Who should be the Primary Paediatric Caretaker?

The case for paediatricians

Shimon Barak
ISRAEL

Foreword

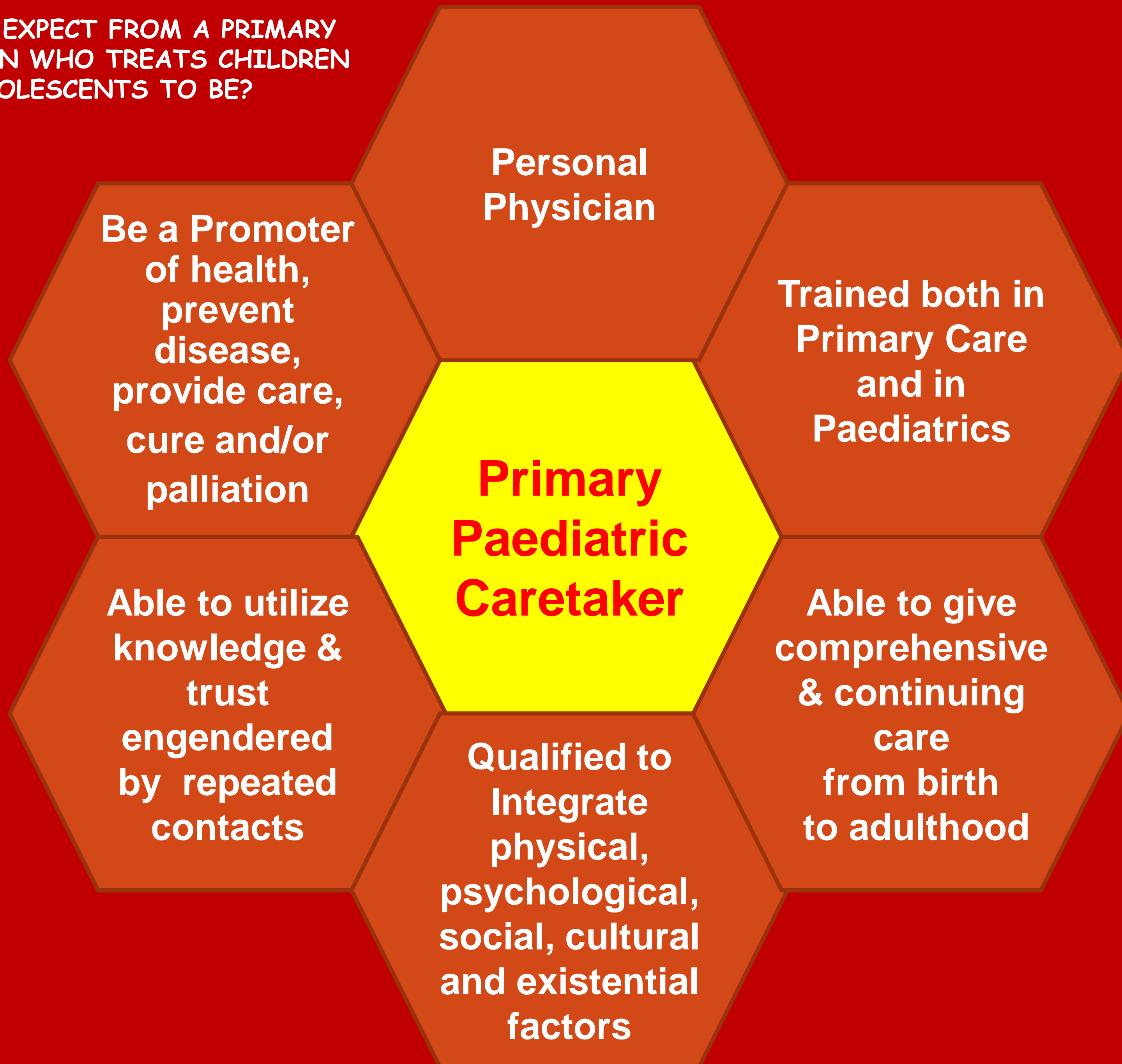
Primary Care of both Adults and Minors, regardless of who is performing it, should be recognized as a special Medical entity and subspecialty as this is a unique discipline, the only one that still exercises a comprehensive approach to health and disease, characterized by:

1. Simultaneous management of multiple complaints, pathologies & health problems, both acute and chronic.
2. Reconciliation of the health needs of the individual and that of the community in balance with available resources
3. The use of a bio-psycho-social model that takes into account cultural & existential dimensions.

