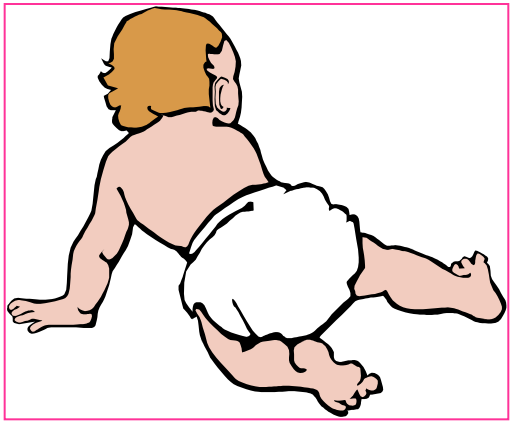
Preventive Health Services
Mother & Child Health Services

The World Health Report 2005
Make every mother and child count



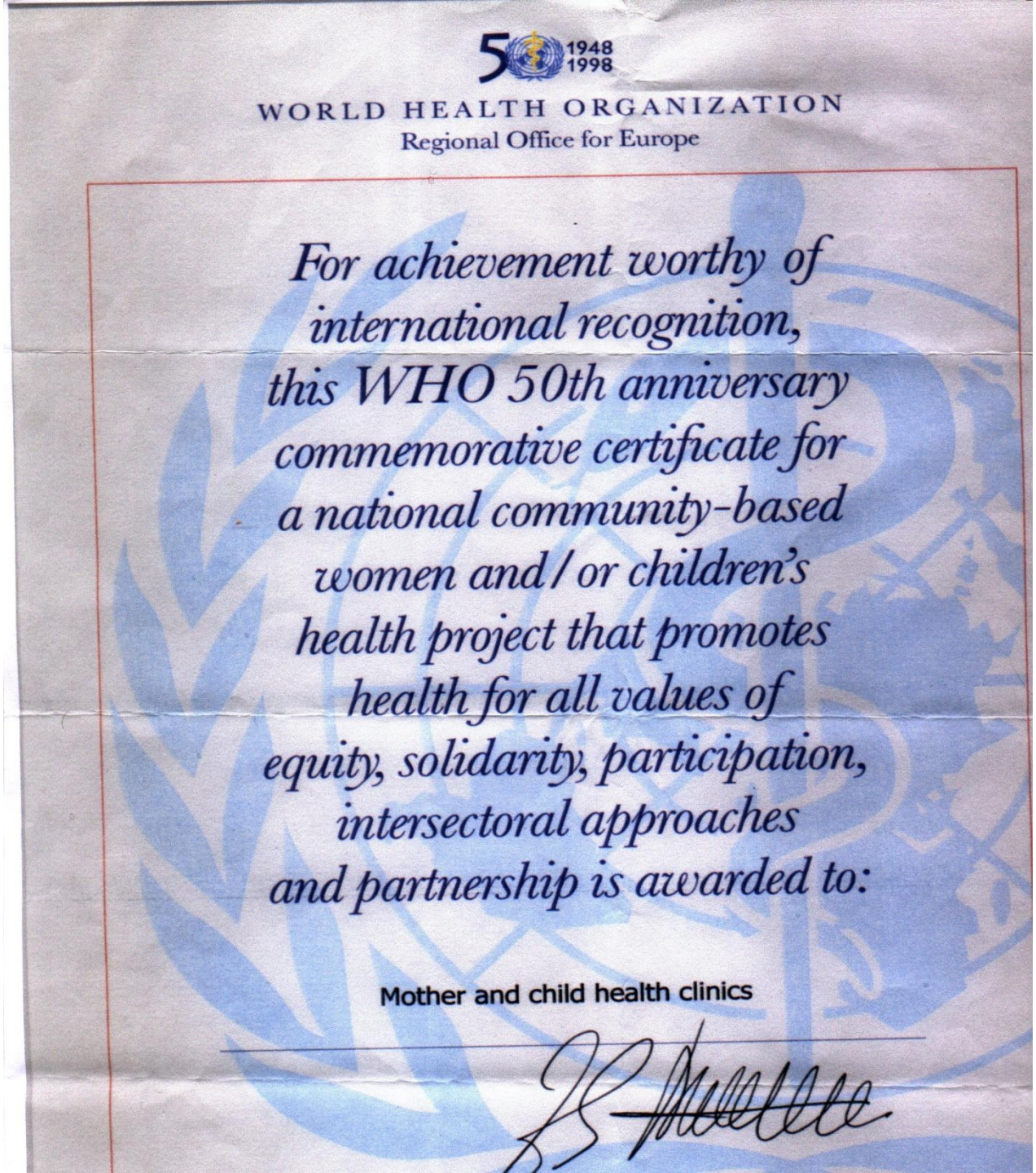
Chen Stein-Zamir MD MPH
Jerusalem District Health Office
Ministry of Health, Israel

Definition of preventive health services

- Services designed for health promotion and prevention of disease.
- The health needs of communities are diverse, complex, and constantly changing.
- Most population-based health promotion activities are primary preventive measures.

Mother and Child Health Centers

goutte de lait a drop of milk

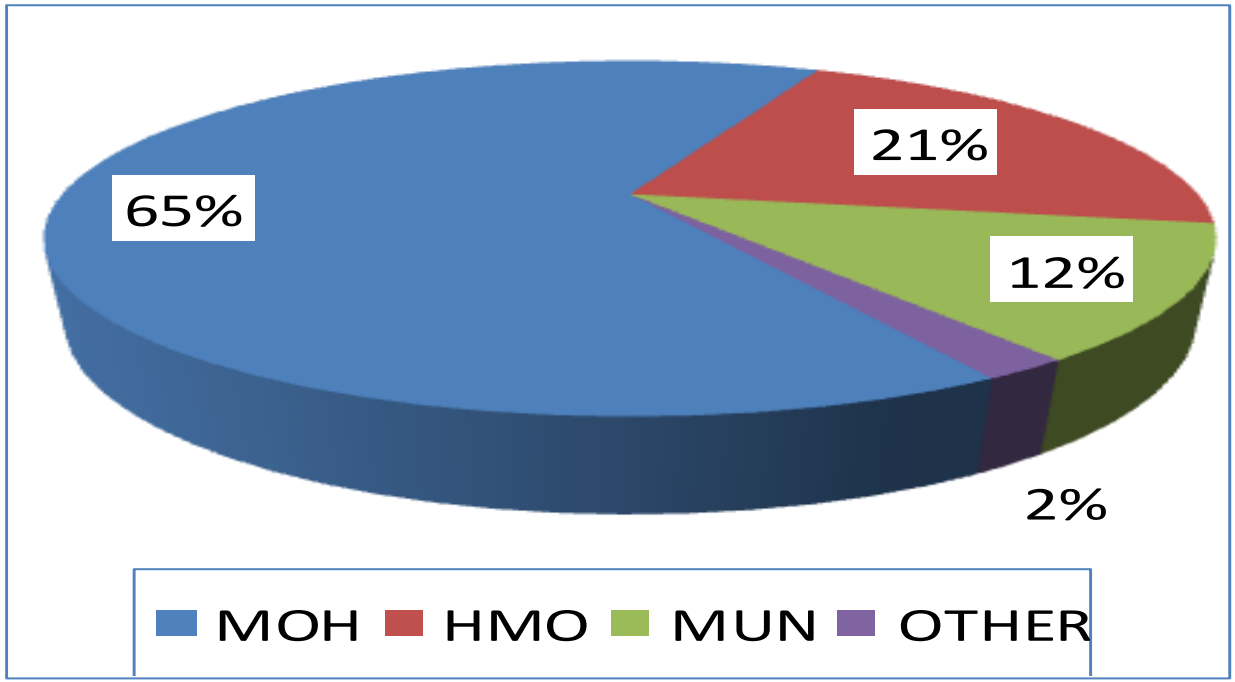

1948
1998
WORLD HEALTH ORGANIZATION
Regional Office for Europe
For achievement worthy of international recognition, this WHO 50th anniversary commemorative certificate for a national community-based women and/or children's health project that promotes health for all values of equity, solidarity, participation, intersectoral approaches and partnership is awarded to:
Mother and child health clinics

