MINISTRY OF HEALTH

For a healthier life

Innovation and the Israeli Healthcare System

Department of Medical Affairs

2016

Lecture Outline

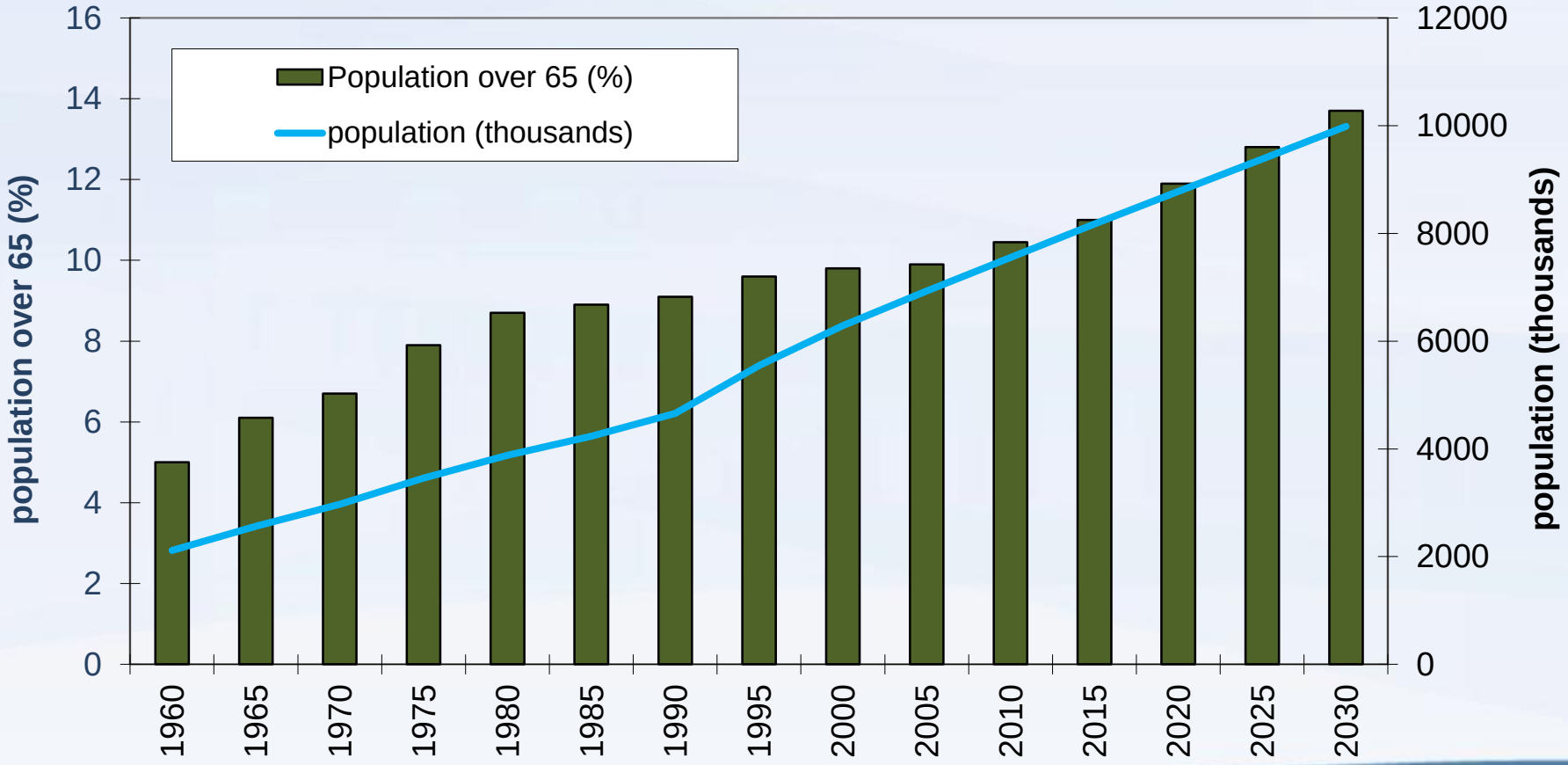
- Israel statistics
- Israeli Healthcare System at a glance
- Innovation & technological advancements in the Israeli healthcare system

Israel Statistics

- Population 8.180 Million (2014)
- Area – 22,145 Km^2 (6% of germany)
- GDP – $292 Billion (PPP, 2016, Germany $3934)
- GDP/Capita – $33,703 (PPP, 2011-5, Geramny $46,400)
- Total exports – $63 Billion (2012, Geramny $ 1410 Billion)
- Unemployment 5.8% (3.2014
- Household Communications
  - Mobile – 95%
  - PC – 80.4%
  - Internet – 71%

Source: Israel CBS

Total Population & population over 65 in Israel
1960-2030 (projection)



Israel

- Limited natural resource (gas)
- Small market
- Struggle for existence

- Must rely on main advantages:
  - Human resources
  - Innovation
  - Spirit of it’s people

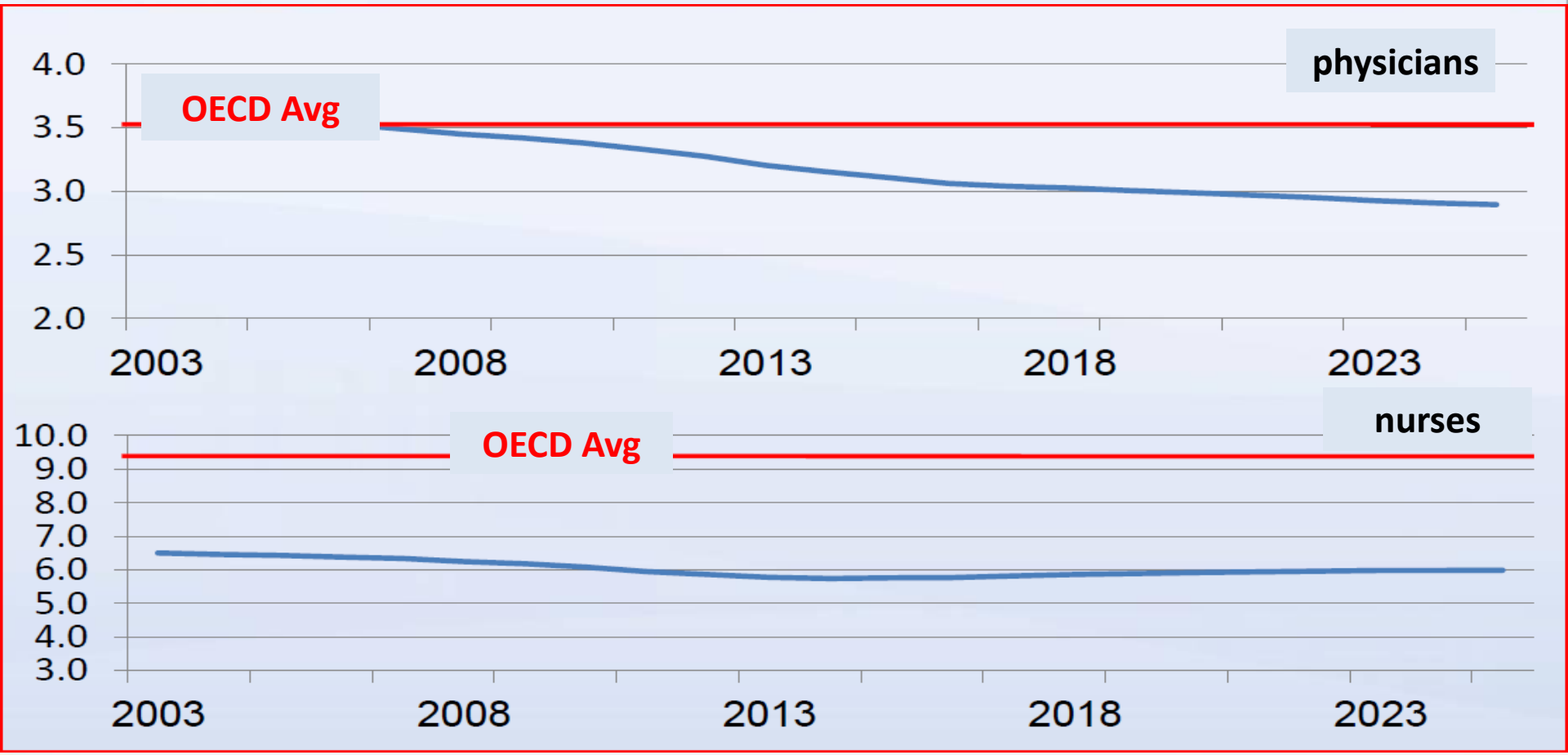
Israeli Healthcare System at a Glance

- Universal coverage by law since 1995
- Bismarckian system – 4 HMOs, capitation formula
- Hospital sector includes 24 general hospitals
- System is highly controlled, under-budgeted and subsidized by MOF
  - National health expenditure – 7.8% of GDP (stable since 1995, Germany: 11.2%)
  - Acute care beds – 1.9 (OECD avg. – 3.4), per 1,000 pop., year 2011
  - Physicians – 3.3 (OECD avg. – 3.2), per 1,000 pop., year 2011
  - Medical graduates – 4.9 (OECD avg. – 10.6), per 100,000 pop., year 2011

Ministry of Health - responsibilities

- Develops health **policy**
- **Initiates and oversees implementation** of all health-related legislation passed by the Knesset.
- **Licenses** the medical and paramedical professions
- **Manages** the governmental health care **budget**
- **Owns and operates** public health services and many of the nation's larger hospitals.

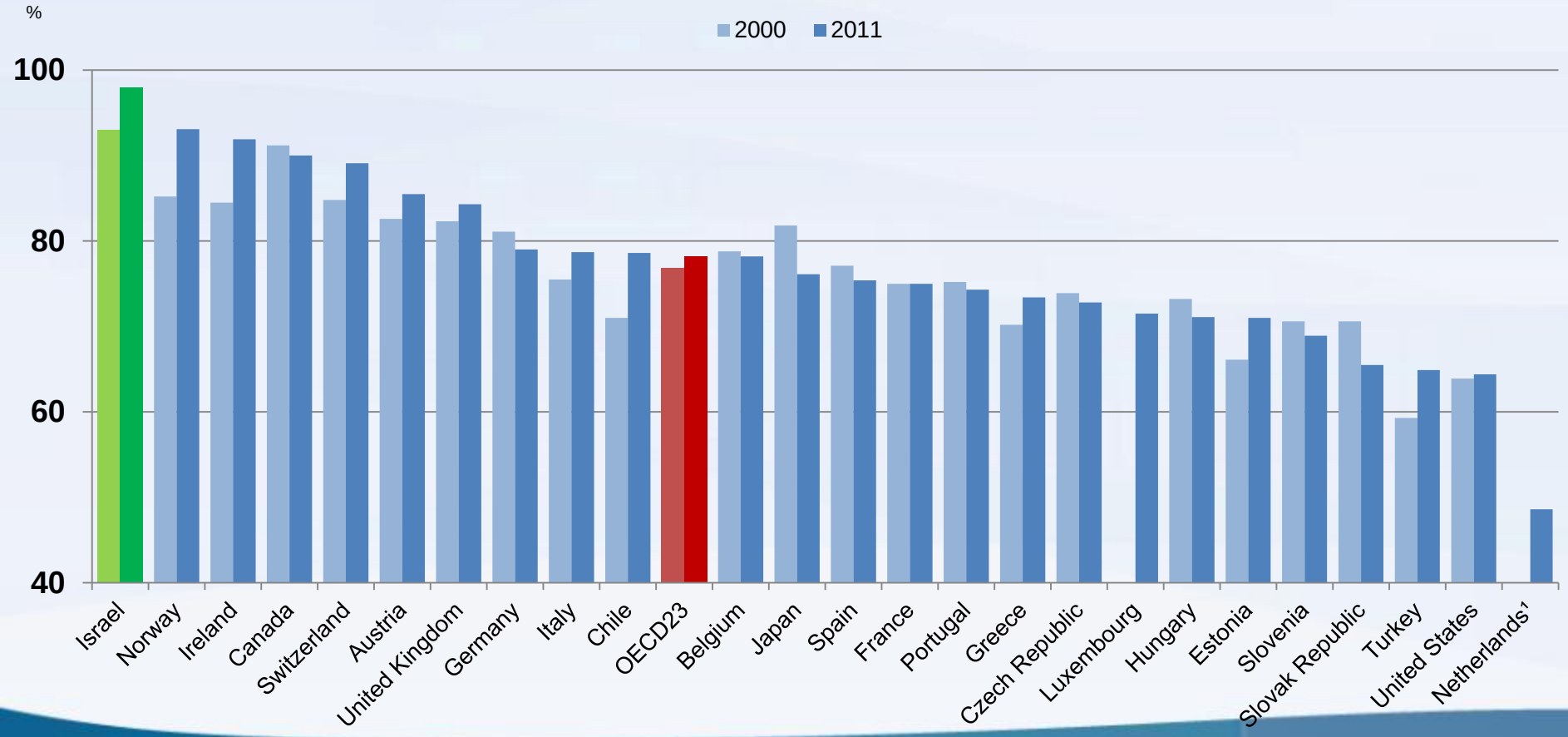
Physicians & Nurses, Density per 1,000 population



