

Gaps in the implementation of Guidelines for CRM Devices in ESC country members - The Case of Israel -

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EHRA Summit
March 2011



Sheba Medical Center
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The Leviev Heart Center



Israeli Health System

- All 7 million Israeli citizens are insured under national health insurance law
- Payment for national health insurance is part of tax payment
- Health services are provided by four main HMOs that are paid by the government
- Health makes up 7.8% of GDP
- 23 hospitals provide ICD implantation , 15 provide CRTD, all have trained EP MDs



Israeli ICD Registry

- Launched in July 2010
- Organized and run by the Israeli Working Group of Pacing and EP
- Online reporting of every procedure in high power devices in all 23 centers in Israel
- >90 % correspondence with company data



How Many Patients are Eligible for ICD

Prior to MADIT I :

- 50-70 / million (Higgins 1999)

Following MADIT I :

- 50 / million (NICE 2000)
- 100/million (Plummer 2005)

Following MADIT II (>80% primary prevention) :

- 510/million (Borleffs 2007)
- 453/million (Plummer 2005)



Back in 2000

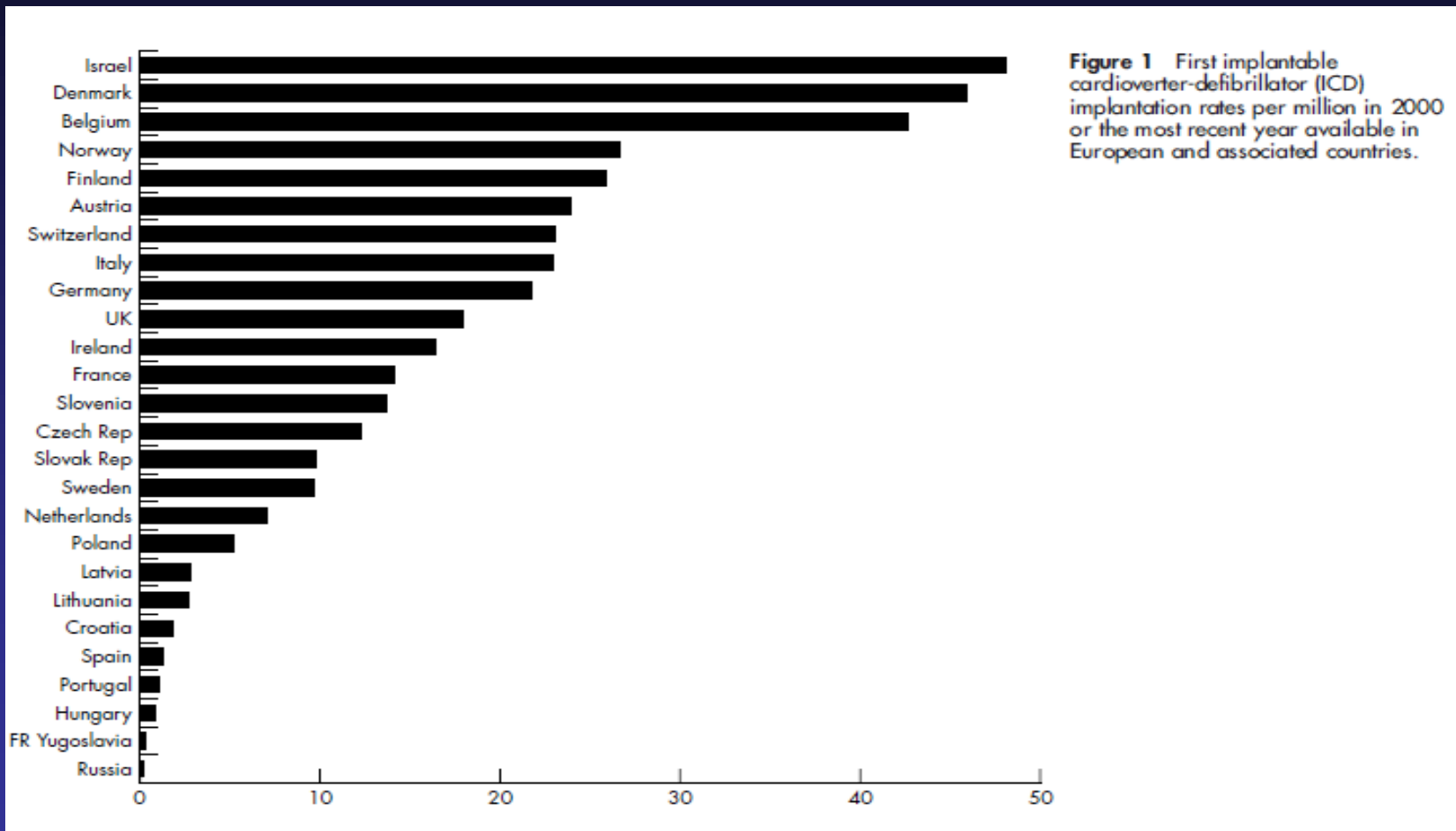
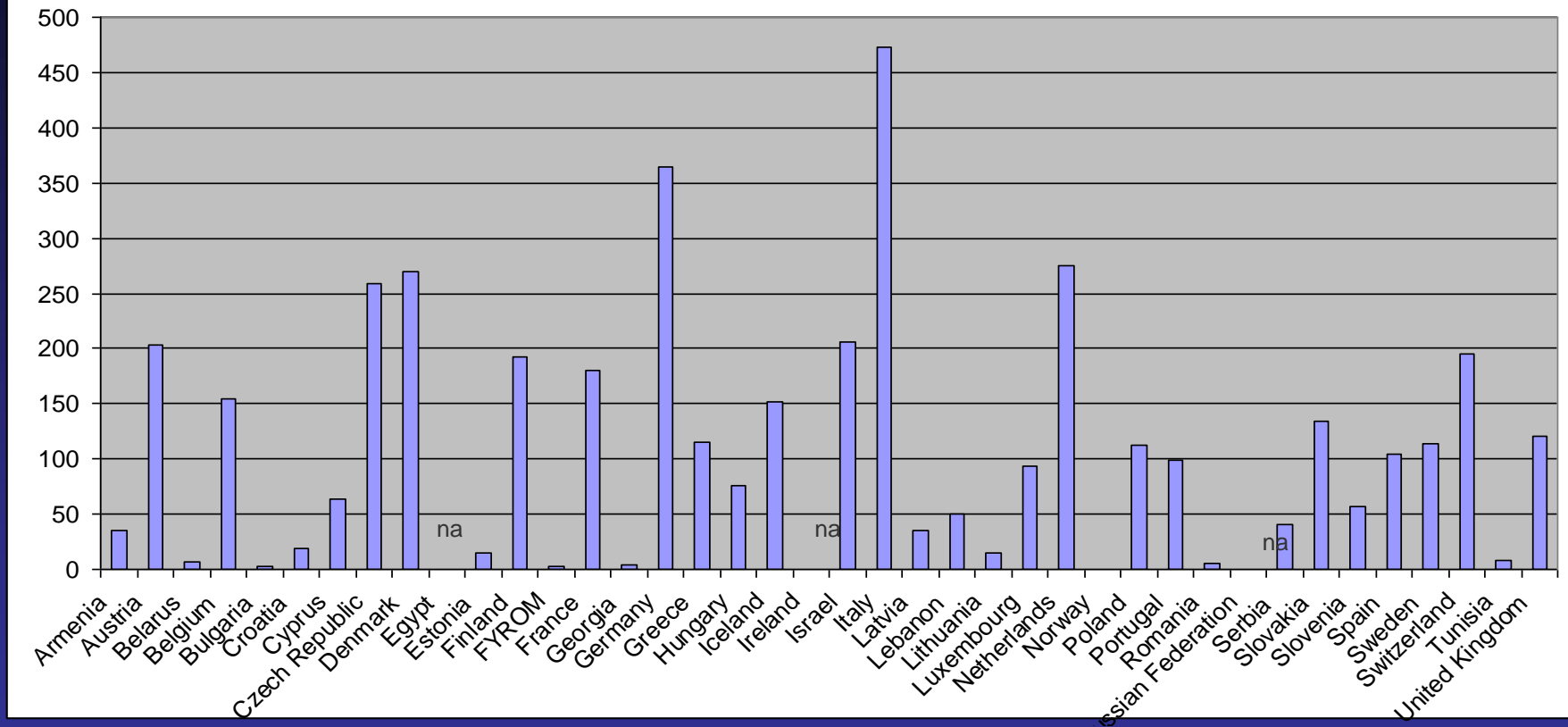