Mother and Child Health Centers services

General Principals

- Public / Governmental
- Universal
- Regional / community
- Comprehensive
- Health Promotion, Protection, Disease Prevention
- Outreach
- Partnerships
- Communication and Coordination
- Special Needs and Events
- Culture sensitive

Infants and toddlers in well baby clinics by provider



The aims of MCH clinics include:

- Preventing the spread of infectious diseases via vaccinations
- Early identification of growth and developmental problems via routine checkups
- Prevention of health problems in the community
- Health education and promotion throughout the life cycle to improve health and minimize illness.

Mother and Child Health Centers

Life Sequence MCH

- ✓ Pre Pregnancy
- ✓ Pregnancy & labor
- ✓ Infants & toddlers
- ✓ Children & adolescents

Maternal health - interventions

<u>Every Woman Every Day</u>

Folic Acid 0.4mg

To Prevent Congenital Malformations

Prevention of fetal CNS & other neural tube defects by recommendation of Folic Acid intake

Edinburgh Postnatal Depression Scale (EPDS/EDS).

Mother and Child Health Centers services

- Well child care
- Child growth & development follow up
- Physical checkups
- Immunizations
- Screening tests
- Counseling to promote wellness
- Health education & health promotion
- Perinatal services

Mother and Child Health Centers guidance activities

- Breastfeeding,
- Nutrition,
- Development - newborn to 6y,
- Enrichment,
- Home & playground safety.

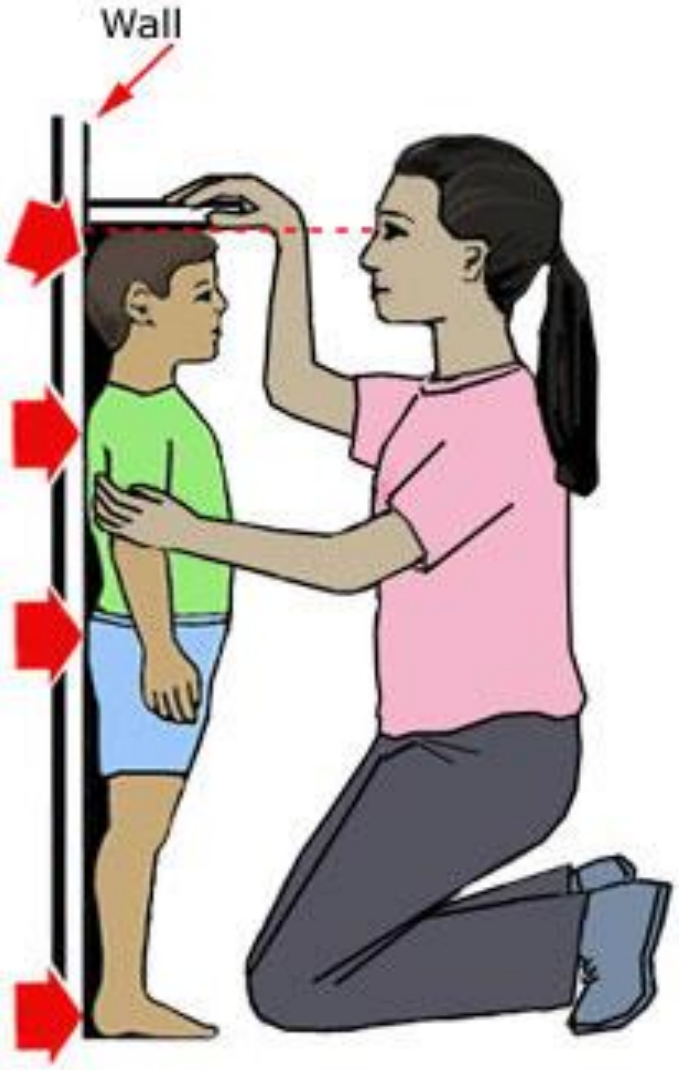
Breastfeeding

Prevention of anemia

- <11 gr\dl hb (MCV 78)
- Nutrition Guidance – BF, IFF, at 6m add iron rich foods
- Iron supplements to infants 4-6m = 7.5 mg
- 6m to 12 or 18m = 15mg
- Preterm 2mg\kg at 1m
- Blood count at 9-12m.

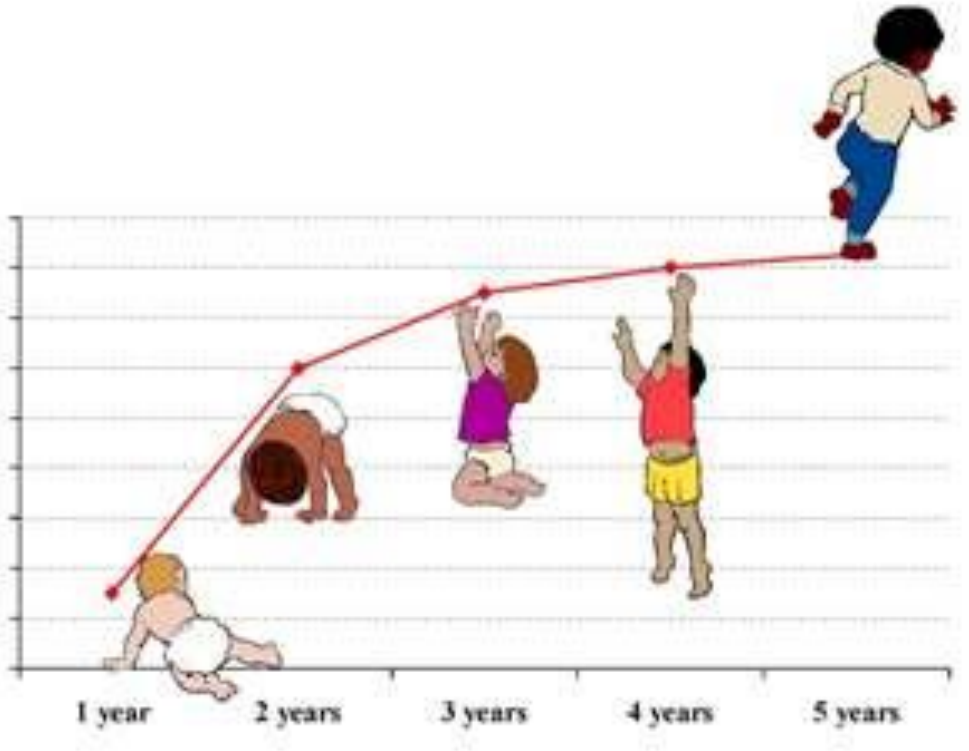
Immunizations according to routine schedule.