Source: Administration for Strategic and Economic Planning, MOH

Occupancy rate of curative (acute) care beds

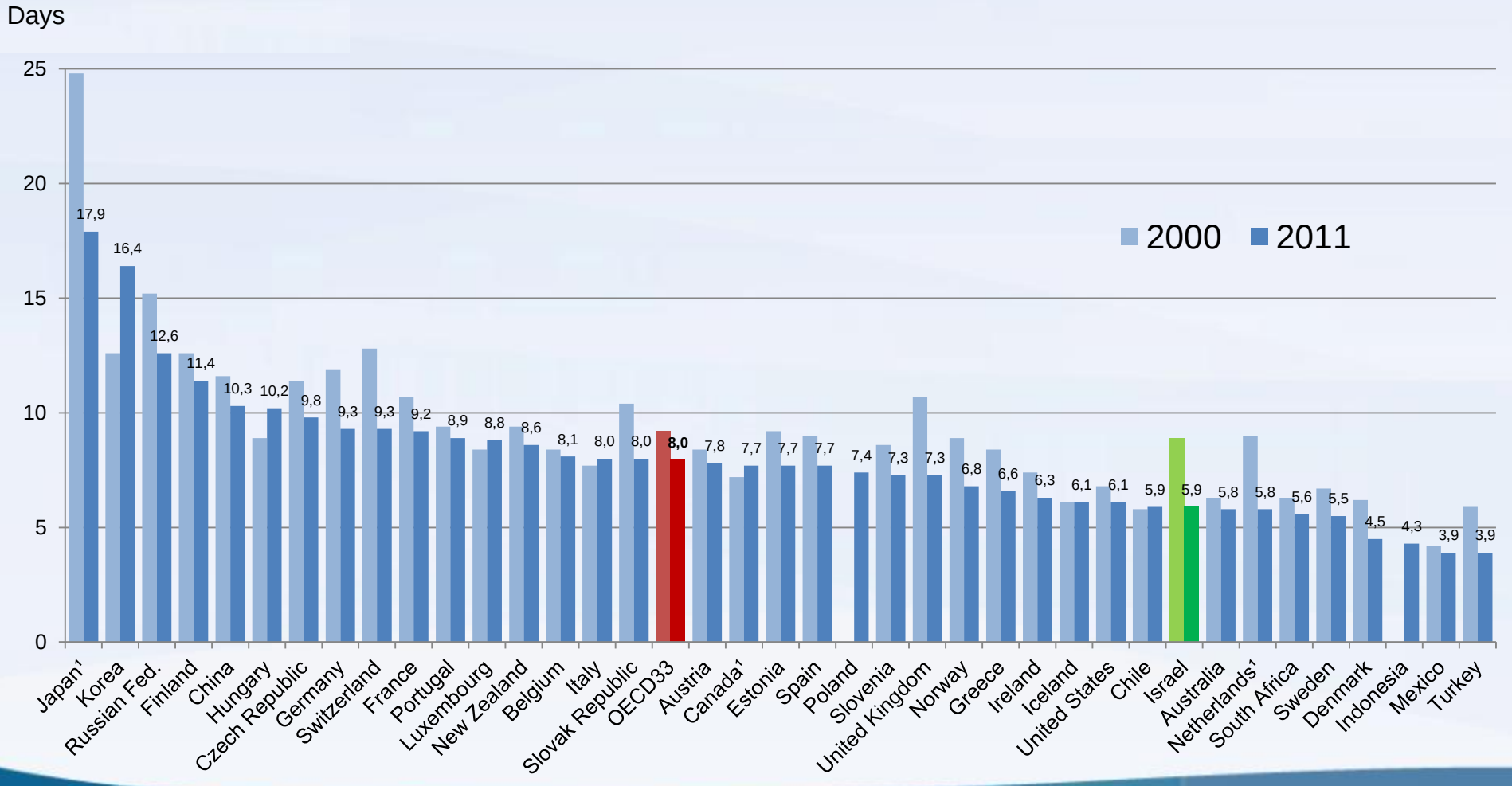
2000 and 2011 (or nearest year)



Source: OECD Health at a Glance 2013

Average length of stay in hospital for all causes

2000 and 2011 (or nearest year)



Source: OECD Health at a Glance 2013

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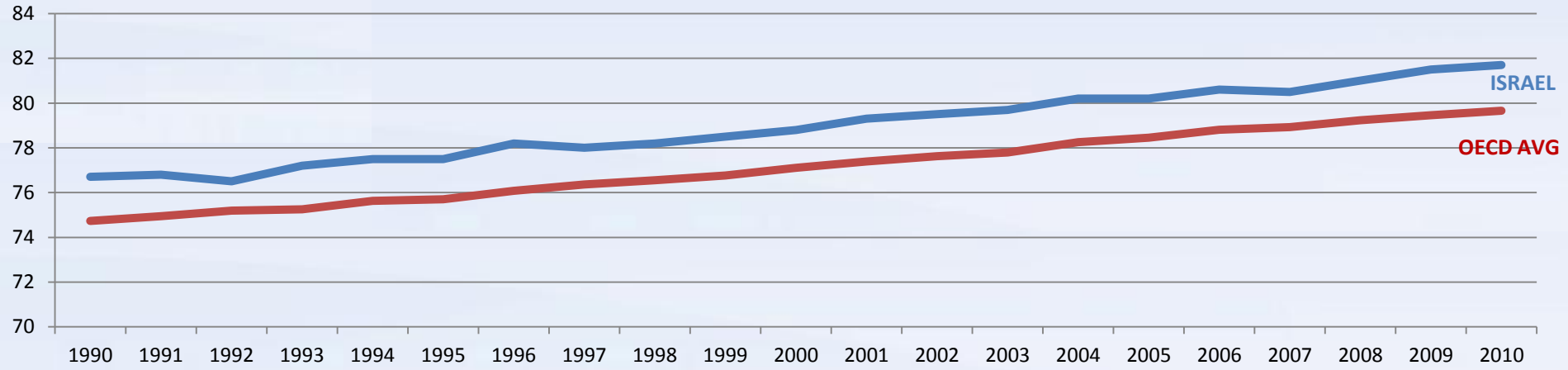
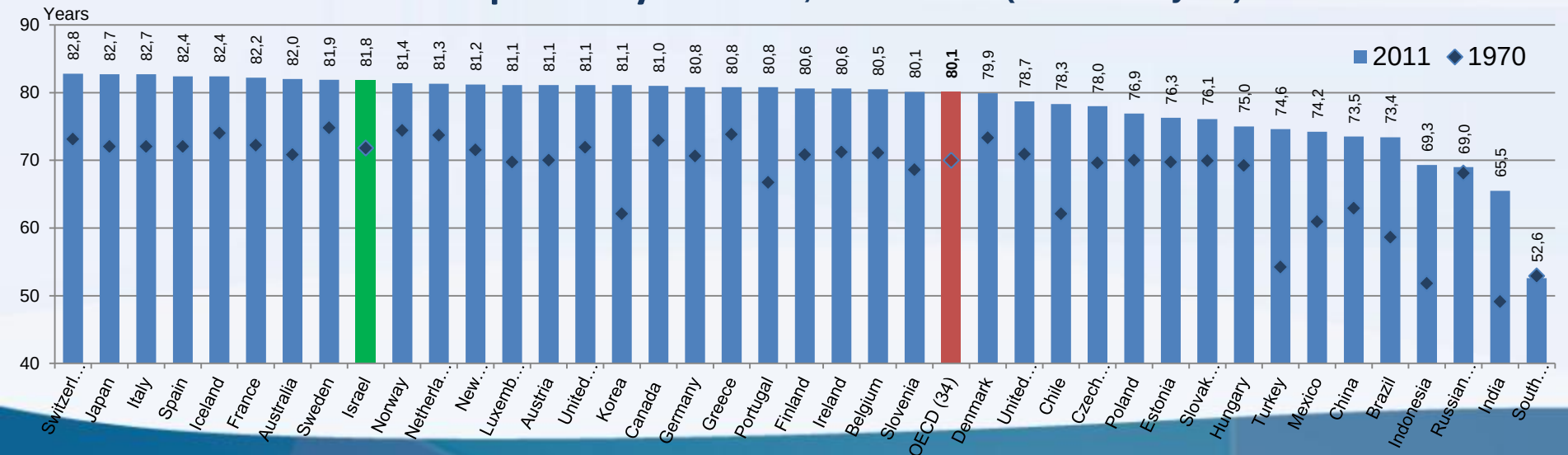
Life Expectancy (Male & Female)



Life expectancy at birth, 1970 & 2011 (or nearest year)



Source: OECD Health at a Glance 2013

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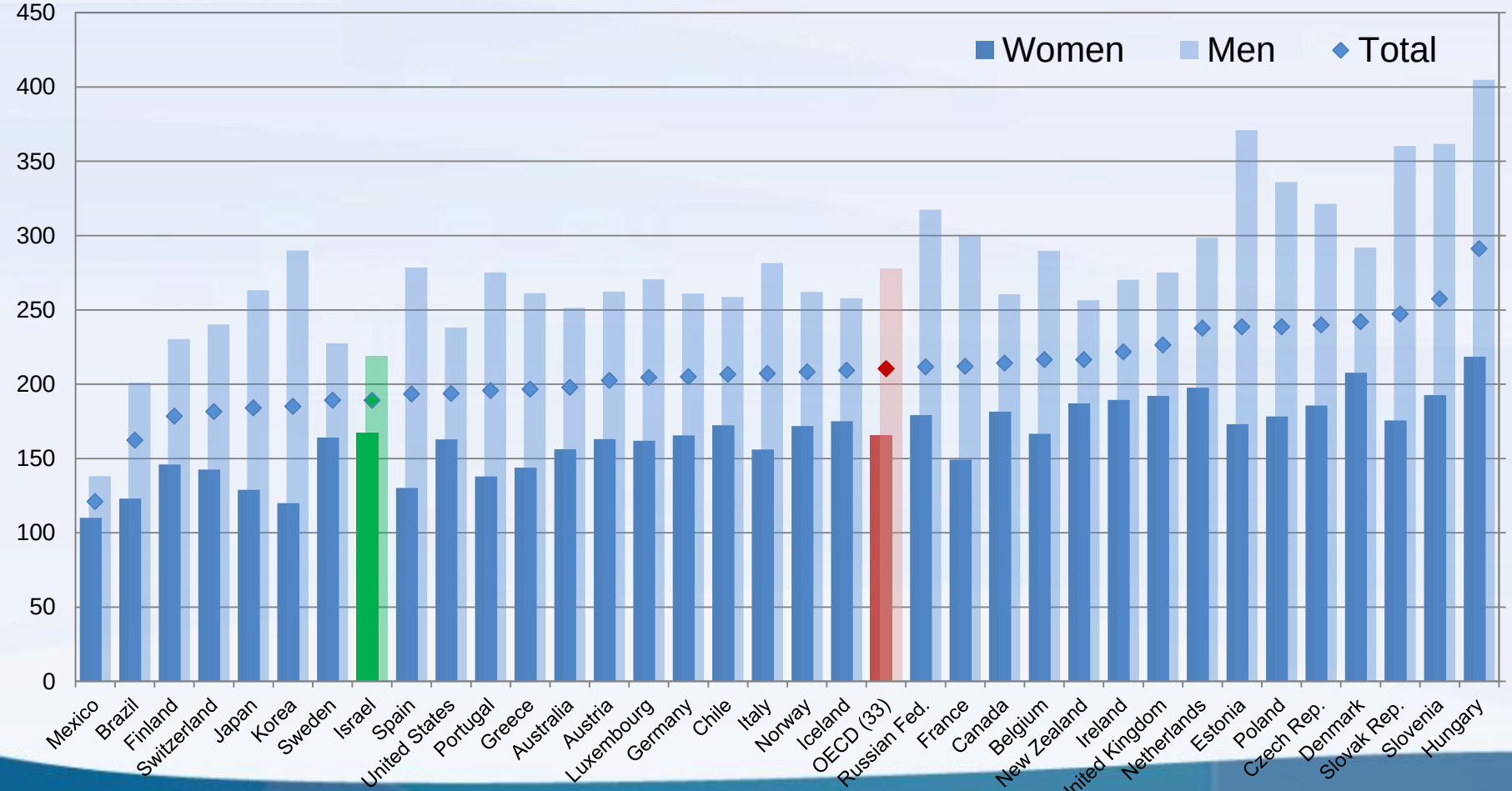
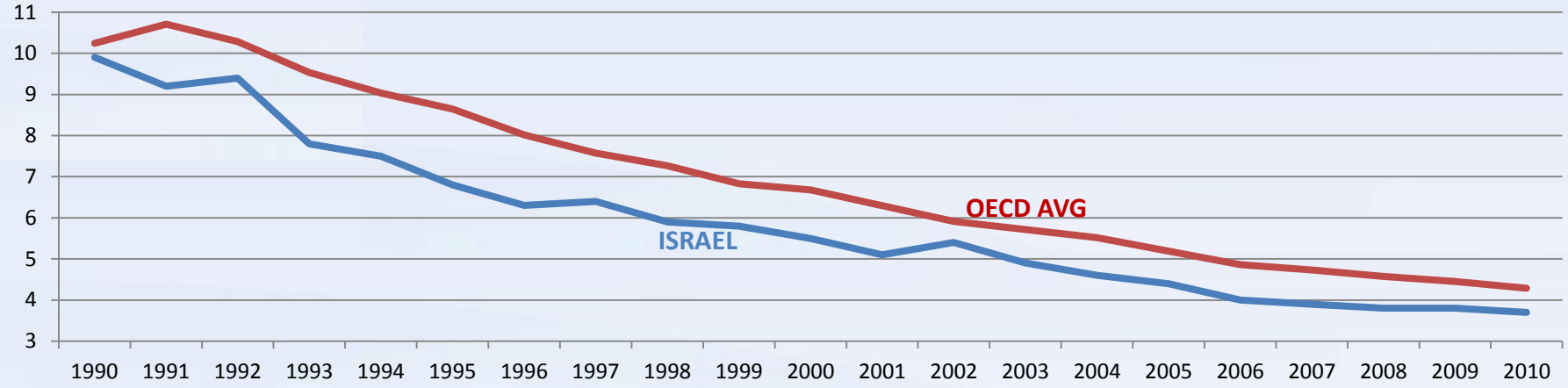
All cancers mortality rates
total and by gender, 2011 (or nearest year)