Figure 1 First implantable cardioverter-defibrillator (ICD) implantation rates per million in 2000 or the most recent year available in European and associated countries.

Cunningham 2005

ICD implantation rate incl. CRT-D/ Mio



Median 99/ mio (Range 0,6- 470/ mio)

Source: EHRA Whitebook 2009



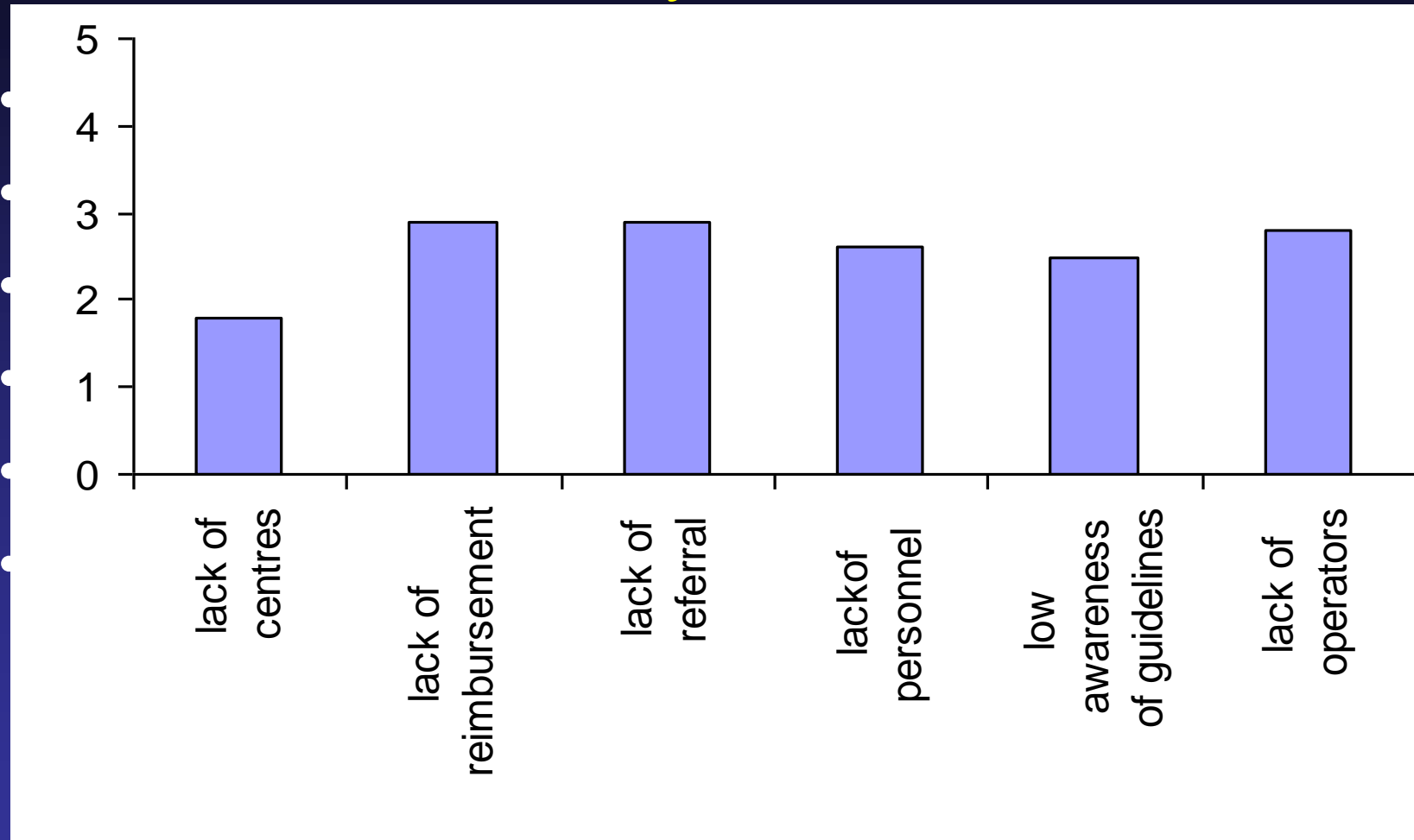
Current Status of ICD implantation

- 1250 new device (400 device replacements and revisions / year)
- New implantation rate = 180/ million
- 75% primary prevention indication
- 39% CRTD