GROWTH MONITORING

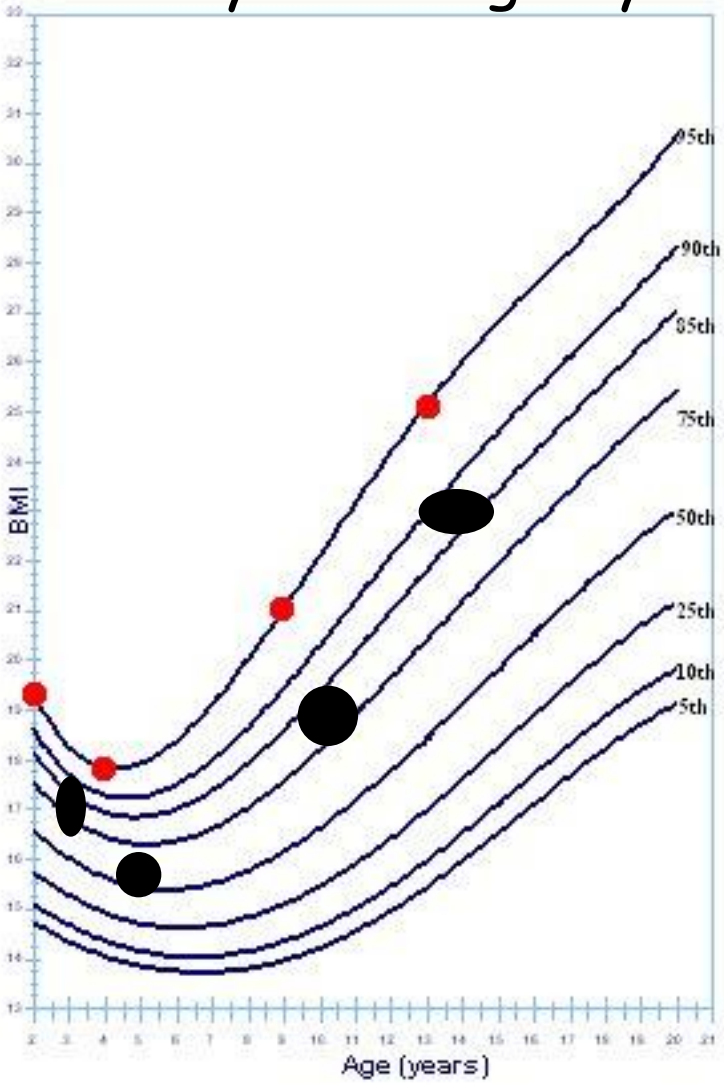


Growth monitoring

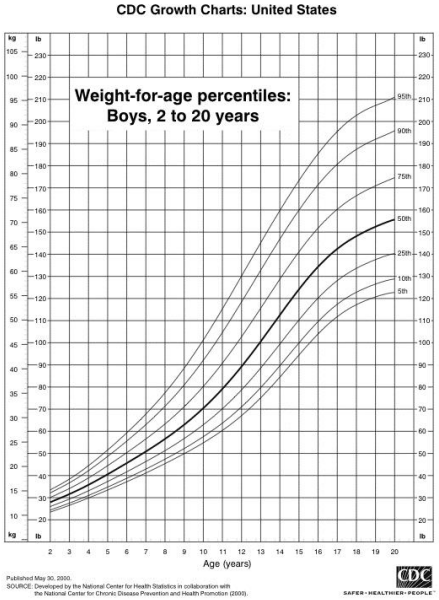
Growth monitoring is a screening tool to diagnose nutritional, chronic, systemic and endocrine diseases at an early stage.



- Growth follow up
- 5 visits 0-1y +
- once a year to age 6y.



Percentiles



The WHO Child Growth Standards 2006

- Multicentre Growth Reference Study (MGRS)
- 8500 children from Brazil, Ghana, India, Norway, Oman, USA
- **WHO Anthro (version 3.2.2, January 2011)**

1. Length/height-for-age,
2. Weight-for-age,
3. Weight-for-length / weight-for-height,
4. Body mass index-for-age,
5. Head circumference-for-age,
6. Arm circumference-for-age,
7. Triceps skinfold-for-age
8. Subscapular skinfold-for-age