Age-standardised rates per 100,000 population



Source: OECD Health at a Glance 2013

Infant mortality, Deaths per 1,000 live births



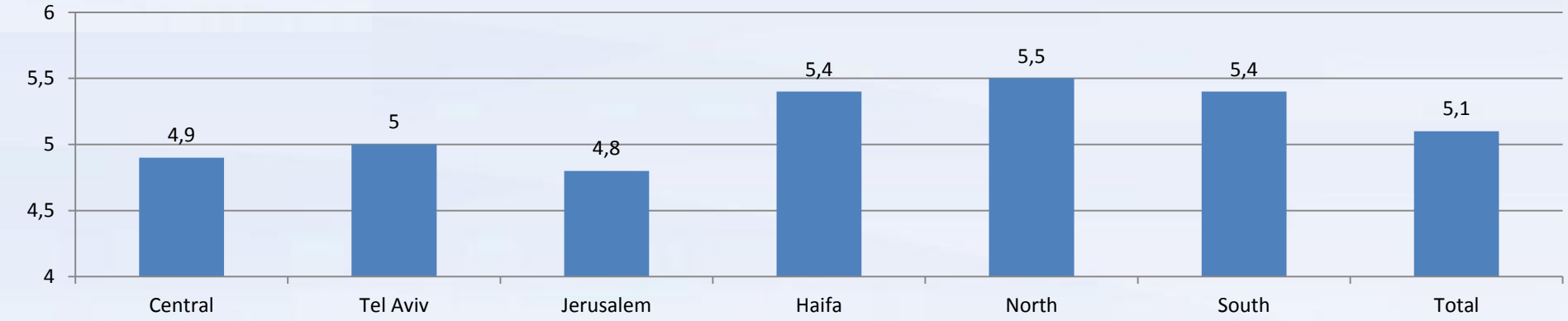
Year 2011*

Source: OECD Health at a Glance 2013

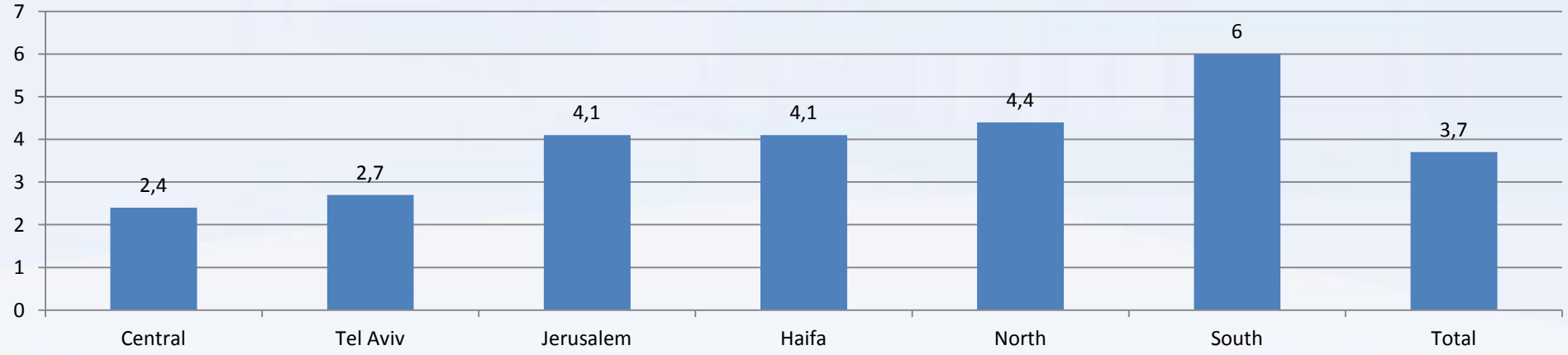
*Or nearest year

Inequalities in health - Districts, 2010

Standardised death rate per 1,000 population

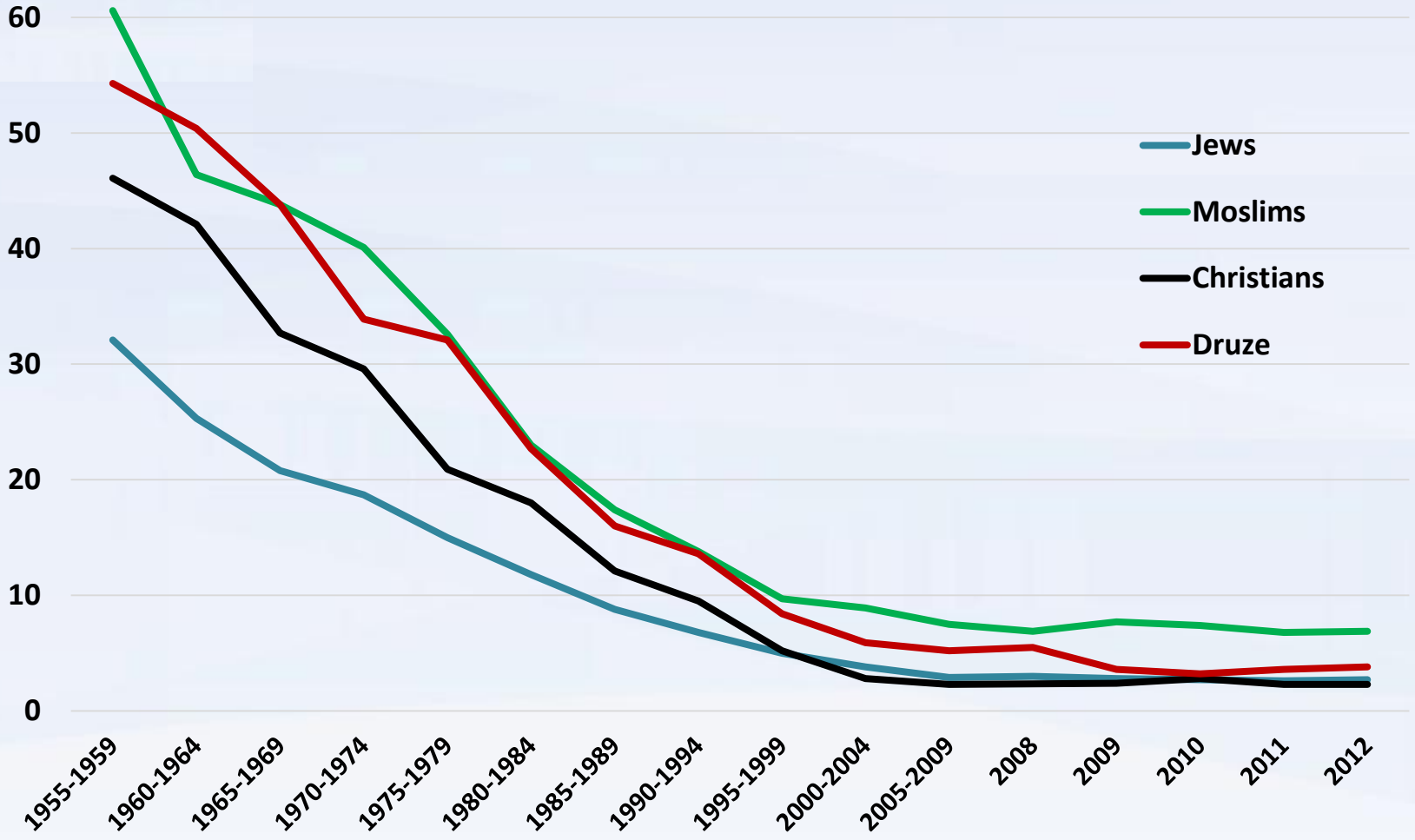


Infant mortality per 1,000 live births



Source: Israel CBS

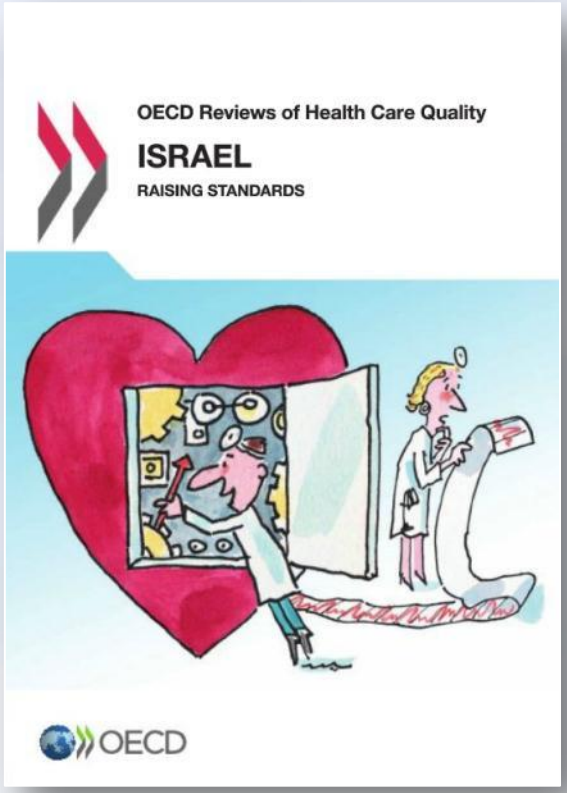
Infant Mortality Rates by Religion, 1955-2012



Source: Israel CBS

"Israel has established one of the most enviable health care systems among OECD countries…"

OECD Reviews of Health Care Quality: Israel 2012



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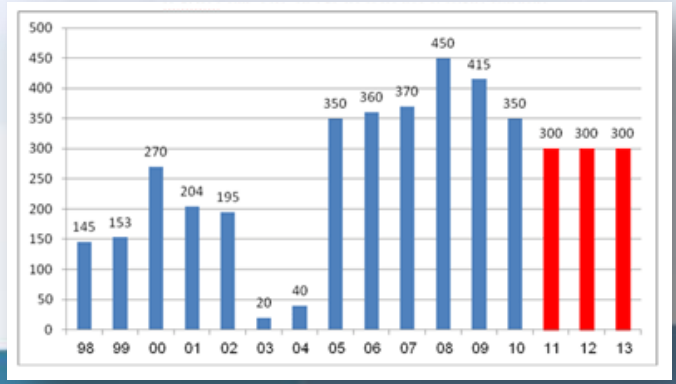
The 'Health Basket' Committee

- Update of the Health Basket is dependent on additional funding
- Estimated need – 2%, actual funding ~ 1%
- Annual technological assessment by the MOH Medical Technology Administration
- Public Advisory Committee review
  - MOH & MOF officials
  - HMOs
  - Israel Medical Association
  - Public representatives

