארץ נעדרת תיקומות שהם

# Smoking cessation





# Smoking status at 30 days

<b>Smoking status</b>	<b>Discharge Diagnosis</b>				
	<b>STEMI</b>	<b>NSTEMI</b>	<b>UAP</b>	<b>OTHER</b>	<b>Total</b>
<b>quit smoking</b>	95 41.85	61 36.31	18 33.33	5 55.56	179 39.08
<b>smoking</b>	132 58.15	107 63.69	36 66.67	4 44.44	279 60.92
<b>Total</b>	227 49.56	168 36.68	54 11.79	9 1.97	458 100.00

P = ns

Non smokers = 730, total = 1188

Instruction on smoking cessation)	Discharge Diagnosis				
	STEMI	NSTEMI	UAP	OTHER	Total
UNK	163	230	64	19	
NO	117 38.11	150 54.15	69 61.06	9 60.00	345 48.46
YES	190 61.89	127 45.85	44 38.94	6 40.00	367 51.54
Total	307 43.12	277 38.90	113 15.87	15 2.11	712 100.00

P < 0.001

<b>Referred to smoking cessation program</b>	<b>Discharge Diagnosis</b>				
	<b>STEMI</b>	<b>NSTEMI</b>	<b>UAP</b>	<b>OTHER</b>	<b>Total</b>
<b>UNK</b>	165	233	64	19	
<b>NO</b>	273 89.51	251 91.61	109 96.46	14 93.33	647 91.51
<b>YES</b>	32 10.49	23 8.39	4 3.54	1 6.67	60 8.49
<b>Total</b>	305 43.14	274 38.76	113 15.98	15 2.12	707 100.00
<b>Frequency Missing = 1154</b>					

participating / participated in a smoking cessation program	Discharge Diagnosis				
	STEMI	NSTEMI	UAP	OTHER	Total
UNK	161	220	61	19	
NO	302 97.73	283 98.61	113 97.41	15 100.00	713 98.07
YES	7 2.27	4 1.39	3 2.59	0 0.00	14 1.93
Total	309 42.50	287 39.48	116 15.96	15 2.06	727 100.00

# Smoking status by education

Smoking status	Level of education			
	ELEMENTARY	HIGH SCHOOL	HIGHER EDUCATION / ACADEMIC	Total
<b>N</b>	157	210	202	
<b>quit smoking</b>	38 29.23	63 39.62	44 50.57	145 38.56
<b>smoking</b>	92 70.77	96 60.38	43 49.43	231 61.44
<b>Total</b>	130 34.57	159 42.29	87 23.14	376 100.00

P = 0.0062

Smoking status	Marital status			
	SINGLE	MARRIED / ATTACHED	DIVORCED	Total
quit smoking	9 42.86	138 39.09	17 32.69	164 38.50
smoking	12 57.14	215 60.91	35 67.31	262 61.50
Total	21 4.93	353 82.86	52 12.21	426 100.00
Missing data = 1206				

P = ns

Smoking status	Ethnicity		
	ISRAELI JEW	ISRAELI ARAB	Total
<b>N</b>	609	110	
<b>quit smoking</b>	140 46.36	35 24.82	175 39.50
<b>smoking</b>	162 53.64	106 75.18	268 60.50
<b>Total</b>	302 68.17	141 31.83	443 100.00
<b>Frequency Missing = 1318</b>			

P < 0.001

# Conclusions

- Complete data – at 6 months
- Appears to be no significant difference from ACSIS 2010
- We are still lacking in the battle against smoking



## Conclusions (2)

- Rehabilitation – low referral rates & severe shortage of programs countrywide, mainly in the periphery.
- There is an urgent need to identify specific populations (ethnic, socio-economic, etc.) with increased educational & medical needs.

תודה רבה:

לפרופ' שלומי מטצקי  
ד"ר זאזא יעקבישוילי  
לפרופ' אילן גולדנברג  
לצוות ה-IACT

ולכל מי שתמך בסקר ACSIS