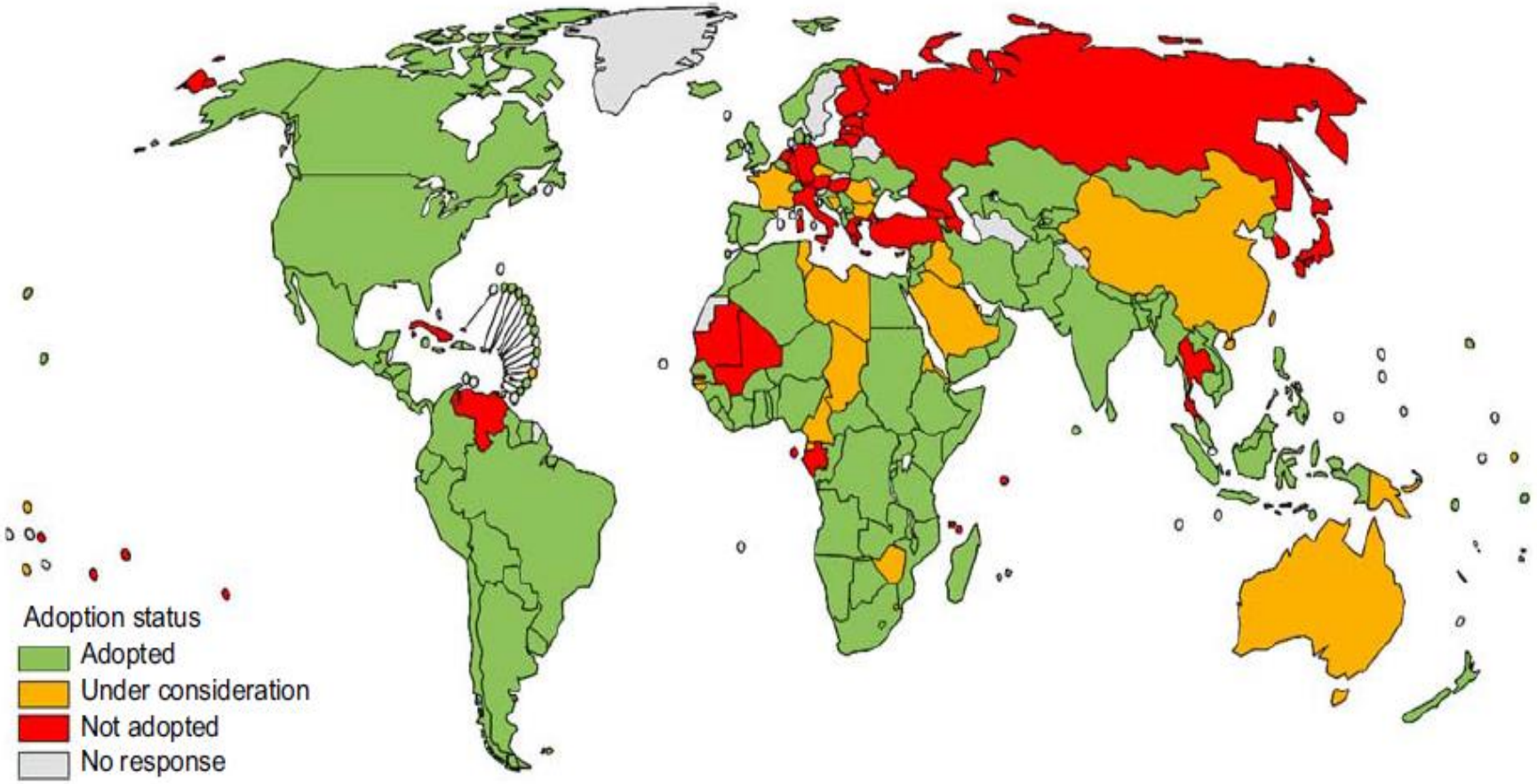


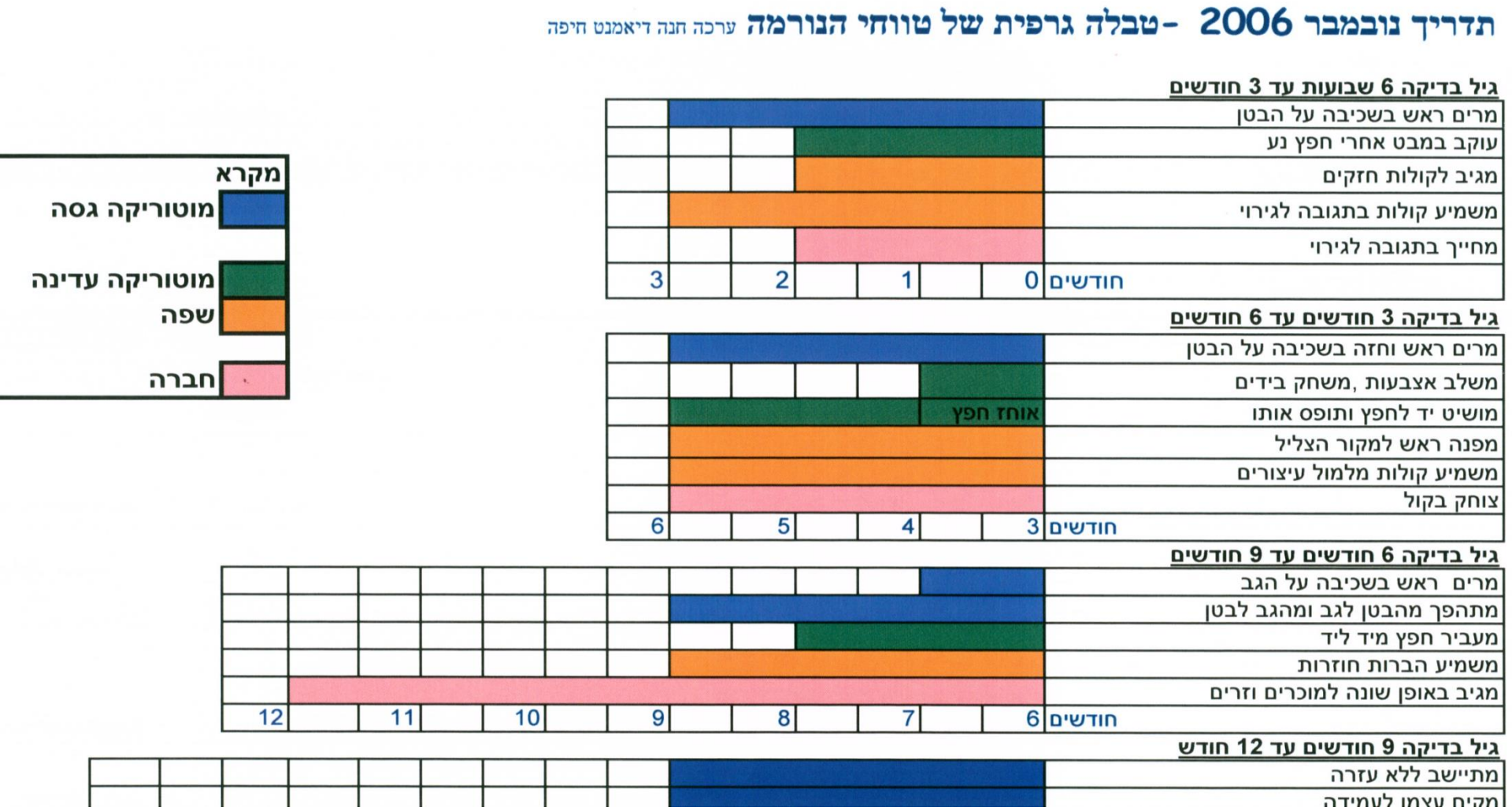
Fig. 1 Worldwide implementation of the WHO Child Growth Standards (April 2011)

Developmental Monitoring

Developmental Screening 0-6y

- Early detection of developmental problems hearing, speech & language delay
- Developmental screening at ages:
  4-6 w., 6w.-3m., 3-6 m.,6-9m.,9m.-1y., 1-1,5 y., 1,5-2y., 2-3y., 3-4y.,4-5y., 5-6y.
- Speech & Communication (2-2.5 y).
- Visual acuity tests 3-3.5y + 5-6y prior to school.

Developmental Steps

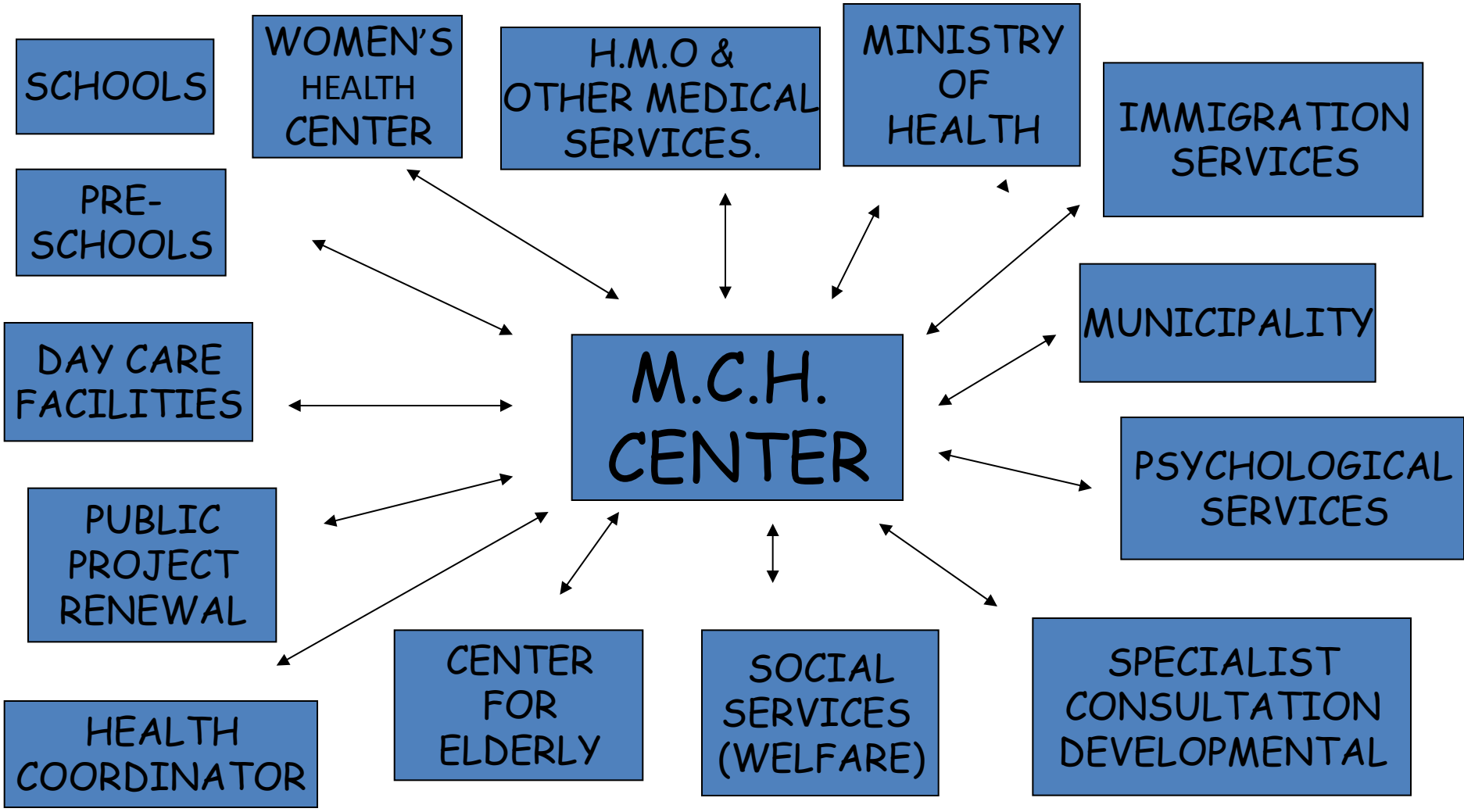


Pediatric Evaluation

Pediatric Evaluation

- Medical screening of infant & child health status and developmental evaluation at various ages – 2 m., 9m., 1.5 y., 2.5y., 5.5y.
- Medical follow-up of diagnostic referrals to consultants.