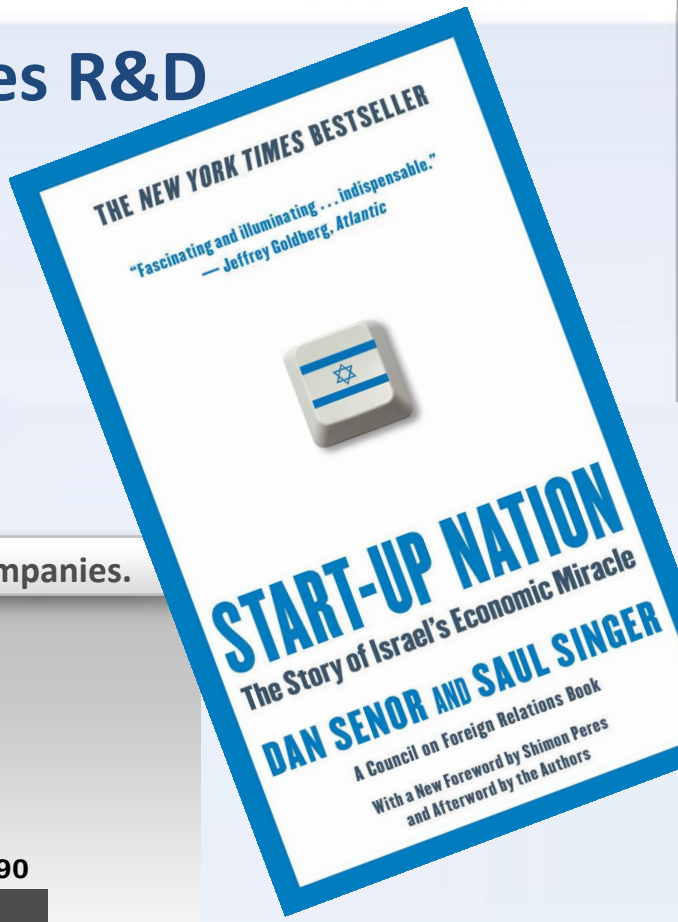


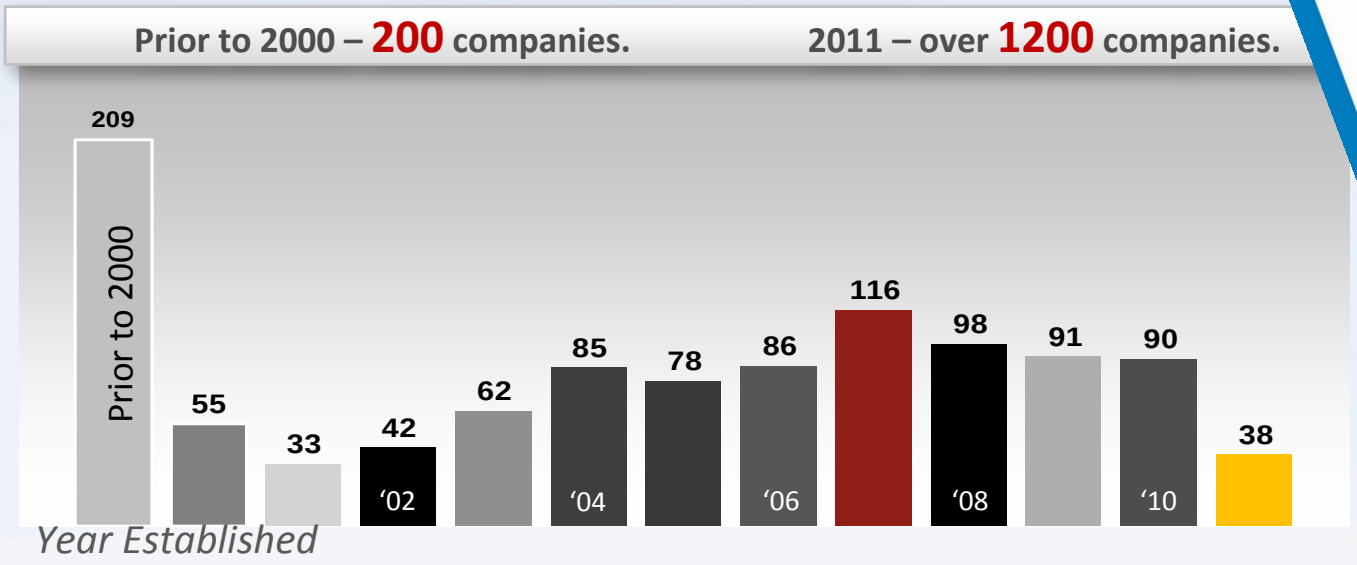
State of the Art Technology

- Recent addition of
  - 14 MRIs
  - 2 PET-CTs
  - 6 Linear Accelerators
- 6 '*da Vinci*' Robots

Promotion of Life Sciences R&D

- Government decision (13th May 2013)
- Advanced regulation of clinical trials
  - On line system for admission, Short time of approval
  - MOH support for investigators





The number of Israeli Biotech companies per 1M inhabitants is 5 times that of the USA.
70 – 80 new companies established each year.

Health Information Exchange (HIE) and Co-ordination of Care

- **Problem: A weakness area of the Israeli health care system:**
  - Health info is recorded but not always transferred.
  - Discharge planning is not systematic
  - poor communication between hospital and community
- **Plan: Regulations to the Universal coverage law:**
  - Chronic medications will not be changed by the hospital unless it is clinically essential.
  - Prescriptions for medications at discharge will be of generic meds (not the commercial name)
  - Health funds will establish an available "coordinating unit" that will make all the necessary arrangement before discharge – including taking care of administration required such as appointments to the relevant health care professionals.
  - Patients with complex medical or social conditions will not be discharged without making the medical, social and administrative preparations that are needed for their care in the community.

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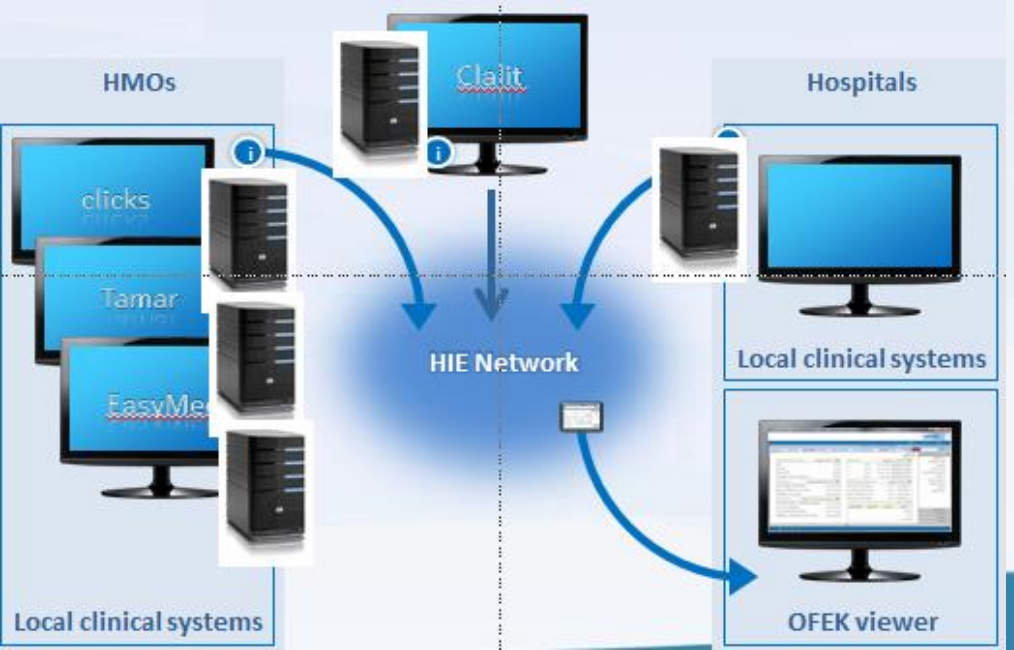
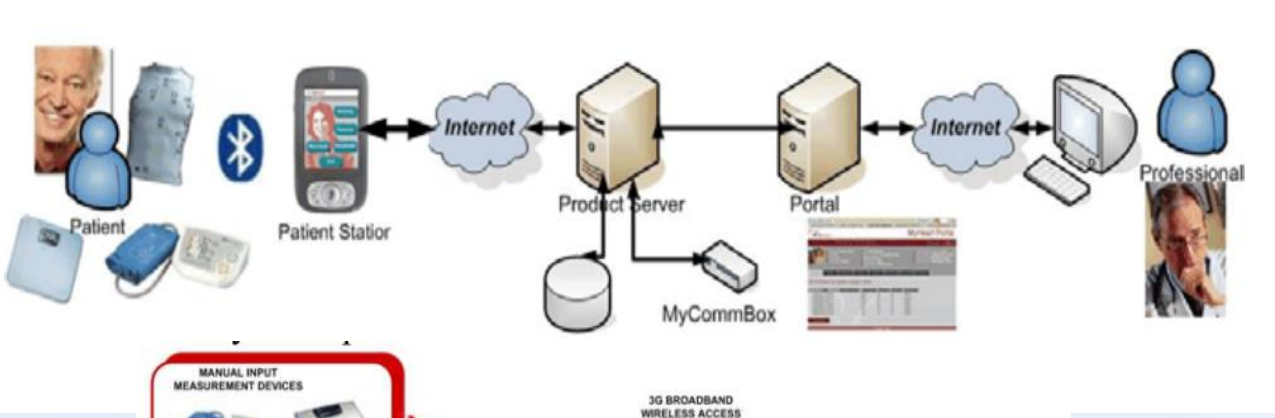
National HIE project in Israel
Major role in health Co-ordination

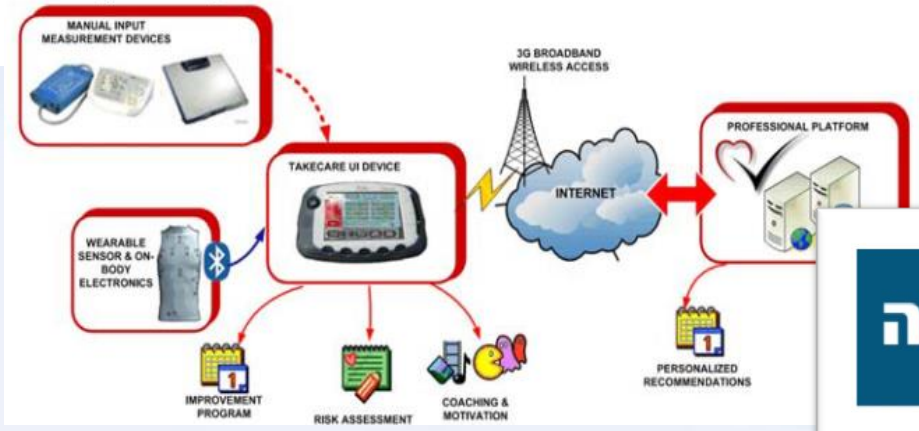
- **Started as a nationtal project on 11/2011**
- **Based on OFEK by dbMotion**
- **No central data repository – real time health information exchange**



dbMotion
Connected Healthcare

Telemedicine





משרד הבריאות

חוזר מינהל הרפואה

חוזר מס' : 15/2012

ירושלים, כ"ח אייר, תשע"ב
20 מאי, 2012

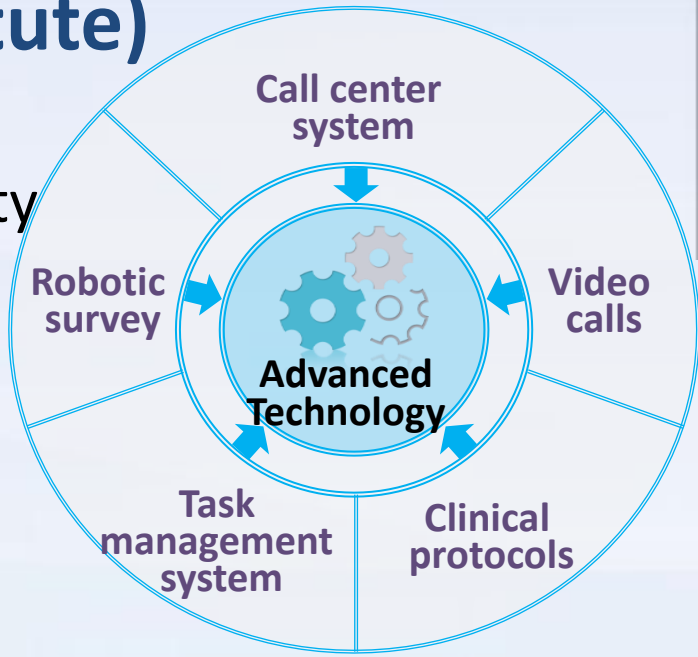
תיק מס' : 15/5

אל: מנהלי בתי החולים
מנהלי האגפים הרפואיים – קופות החולים

אמות המידה להפעלת שירות בריאות מרחוק
(טלה-בריאות/טלה-רפואה/Telemedicine)

MOMA Advanced Technology Call Center (Macabi- and Gertner institute)

- Management of large population with complex chronic conditions and co-morbidity at their home:
  - CHF & COPD, Cardiac Rehabilitation
  - Stoma & chronic wound
  - Diabetes
- access to the patient's medical records
- Patient involvement in decision making
- Better accessibility
- Effectively coordinated medical services



ReAbility Online – Gertner Institute

- Individually tailored exercises
- Dynamic patient progress info
- Online and offline data are stored for subsequent interpretation and recommendations by the clinician.
- Series of clinical trials to show positive results of effectiveness, including comparison to traditional rehabilitation exercises.
- approval of the Israeli Ministry of Health and the launch of a tele rehabilitation service with 130 patients to date.