Source : Israeli ICD registry

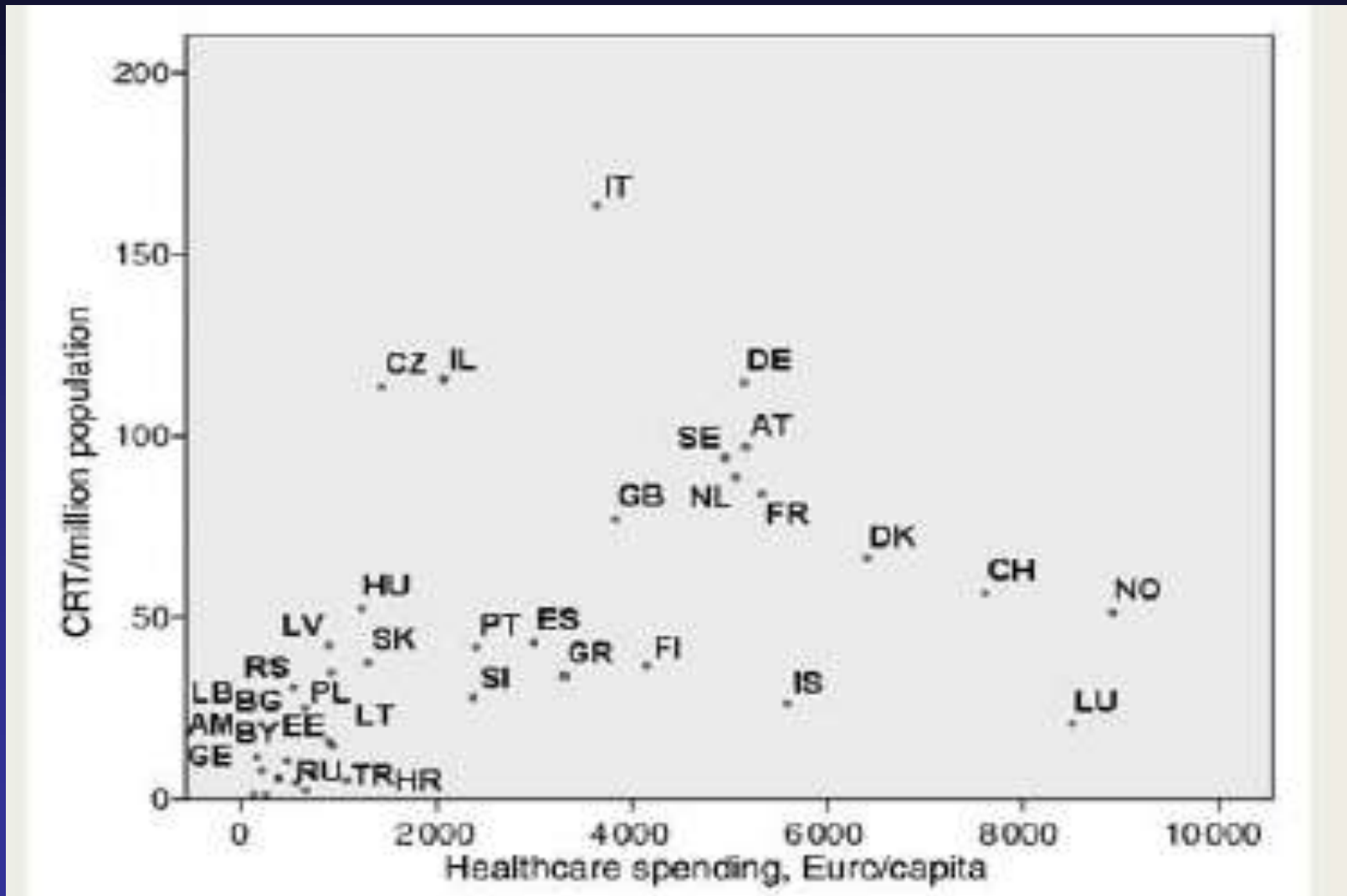


Main Obstacles to Widespread Use of ICDs for Primary Prevention



Source: EHRA Whitebook 2009

Economical Status of Country



Adoption of Guidelines by Medical Community

- Situation very different from 10 years ago
- All European cardiology communities adopt the ESC or similar guidelines
- Little difference from American guidelines
- Most physicians in Israel read English
- ICD guidelines were translated when adopted (2006)



Insurance and Reimbursement

- Clear local reimbursement policy that follows guidelines
- Insurance restrictions on implementation of guidelines :
 - Wide QRS in NICE guidelines for primary prevention
 - EPS required by the largest Israeli HMO for primary prevention



HMO Differences in Israel

HMO	% of population	% Primary prevention	Current / expected Implantation rate
A (EPS required)	60	67	180 / 236
B-D(not required)	40	78	

Source : Israeli ICD registry 2010



Referring Physician Awareness and Acceptance

- Most physicians are currently aware of secondary prevention of SCD by ICDs
- Lack of awareness mainly affects implantations for primary prevention indications (Vester CREDIT Eur Heart J 2008)
- Even in the US there is 20-50% implementation of ICD guidelines due to lack of awareness among referring physicians (Hernandez JAMA 2007)
- Current situation is gradually improving in Israel by efforts of the Israel Heart Society and companies



Implanting Physician and Facilities

- There is some correlation between the number of implanting centers/population and ICD usage (Camm 2010)
- No correlation to the existence of accreditation program (Merkely 2010)
- Fully trained electrophysiologists spend increasing time doing (AF) ablations
- In Israel trained MD availability is not a significant factor



Patient Related Factors

- Level of patient awareness of SCD influences ICD usage
- Awareness creates demand and justified pressure on politicians
- Patient support groups and consumer organizations are much less developed in Europe including Israel than in the US
- A long way to go ...



Future of ICD Implantation in Israel

- Negotiations with authorities and payers to accept guidelines with stronger involvement of cardiologists in decision making (e.g. no need for EPS)
- Education of referring physician
- Training more physicians to implant and follow up ICDS and CRTDS (device track)
- Improved patient awareness and education !
- Increasing use of registry data



Importance of ICD Registry

- Reflects true practice
- Exposes areas with low implant rates
- Exposes HMOs with lower implant rate
- Provides each medical center with information on its performance in comparison to others
- Enables retrospective analysis of indications and justification for implantation with a potential for better risk stratification



Thank
You!



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