MOTHER & CHILD HEALTH CENTER AND THE COMMUNITY



Community activities

- Home visits
- Child Care Facilities visits
- Parents groups
- Professional groups
- Epidemiology
- Health campaigns

- Outreach to children at risk & families at risk .
- Parent group education on various topics: e.g. safety
- First aid courses for parents of young infants (special instructors)
- Epidemiologic investigations of communicable diseases outbreaks
- Detection of women & children exposed to domestic violence.

Immunization campaigns

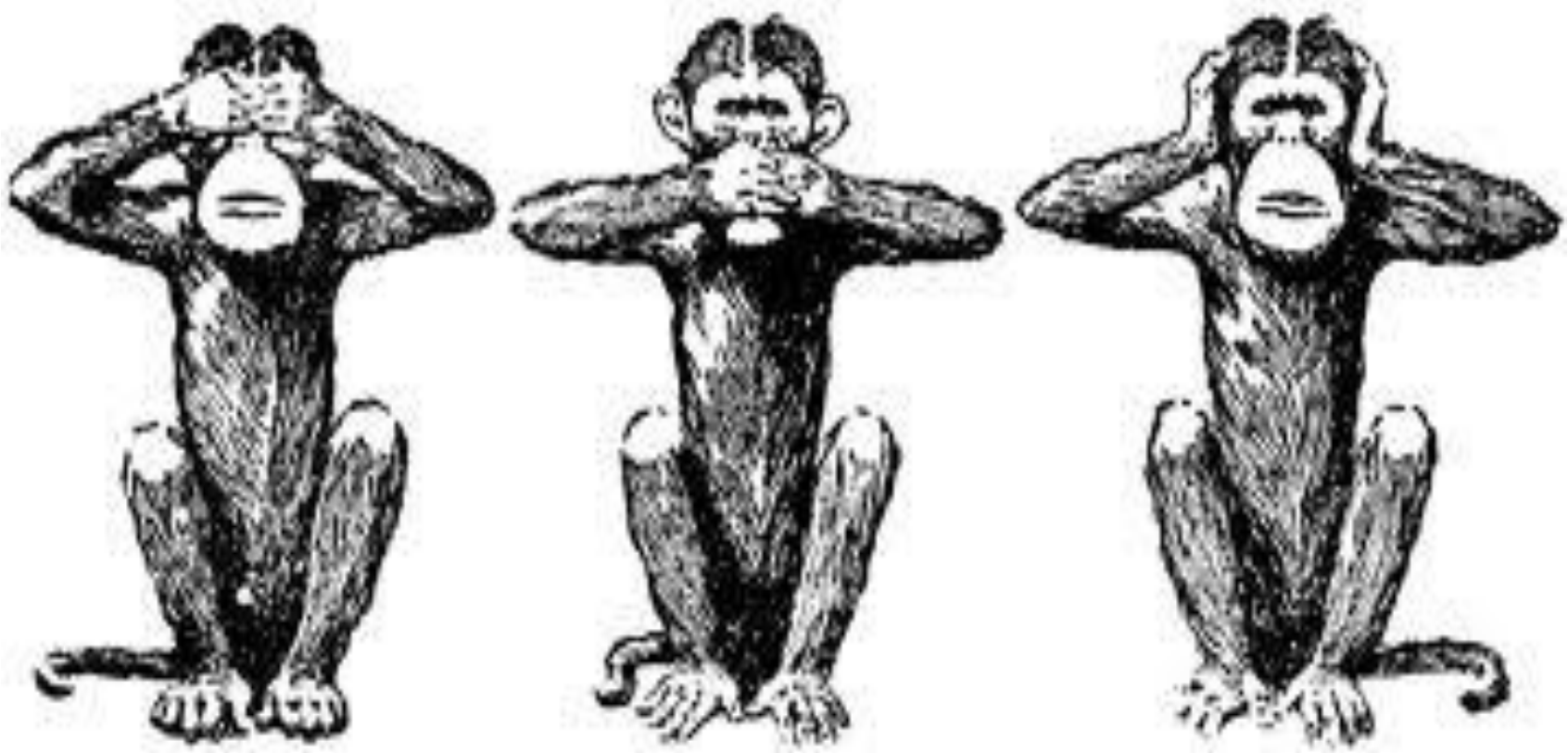
- June-July 2013 - a nationwide IPV catch-up, focusing on southern Israel --->98% coverage in children 0-9y.
- August 2013 - bOPV (types 1 & 3) campaign
- Single bOPV dose if previous IPV dose is documented.

Immunization campaigns target population & monitoring

bOPV campaign target population

1) 180,000 children < 10 y - southern district.
2) 1.2 million children < 10 y
3) Coverage: 90% south. district, 80% nationally.
4) The campaigns were monitored on a daily basis via the National Immunization Coverage Registry.