MSR - The Israel Center for Medical Simulation

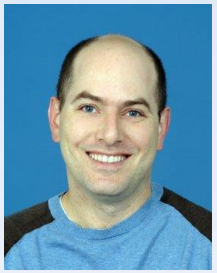
- The world's first comprehensive "virtual" hospital, enhances the quality and safety of patient care by exposing healthcare professionals to hands-on training
- Trains 6,000 healthcare professionals a year
- Uses all medical simulation modalities, including simulated patients (role-playing actors), advanced task trainers, and physiological computerized mannequins

MSR - Higher Order Competencies / Skills

- Safety Skills **(Error = Unasked Question)**
- Team Work Skills
- Multi-Cultural and Communication Skills
- Reflective Skills
- Personal Traits

"Talpiot Medical Leadership Program" -Educating the Future Leaders Sheba Medical center

- Each "Talpionnaire," (program participant), receives a significant **scholarship** over five years (in addition to his/her salary as a physician in the hospital).
- Each Talpionnaire is accompanied throughout his work and research by a **personal mentor**, drawn from the most senior and outstanding ranks of Sheba faculty.



Prof. Amir Tirosh
- Obesity and type 2 DM
NEJM & Annals Of Int. Med
before residency

Prof. Gal Markel
founder and chief scientific officer of cCAM Biotherapeutics, a company located in the north of Israel and dedicated to the development of novel immunotherapies to treat cancer. Purchased by Merck

And what about the Spirit?

Israel Dispatches Rescue Teams to Philippines

Monday, November 11, 2013 | Israel Today Staff

96

Enlarge

Israel on Monday dispatched several rescue and humanitarian aid teams to the Philippines, where at least 1,200 were killed when the country was devastated b

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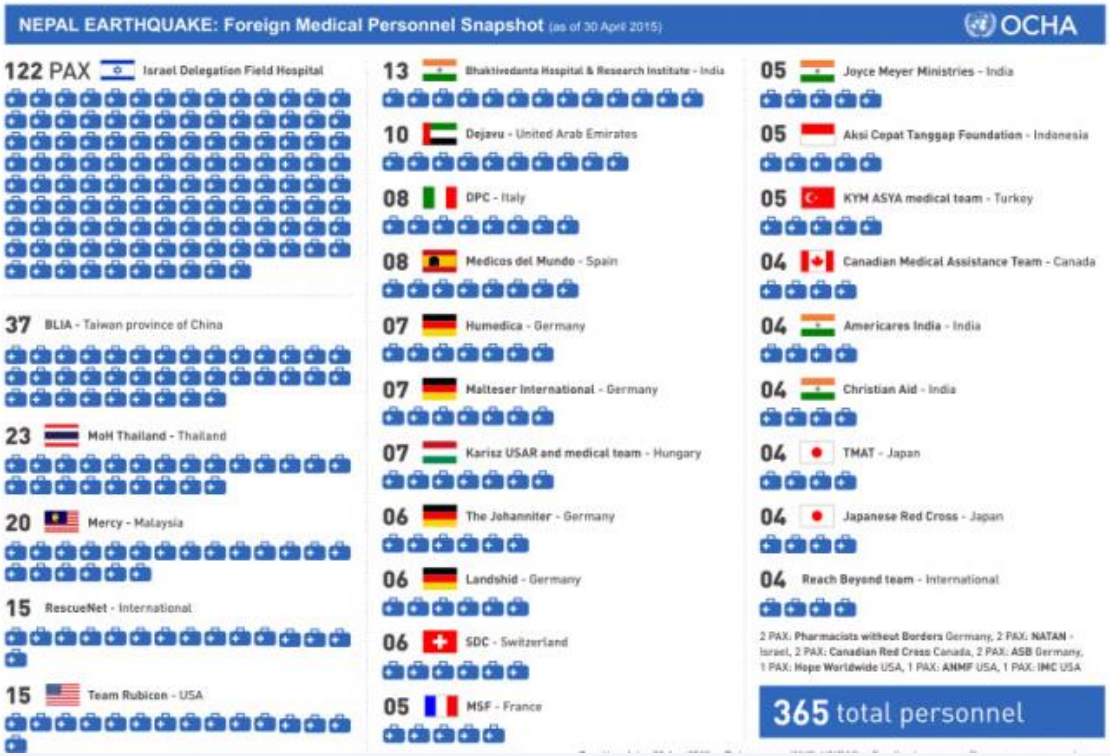
Israel ranks high by UN - in humanitarian aid to Nepal after earthquake- April 2015

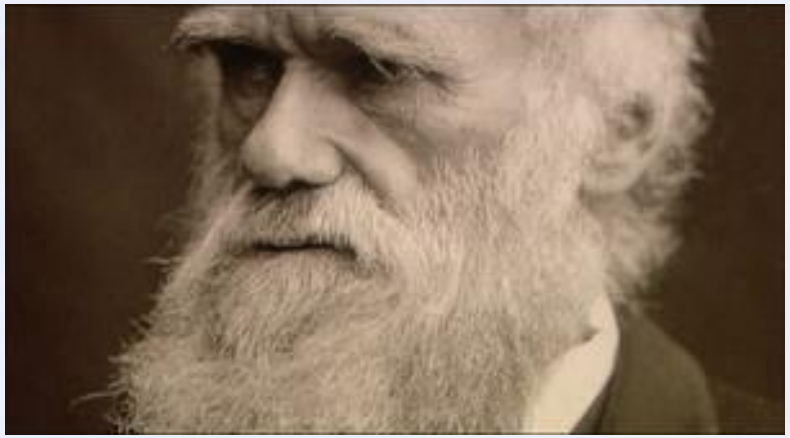
Nepal earthquake: Foreign Medical Personnel

Copyright: UNOCHA



**“It is not the strongest of the species that survives, nor the most intelligent that survives.
It is the one that is the most adaptable to change.”**

Charles Darwin



Thank You!

Israel's Healthcare Goals
"Pillars of Fire"
2016

"Pillars of fire"

משרד הבריאות

משרד הבריאות
לחיים בריאים יותר

Patient centered care

- Promoting discussion and perception of patient centered care
- Mapping gaps and challenges to realization of the concept
- Constructing a strategy

Reinforcing the fundamentals – robustness of the healthcare system

- Reinforcing the economic base of the health system
- Reinforcing the managerial framework and management structure
- Building a professional manpower base training it and altering it in consideration with changing needs
- adapting physical infrastructure to patient needs

Designing a healthcare system to meet future challenges

- Preparing the health system for the expected aging of the population
- Designing and adapting the health system in an era of information and digital healthcare
- Adapting the health system to changes in chronic disease characteristics
- Adapting the health system to the cultural, social and economic trends in Israel

Strengthening the public health system – availibility, trust and leadership

- increasing availibility and choice of services in the public health system
- Strengthening primary and community healthcare
- Assuring continuity of care
- Improving interactions and case mix between public and private healthcare

Promoting quality and transparency in the health system

- Promoting quality and safety of treatment
- Improving the quality of medical data and information
- Promoting service orientation
- Promoting transparency and public access to information

Pillars of Fire 2016

Strengthening the public health system – availibility, trust and leadership

Objective	Priority
Increasing **availibility** and choice of services in the public health system	1
Strengthening **primary** and community healthcare	2
Assuring **continuity** of care	3
Improving interactions and **case mix between public and private healthcare**	4

משרד הבריאות
לחיים בריאים יותר

INCREASING AVAILABILITY

Infections

Waiting Times

ER

FULL-TIMERS

Pre-term

CVA

MRI

Increasing Bed No.

INCENTIVE MODEL AND GRADING OF NEONATAL ICUs

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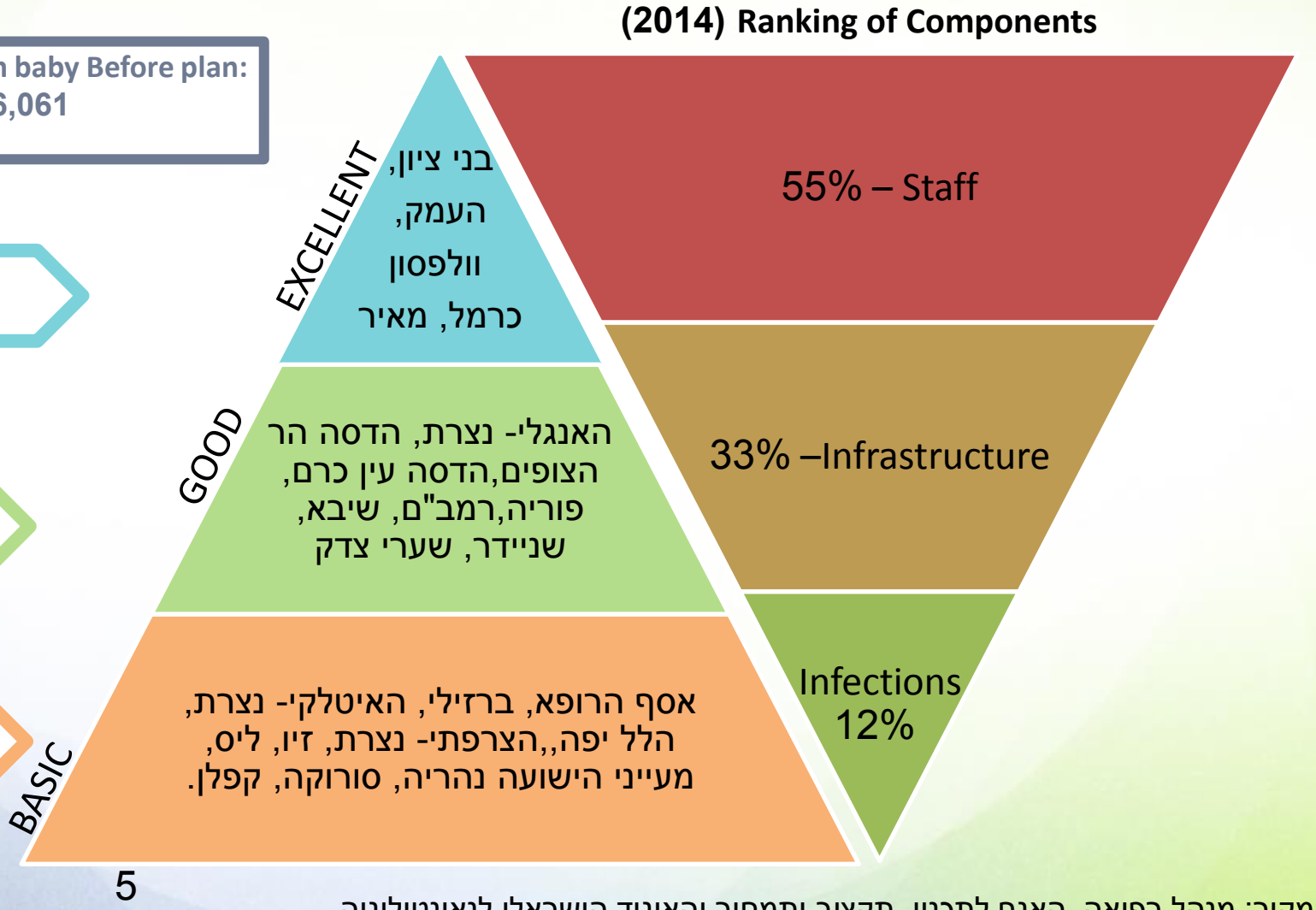
Payment per Preterm baby Before plan: NIS 176,061