SCREENING



Sensitivity and Specificity

Disease / Test	+	-
+	TP	FP
-	FN	TN

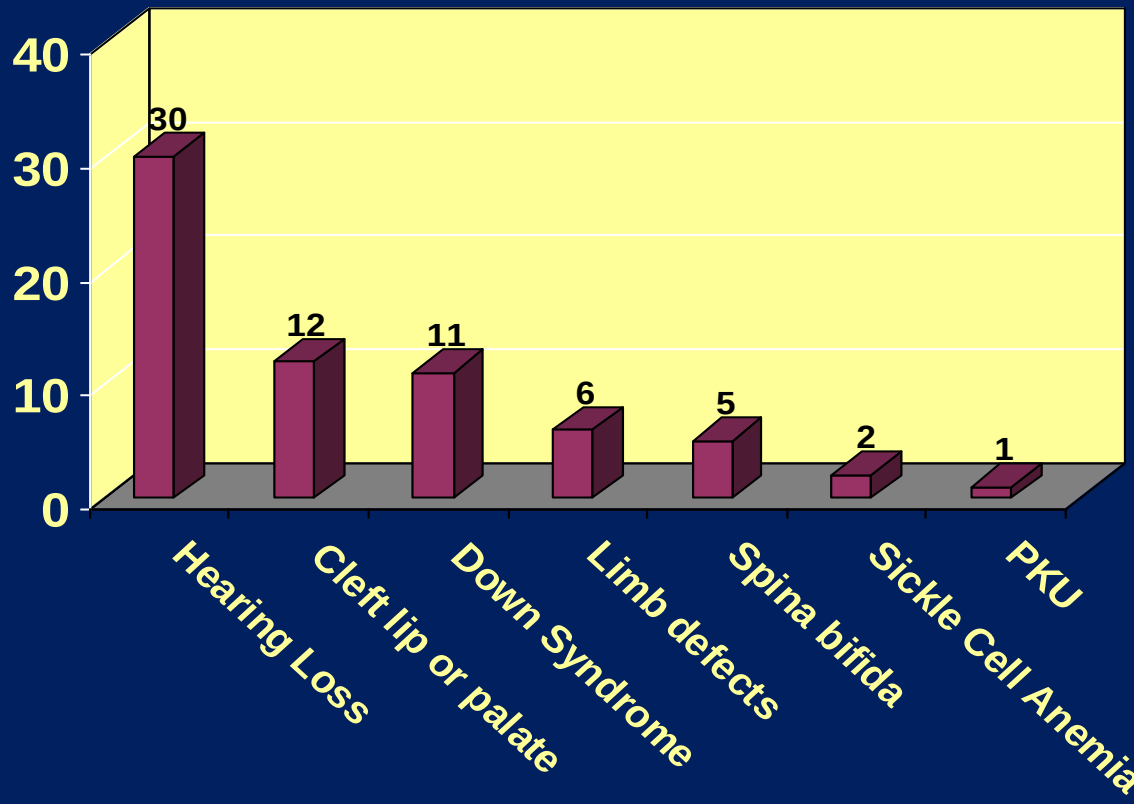
Screening Essential Criteria

Disease	Test	Treatment	Cost	Programming
Condition should be important health problem.	Test must be simple, safe, precise, valid.	Must be evidence of effective treatment and that early treatment will lead to better outcomes.	Evidence on cost-effectiveness of screening for interventions and outcomes.	Evidence from randomized controlled trials that program effective in reducing mortality and morbidity.
Epidemiology of disease must be understood.	Must be acceptable to population ***and*** health providers giving test.			Benefits outweigh physical and psychological harms if any.
	Criteria/protocol on next steps for positive tests.			Protocols for implementation and evaluation of screening program.

Why is early identification of hearing impairment so important?

- Hearing loss occurs more frequently than any other birth disorder.

Incidence per 10,000 of Congenital Disorders/Diseases (US)



Risk factors for hearing impairment

1. Not responding normally to sounds.
2. Persistent ear infections, meningitis / illness predisposing to hearing impairment.
3. Congenital infection TORCH
4. A syndrome with hearing impairment.
5. Craniofacial abnormalities, including ear abn.
6. Family history of permanent hearing impairment.
7. NICU > 5 days treatment with certain medications.
8. Hyperbilirubinemia
9. Head injury.

- Hearing - essential for speech & language development.
- Screening - identify impairment early.
- Behavioral screening (distraction test) at 6–9 months - most European countries 1980's.
- Prevalence 1-3 / 1000
- X 8 in High Risk
- 50% no risk factors
- 1990's NIH, European consensus statement : Newborn Hearing screening - objective test
- OAE Oto Acoustic Emissions
- AABR Automatic Auditory Brainstem Responses

OAE (Oto Acoustic Emission)
newborn screening 2010

- Placement of soft probe in ear canal
- Equipment & disposables cost << A-ABR
- Affected by transient MEE / vernix in ear canal
- False positive rate OAE >> A-ABR
- 2 OAE fails – perform AABR
- At risk – AABR and FU

Comparison of 2 hearing screening programs in the same population: oto-acoustic emissions (OAE) screening in newborns and behavioral screening when infants.
Geal-Dor M, Adelman C, Levi H, Zentner G, Stein-Zamir C.

METHODS:

- 1545 children born 1999 - 2003
- Neonatal OAE + behavioral 7-9 months

RESULTS:

- compliance 99.7% NB 83% behavioral
- Failure 4-6% in both;
- OAE failure unilateral in 65% NB;
- At 7-9m bilateral failure more common (56%).
- 11.2% disagreement between the outcomes.

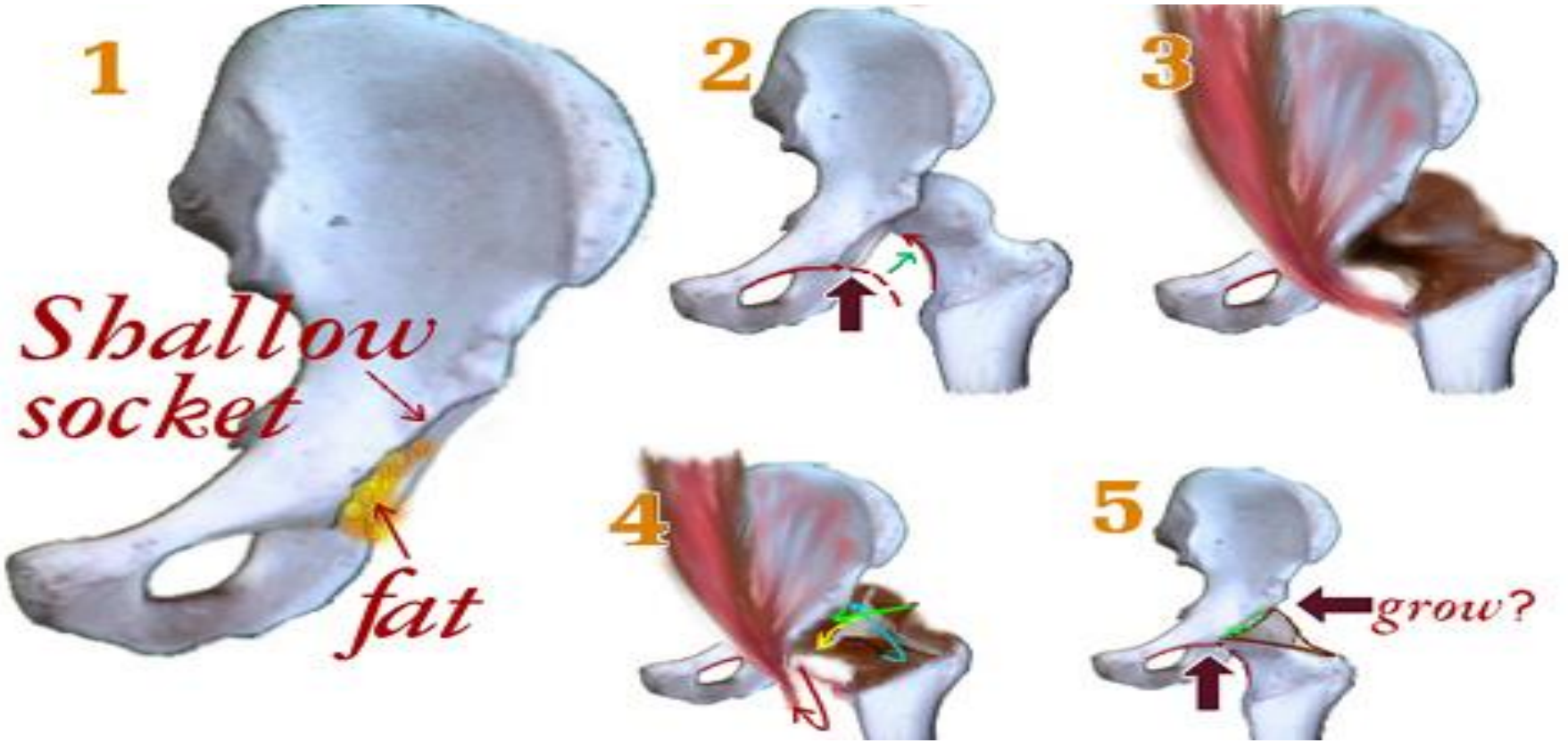
- 49 known hearing-impaired children, 27 - NB screening & diagnosed before age 7m. 12 children failed 2 or 1 test they underwent. 9 cases passed 1 test, failed the other, and one passed both.

Comparison of 2 hearing screening programs in the same population: oto-acoustic emissions (OAE) screening in newborns and behavioral screening when infants.

Geal-Dor M, Adelman C, Levi H, Zentner G, Stein-Zamir C.

- NB Screening - objectivity, early identification, high compliance.
- Behavioral test - identification of later onset or progressive hearing impairment and auditory neuropathy/dysynchrony.
- Outcomes - each reveals different entities; hence – complementary, not interchangeable.
- Recommendation - comprehensive 2-step hearing screening plan (newborn + behavioral) + cooperation between health care providers.

Developmental Dysplasia of the Hip DDH



Developmental dysplasia of the hip:Risk markers, clinical screening and outcome

Chen Stein Zamir et al. Pediatrics International (2008) 50, 341-345

Background :

Early detection, diagnosis and treatment of developmental dysplasia/dislocation of hip (DDH) are essential in preventing further disability and quality of life impairment in children.

DDH risk markers and association between the age of clinical screening and outcome, were evaluated.

Developmental dysplasia of the hip: Risk markers, clinical screening and outcome

Chen Stein Zamir et al. Pediatrics International (2008) 50, 341-345

- *Methods :*
- *Clinical screening at ages birth, 6 and 13 weeks - performed in 8145 infants by pediatricians.*
- *Infants suspected* for DDH - referred to hospital clinic for evaluation by a pediatric orthopedic surgeon, imaging and follow up.
- Demographic & perinatal characteristics of children with susp. (*n 77)* and diagnosed DDH (*n 51) compared to matched controls (n 154).*

Developmental dysplasia of the hip: Risk markers, clinical screening and outcome

Chen Stein Zamir et al. Pediatrics International (2008) 50, 341-345

Results :

- *The rate of suspected DDH was 0.95% diagnosed DDH 0.63%.*
- *Female gender, firstborn child* and breech presentation were more frequent in cases vs. controls (odds ratio [OR]: 4.3, 2.7, and 6 respectively; *P < 0.05).*
- *The highest positive predictive value (95.5%) in physical evaluation was any evidence of a* dislocatable hip.
- The proportion of DDH in infants referred from NB department was higher (OR, 4.4).
- DDH diagnosis > 6 weeks associated with a higher likelihood of subsequent surgery and motor disability.
- Untoward outcome was associated with increasing age of referral both at ages of 6 and 13 weeks (*P < 0.05).*

M

Developmental dysplasia of the hip: Risk markers, clinical screening and outcome

Chen Stein Zamir et al. Pediatrics International (2008) 50, 341-345

- *Conclusions* :
- *Children with DDH have certain specific demographic and perinatal risk markers. Clinical* screening targeted towards early diagnosis may lessen the need for surgical intervention and the risk of disability or motor handicap.

Health Promotion

Health Promotion Projects partnership in the community

- PACT (Parents And Children Together)
- "The national intergovernmental program for children and youth at risk"
- "Accident Prevention"
- Empowerment of Women Health Project
- "Open door" adolescents

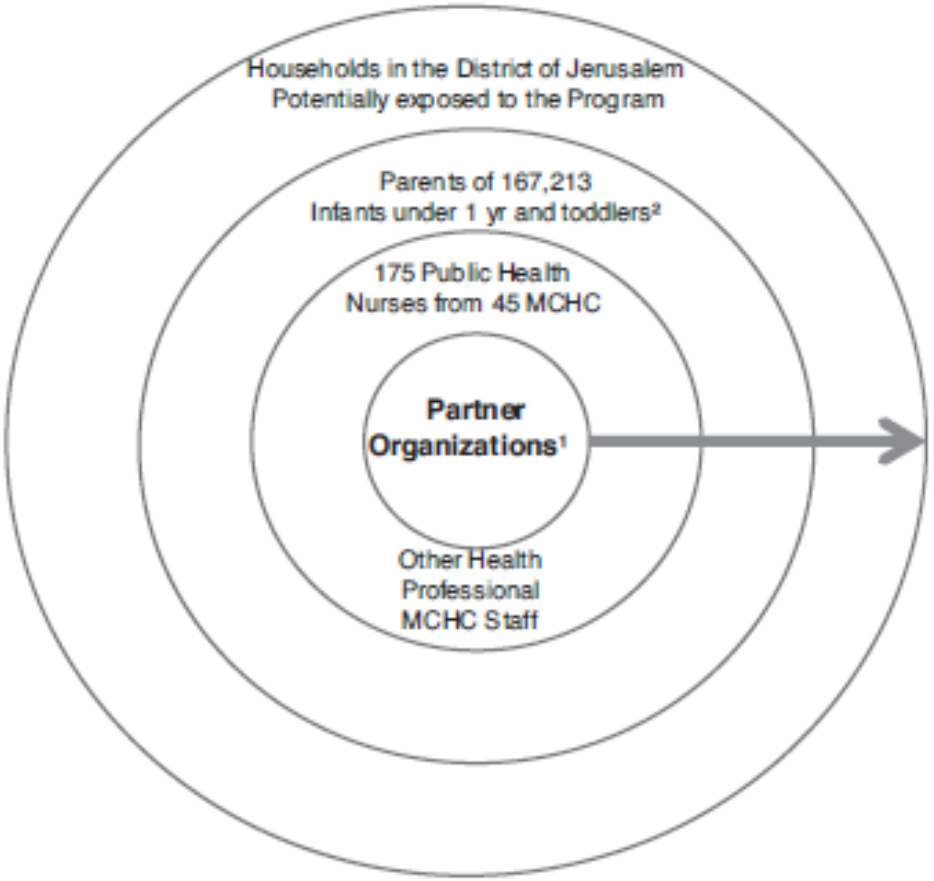
J Ambul Care Manage. 2015 Apr-Jun;38(2):164-77.

Public Health Nurses Promoting Healthy Lifestyles (PHeeL-PHiNe): Methodology and Feasibility.

Polak R , Constantini NW, Verbov G, Edelstein N, Hasson R, Lahmi M, Cohen R, Maoz S, Daoud N, Bentov N, Aharony HS, Stein-Zamir C.

PHeeL-PHiNe

1. Mother & Child Health Clinics have provided preventive health services in Israel for nearly a century.
2. The Public Health Nurses Promote Healthy Lifestyles Program was developed to assist families in adopting healthy behaviors.
3. Training program Jerusalem District 2009 - 2011.



¹ Center for Lifestyle Medicine, Hadassah University Medical Center;
District Health Office of Jerusalem, Ministry of Health, Israel
Public Health Department of the Jerusalem Municipality

² Average yearly number of infants and toddlers attending Jerusalem
District MCPHs (District Health Office Data Records 2009-11)

Figure 2. Concentric circles of influence. MCHC indicates Mother and Child Health Clinic.

PHeeL-PHiNe

When evaluation is completed, our hope is to incorporate the program into Mother and Child Health Clinic services regularly provided nationwide, thereby becoming an integral part of the initiative, Healthy Israel 2020.

Public Health Nurses Promoting Healthy Lifestyles (PHeeL-PHiNe) Program Evaluation & Outcome Measures

Public health nurses (n=117) in the Jerusalem District

questionnaires at baseline, post-intervention & 18 month follow-up. – KAP (personal & professional) - nutrition and physical activity (PA).

Program attendance rates = 93%.

Major improvement in all measured variables.

% Nurses reporting consuming an unbalanced diet - 18% at baseline, 5% post-intervention + retained at 5.8% at follow-up.

Frequency of food label use increased + maintained over time.

PA - an increase in weekly walking + 44% increase in work-out sessions in physically active nurses. However, at follow-up, PA rates returned to baseline.