GROUP A
NIS 212,507

GROUP B
NIS 202,754

BASIC
NIS 192,992



מקור: מנהל רפואה, האגף לתכנון, תקצוב ותמחור והאיגוד הישראלי לנאונטולוגיה

ON the way to the ER Application

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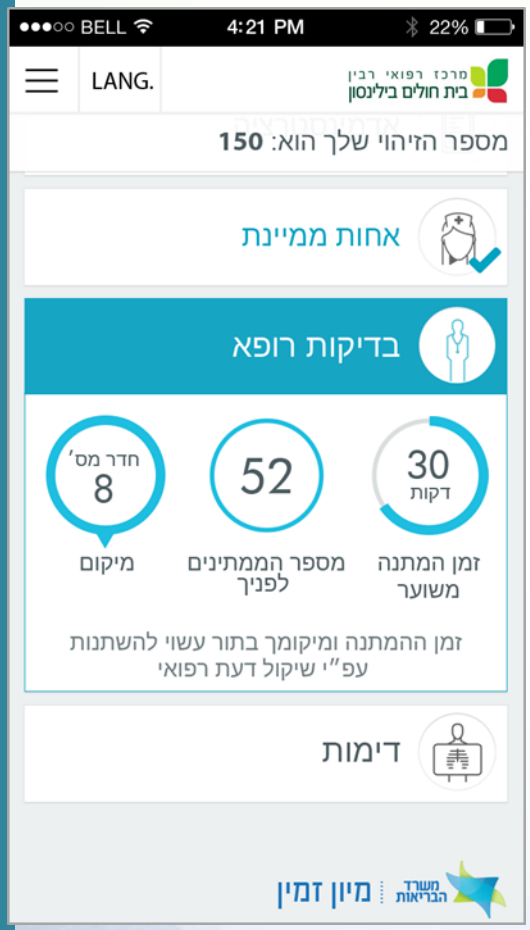
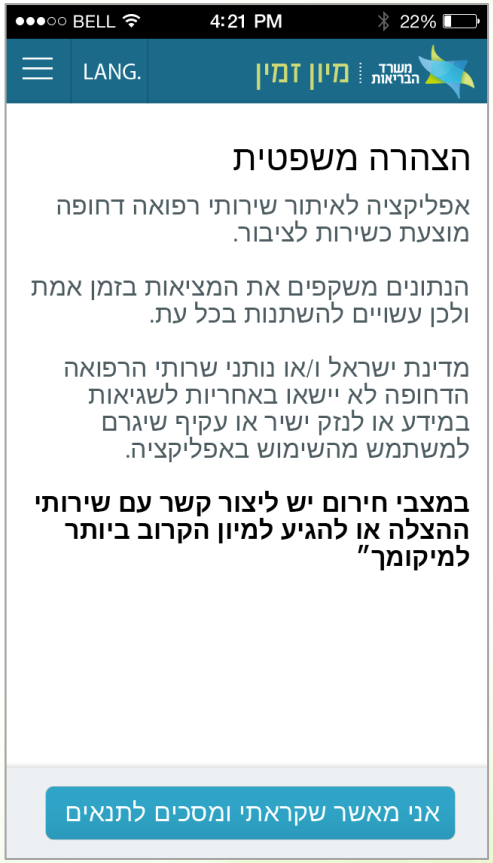
Mobile





Online Data for the Ministry

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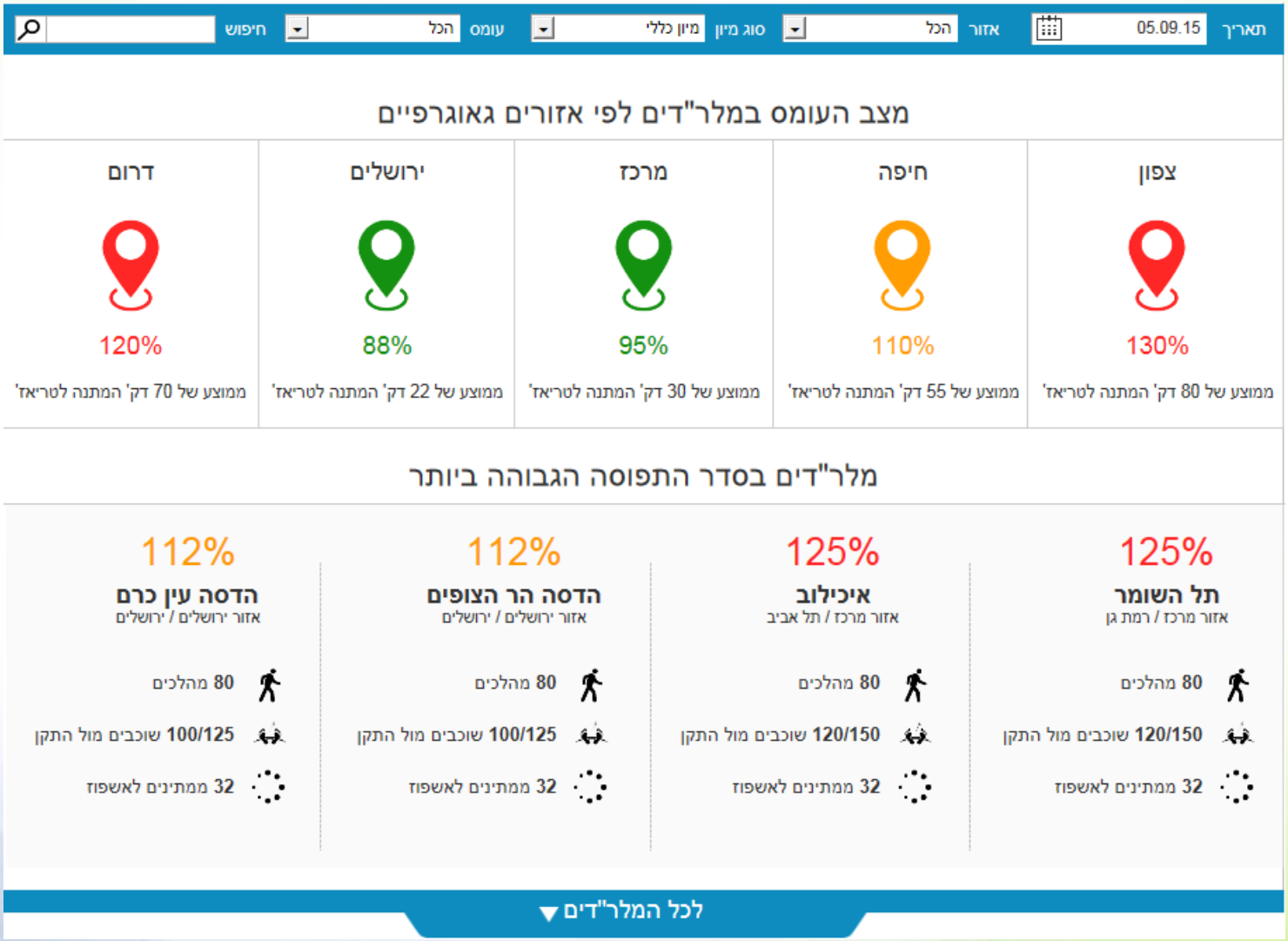
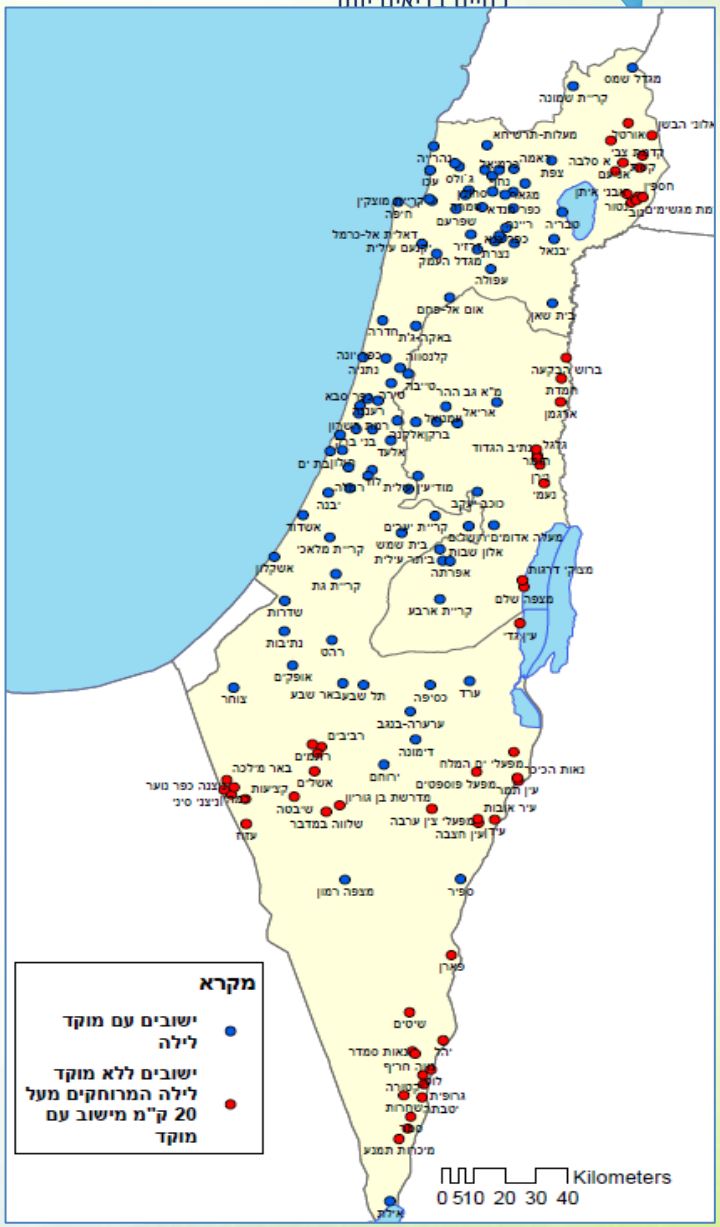
מסך Online למשרד הבריאות



Strengthening primary and community healthcare

EMERGENCY CARE UNITS

- After hours emergency care
- Of HMOs and Private (Terem, Bikur-Rofe)
- Some only Docs, Some: Lab, X-RAY, prenatal monitoring, Plaster Casts
- In the Periphery from Budget of The Ministry or local Municipalities
- Since 2012 – 11 Emergency clinics have been Established in the periphery, 7more are planned



ENSURING CONTINUITY OF CARE

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- CONTINUITY OF CARE LEGISLATION
- REDUCTION OF READMISSIONS
- HEALTH INFORMATION EXCHANGE
- HMOs COORDINATION STAFF in HOSPITALS
- PLANNING DISCHARGE OF PRE-TERM BABIES

משרד הבריאות
לחיים בריאים יותר

PRIVATE PUBLIC MIX

COOLING_OFF PERIOD BETWEEN PRIVATE And PUBLIC CARE

ועדת הבריאות אישרה: רופאים במערכת הציבורית לא יוכלו להפנות חולים לניתוח פרטי שהם עצמם יבצעו

נתונים חדשים של משרד הבריאות חושפים: ב-45% מהניתוחים הפרטיים קדם לניתוח מפגש של החולה עם רופא במערכת הציבורית ■ לפי החוק, תהיה תקופת צינון של 4-8 חודשים מהמפגש הציבורי לניתוח הפרטי

רוני לינדר-גנץ |

Patient centered care

OBJECTIVES	PRIORITY
Promoting discussion and perception of patient centered care	1
Mapping gaps and challenges to realization of the concept	2
Constructing a strategy	3

PATIENT IN THE CENTER PLAN: MAIN STAGES

National Implementation Plan
PILOT
VALIDATION
IMPLEMENTAION TOOLS tailored to the organization
INCETIVE MODEL

MODEL FORMATION
LAYOUT - operational concept
Tools for implementation in the field and at headquarters
INDICES FOR SUCCESS
MODEL TO EXAMINE THE FEASIBILITY

MAPPING
WHAT ARE YOU DOING?
WHAT SHOULD YOU DO?
WHAT DO YOU NEED TO SUCCEED
HOW DO WE KNOW IT IS A SUCCESS?