Public Health Nurses Promoting Healthy Lifestyles (PHeeL-PHiNe) Program Evaluation and Outcome Measures

Nurses who practiced a healthy lifestyle were more likely to advise their clients on healthy behaviors.

PHEEL-PHine was shown to be an effective intervention empowering public health nurses and improving both personal lifestyles and counseling of clients.

העלו את השאילה
המשפרת כוח
נשיאת סלים
מהמרכול, סידורם
במטבח, הרמת סל
הכביסה ועבודה
ביתית עם ממתחי
גומי תורמות
לבריאותך: פעילות
כוח מפחיתה סיכון
לחלות במחלות לב
וכלי דם, סוכרת, איבוד מסת עצם
ותורמת לשמירה על משקל גוף תקין
בצעו בבית פעילות כוח מובנית ומתוכננת (אימון)
מכשירים: משקולות, ממתח גומי, קופסאות שימורים,
שקיות אורז/קטניות
מספר אימונים בשבוע: 3–2
מספר תרגילים באימון: 10–8
מספר מקבצים בכל תרגיל: 3–1
מספר חזרות בכל מקבץ: 15–8
קצב ביצוע החזרות: איטי – בינוני
שאלו את הצוות
על הסדנה הקרובה
אתיל סיפור תלה
מקדמות אורח חיים בריא
Jewish Community Federation of Cleveland
משרד הבריאות
עיריית ירושלים
המינהל לשירותי קהילה
שירותי בריאות הציבור
הדסה
Optimal

העלו את השימוש
בקטניות
קטניות מכילות חלבון באיכות גבוהה, הרבה סיבים תזונתיים,
כמות שומן קטנה והנן פרווה.
השרו קטניות פעמיים לפני בישול להפחתת כמות הגזים.
הכינו כמות גדולה והקפיאו עד 4 חודשים – איכות החלבון
מצוינת גם אחרי הקפאה.
שלבו קטניות מבושלות בסלטים ותבשילים.
בקשו חוברת
מתכונים מהאחות
אתיל סיפור תלה
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שירותי בריאות הציבור
הדסה
Optimal

Food

Figuring out food labels.

Young adults' understanding of nutritional information presented on food labels is inadequate.

Sharf M, Sela R, Zentner G, Shoob H, Shai I, Stein-Zamir C.

Appetite. 2012 Apr;58(2):531-4

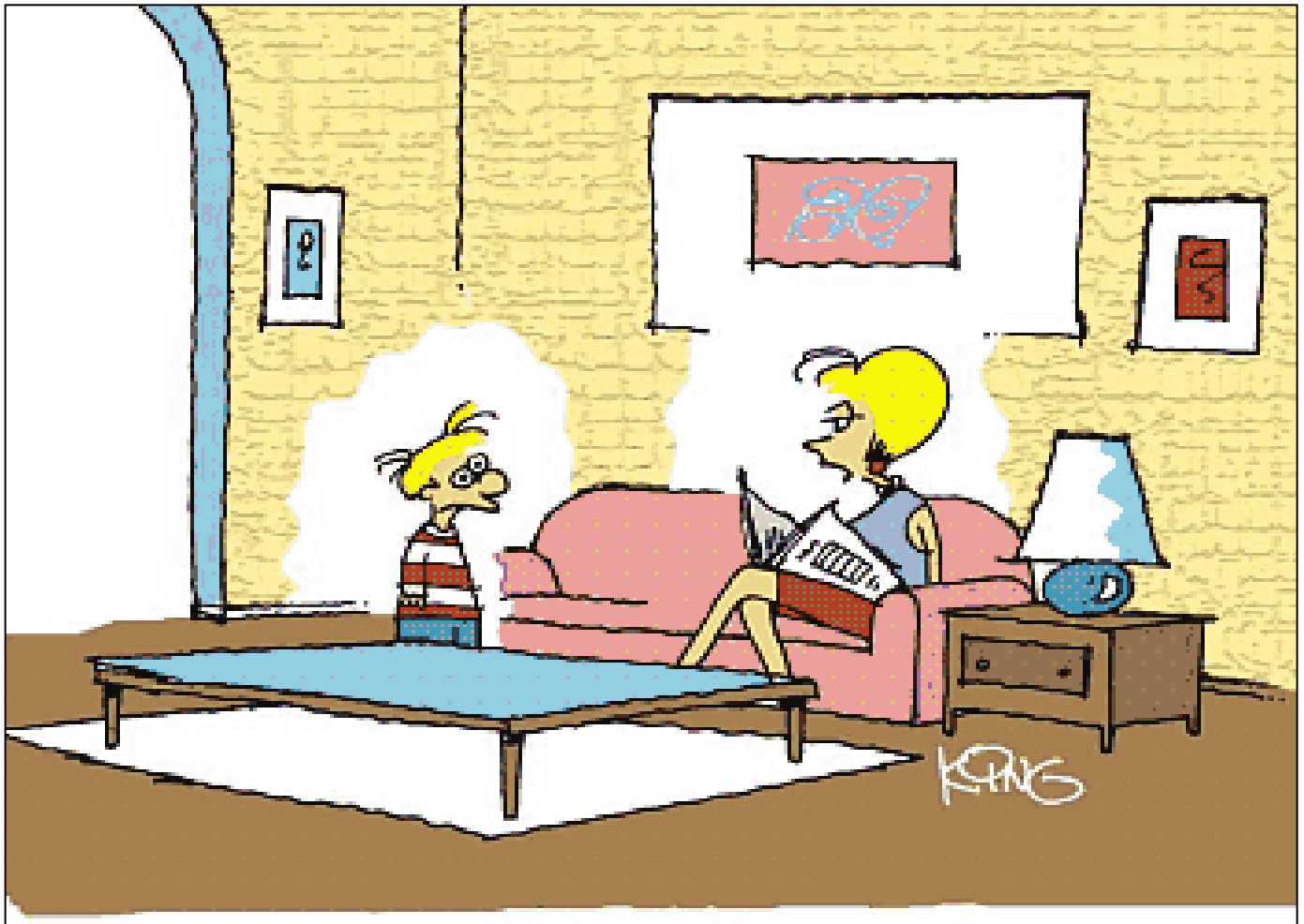
1. Nutritional labelling of packaged foods, mandated by law, includes details of the food content and composition - information that can affect individual and public lifestyle decisions and health status.
2. Food labels comprehension (120 persons, mean age 24.1 y).
3. label's content of 10 food packages (common local products).

- 77.5% reported that they took note of the food labels;
- Higher % - women, - more educated, engaging regularly in PA.
- Overall median comprehension score was 6/10 (mean 5.7±1.8).
- Best understood = nutritional table section
- Least understood = nutritional declaration
- Subjects thought they understood food labels better than they actually did; 43.9% stated that they understood very well, whereas only 27.2% achieved high scores.

- Inadequate comprehension of food labels represents a missed opportunity to provide essential information necessary for healthy food choices at the individual level.
- A combination of strategies is necessary, including improving food labels (simplification and standardization) and targeted educational programs.

פירמידת המזון-עוברים לחיות נכון!
הבסיס לתזונה נבונה ופעילות גופנית
להמעיט
ממתקים
חטיפים
שתיה מתוקה
מזונות עשירים
בשומנים
מזונות עשירים
בחלבונים
ירקות ופירות
דגנים
מים
להרבות
לגון
יום יום
פעילות גופנית ותזונה נבונה - מתכון לבריאות

הורים יקרים!
ושמרתם את נפשות ילדכם
27.04.2009



"No, you weren't downloaded.
Your were born."