:OBJECTIVES

1. To know what has been done and learn from successful
2. Define what else you want to develop
3. Stimulate discussion and awareness
4. Formulate a national standard

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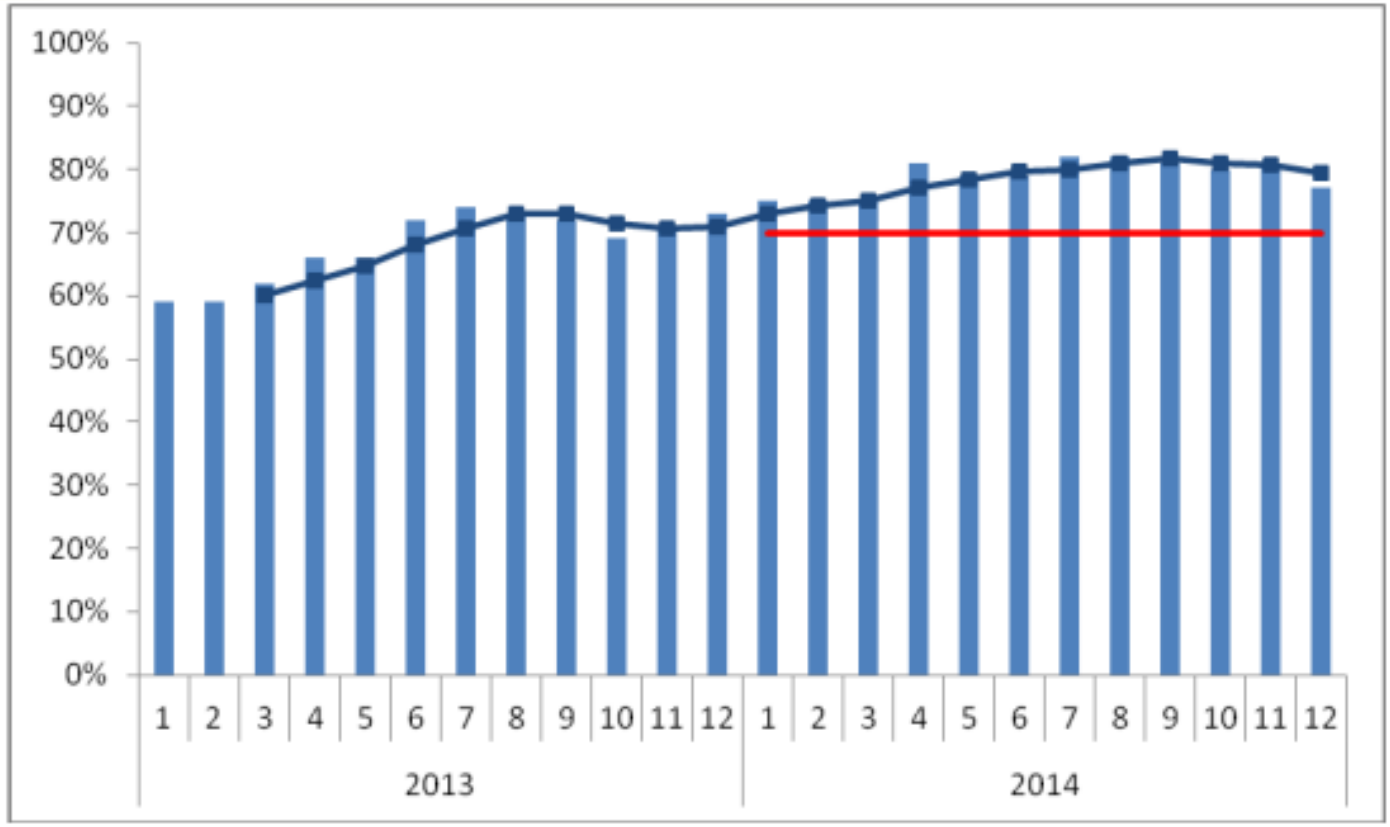
Promoting quality and transparency in the health system

OBJECTIVE	PRIORITY
Promoting quality and safety of treatment	1
Improving the quality of medical data and information	2
Promoting service orientation	3
omoting transparency and public access to information	4

משרד הבריאות
לחיים בריאים יותר

QUALITY MEASURES IMPROVEMENT

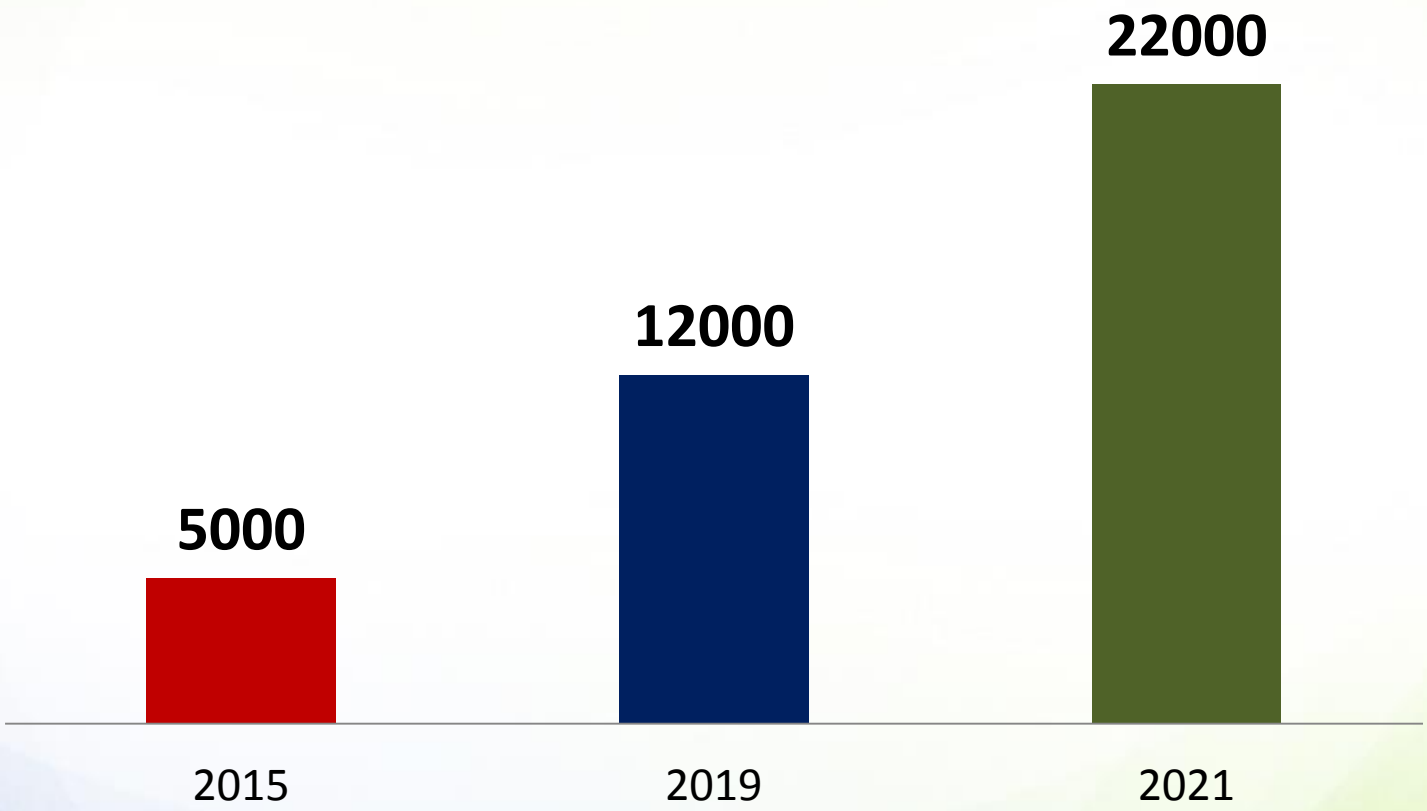
NTEMI – CATHETERIZATION WITHIN 90 MINUTES



Designing a healthcare system to meet future challenges

OBJECTIVE	PRIORITY
Preparing the health system for the expected aging of the population	1
Designing and adapting the health system in an era of information and digital healthcare	2
Adapting the health system to changes in chronic disease characteristics	3
Adapting the health system to the cultural, social and economic trends in Israel	4

GRADUAL INCREASE IN PATIENS AGED 75+



THANK YOU

משרד הבריאות

חיזוק היסודות - איתנות מערכת הבריאות

תעדוף	שם היעד
1	חיזוק התשתית הכלכלית של מע' הבריאות
2	חיזוק התשתית הניהולית ומנגנוני ניהול
3	בניית תשתית כ"א מקצועית, הכשרתו והתאמתו לצרכים המשתנים
4	התאמת תשתיות פיזיות לצרכי המטופלים

יעד 1 - חיזוק התשתית הכלכלית של מערכת הבריאות

	מדד תוצאה	ערך נוכחי	ערך צפוי	מועד סיום
1	שיעור הגירעון של כלל השחקנים במערכת	6.1% (2014)	0%	2020
2	היחס בין מדדי הקידום הקיימים ובין שיעור השינוי בהוצאה בפועל בין שנים (מחירים, דמוגרפיה)	-	~1	2020
3	שיעור השחרורים מסך השחרורים של מטופלים שקיבלו שירות שמחירו מותאם לעלותו	*2.5% (2015)	50%	2020

יעד 2 - חיזוק התשתית הניהולית ומנגנוני ניהול

	מדד תפוקה	ערך נוכחי	ערך צפוי	מועד סיום
1	הקמת חטיבת בתי חולים	0	1	2016
2	מספר בתי החולים הציבוריים המפוקחים	0	7	2016
3	תכנית איחוד בתי החולים בנצרת	0	1	2016

יעד 3 - בניית תשתית כוח אדם מקצועי, הכשרתו והתאמתו לצרכים המשתנים

מדד תוצאה		ערך נוכחי	ערך צפוי	מועד סיום
1	יצירת סטנדרט תקינה במקצועות הבריאות	0	1	2018
2	הגדרה ויצירה כמות כ"א נדרשת לפי מקצועות	0	5	2018
3	מספר תכניות ההכשרה הלאומיות במקצועות במערכת הבריאות אשר נדרשת בהם הכשרה	0	5	2017
4	מספר המוסדות במערכת הבריאות השותפים בתכניות הכשרת מנהלים לאומיות	11	25	2017

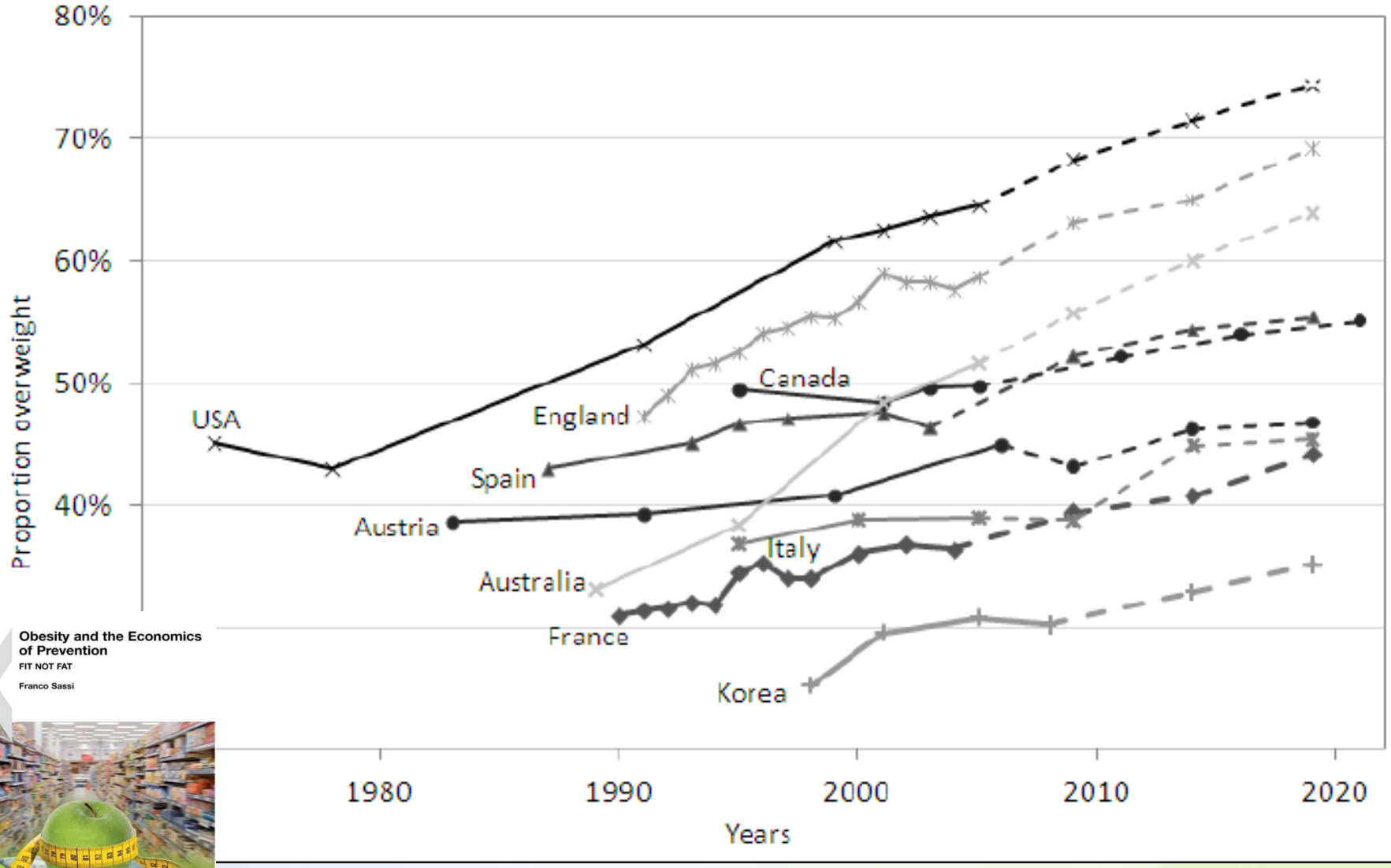
משרד הבריאות
לחיים בריאים יותר

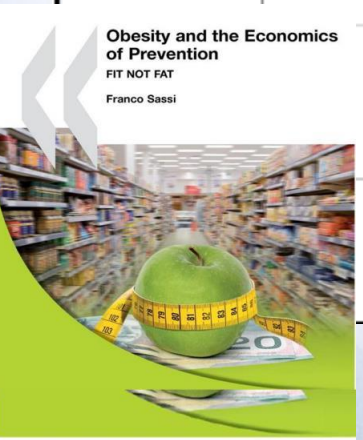
קידום אורח חיים בריא, רפואה מונעת וסביבה בריאה

תיעדוף	שם היעד
1	העלאת המודעות והשיח על אורח חיים בריא במערכת הבריאות ומחוצה לה
2	גידול יישום אורח חיים בריא ופעיל באוכלוסייה
3	הטמעת היבטים בריאותיים בכלל תחומי גיבוש מדיניות
4	הגברת פעילות רפואה מונעת

אשלים בריא
התכנית הלאומית לחיים פעילים ובריאים
תכנון ל-2016 ואילך
פרופ' איתמר גרוטו

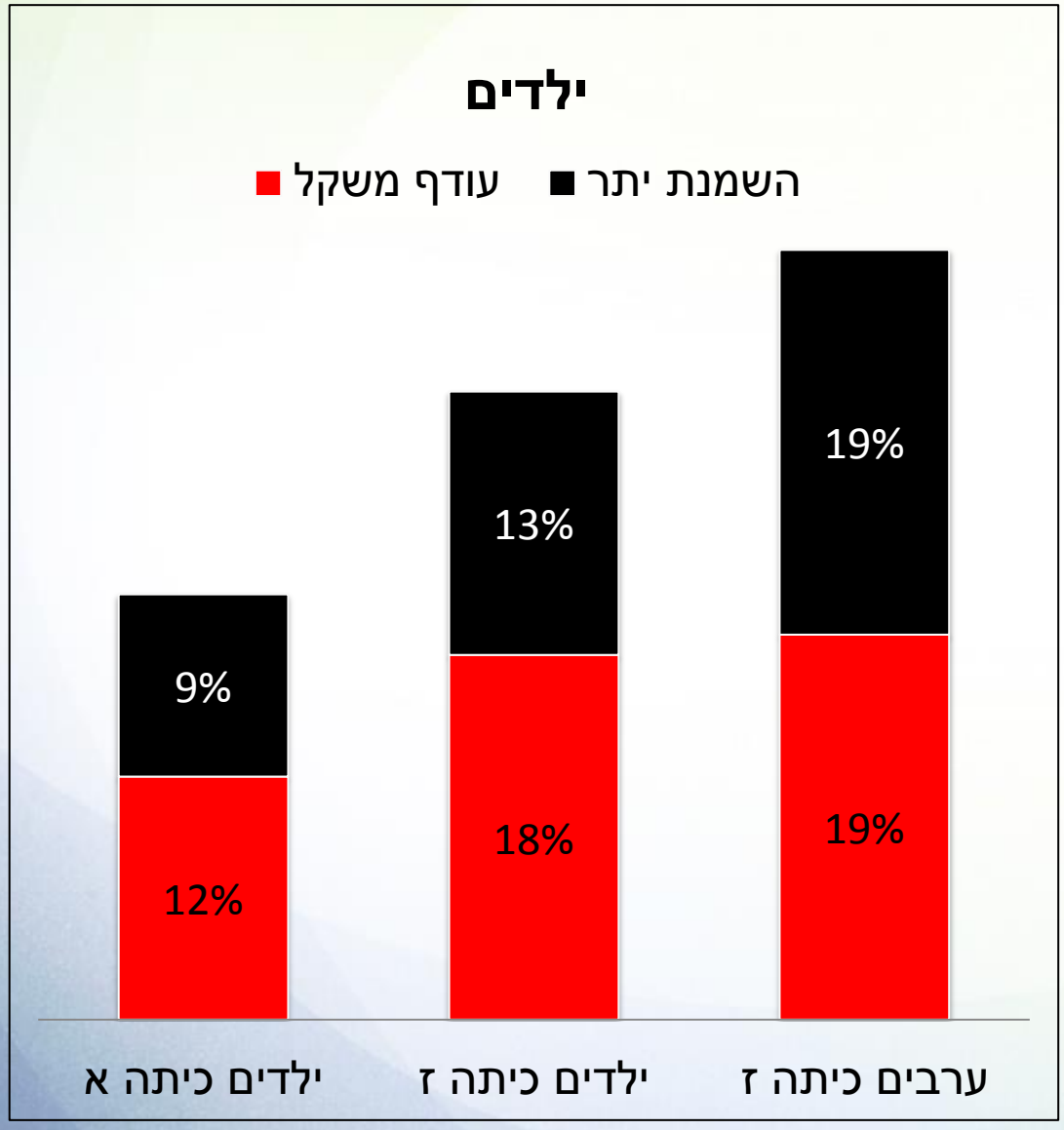
מגמת העלייה בהשמנה בהעדר התערבות צפויה להימשך

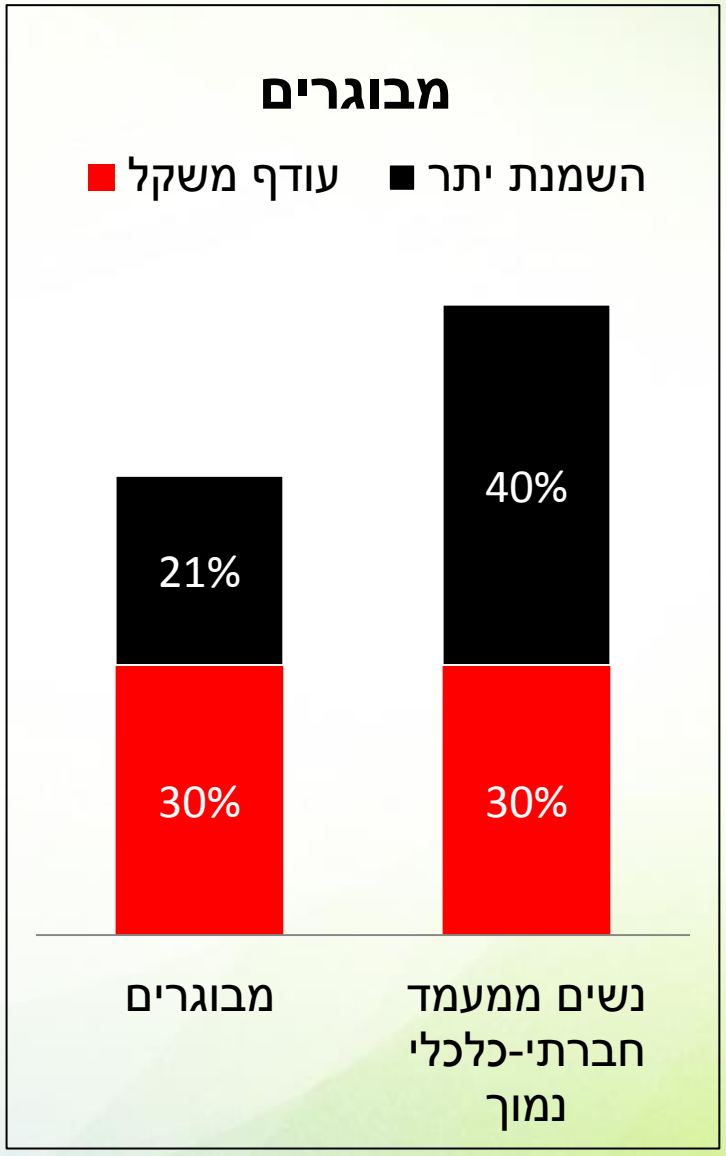




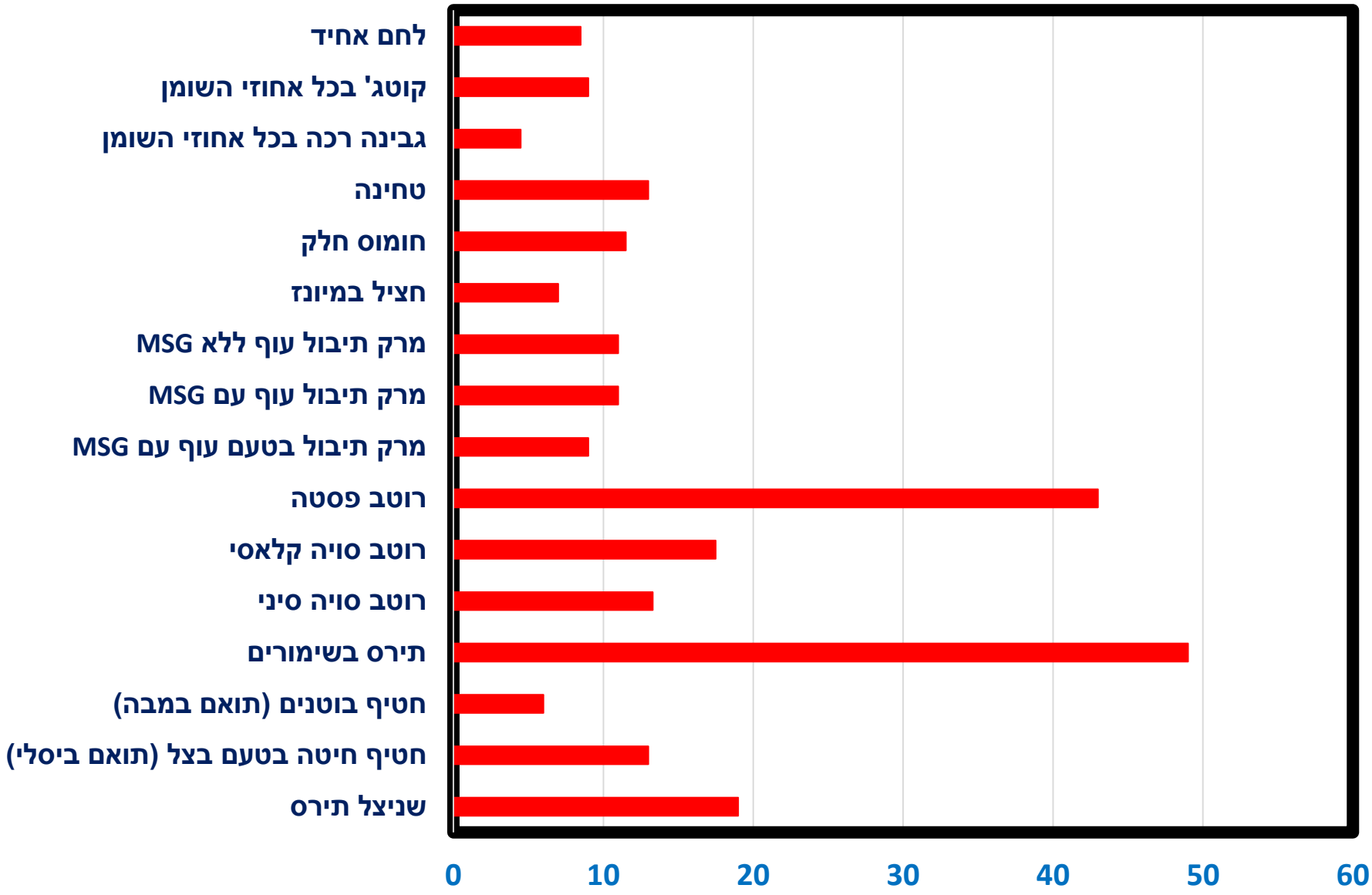
Source: Obesity and the Economics of Prevention, OECD, 2011

עודף משקל והשמנה בישראל וקבוצות בסיכון





אחוז הפחתת המלח בין השנים 2013 ל- 2015



Objectives and goals for 2016 ("Pillars of Fire")

"A **Pillar of Fire** was one of the manifestations of the presence of the God of Israel in the Torah, the five books of Moses which appear at the beginning of the Old Testament Bible."

1. Strengthening the public health system – availibility, trust and leadership
    a. increasing availibility and choice of services in the public health system
    b. Strengthening primary and community healthcare
    c. Assuring continuity of care
    d. Improving interactions and case mix between public and private healthcare
2. Patient centered care
    a. Promoting discussion and perception of patient centered care
    b. Mapping gaps and challenges to realization of the concept
    c. Constructing a strategy
3. Reinforcing the fundamentals – robustness of the healthcare system
    a. Reinforcing the economic base of the health system
    b. Reinforcing the managerial framework and management structure
    c. Building a professional manpower base training it and altering it in consideration with changing needs
    d. adapting physical infrastructure to patient needs
4. Designing a healthcare system to meet future challenges
    a. Preparing the health system for the expected aging of the population
    b. Designing and adapting the health system in an era of information and digital healthcare
    c. Adapting the health system to changes in chronic disease characteristics
    d. Adapting the health system to the cultural, social and economic trends in Israel
5. Promoting a healthy lifestyle, preventive medicine and a healthy environment
    a. Expanding the implementation of active and healthy lifestyle in the public
    b. Raising awareness and discourse on healthy lifestyle in the health system and beyond it
    c. Implementing health aspects in all areas of policy planning
    d. Increasing preventive medical care
6. Promoting quality and transparency in the health system
    a. Promoting quality and safety of treatment

b. Improving the quality of medical data and information
c. Promoting service orientation
d. Promoting transparency and public access to information