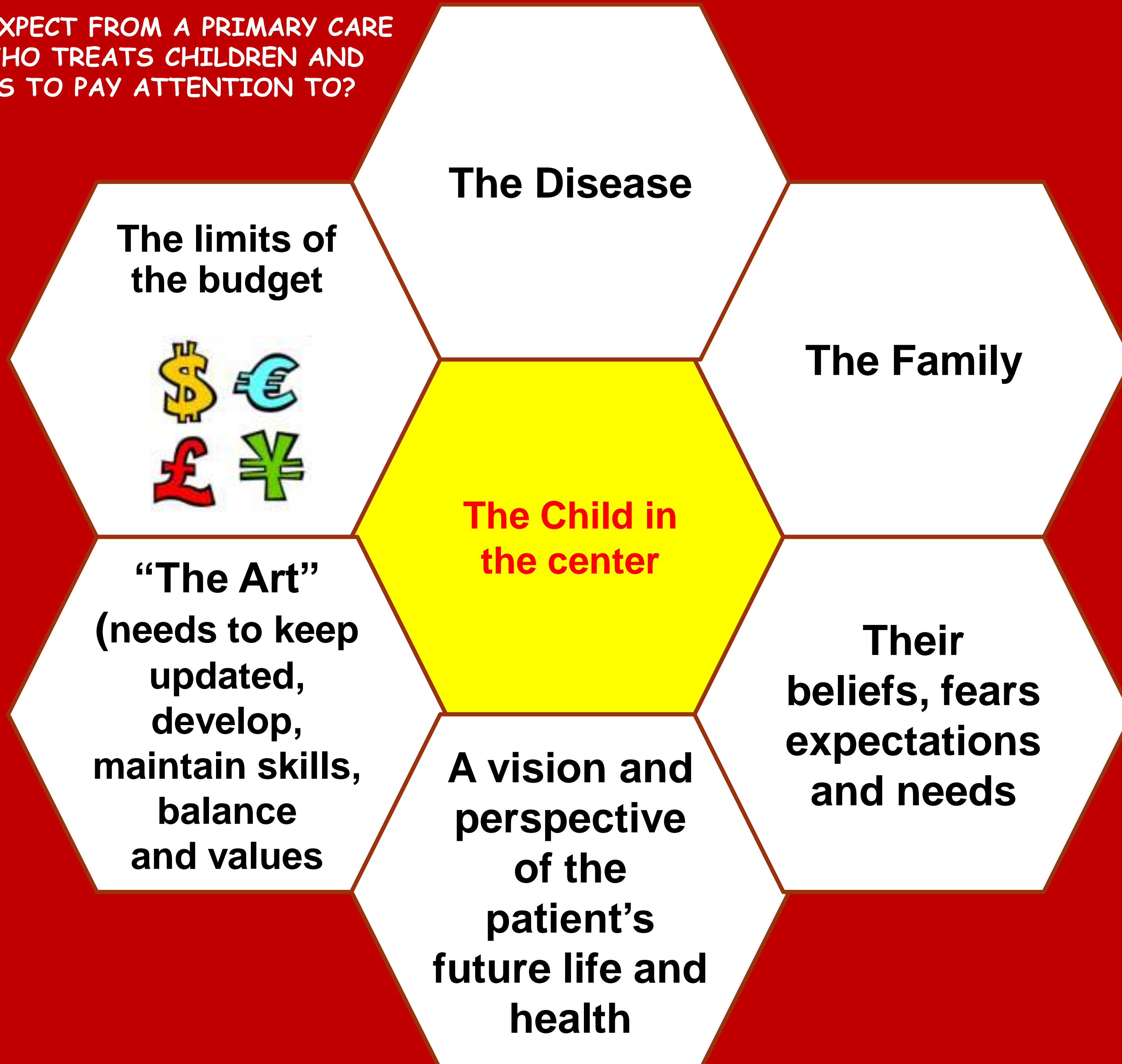
Foreword

I believe **Primary Care of children and adolescents** from birth to adulthood, should be delivered by **pediatricians**, and in countries lacking facilities and funding for primary pediatricians Governments should assure that the service is delivered by professionals with adequate **knowledge**, proper **skills** and formal **training** both in pediatrics and in primary care, acquired by academic formation of accepted standards. In these countries children, adolescents and families willing and needing expert professional advice should have easy and fast access to "second opinion" by paediatricians.

WHAT DO WE EXPECT FROM A PRIMARY CARE PHYSICIAN WHO TREATS CHILDREN AND ADOLESCENTS TO BE?



WHAT DO WE EXPECT FROM A PRIMARY CARE PHYSICIAN WHO TREATS CHILDREN AND ADOLESCENTS TO PAY ATTENTION TO?



IF YOU WERE THE PROUD OWNER OF A TOP CLASS AUTOMOVILE

TO WHICH CARETAKERS

WOULD YOU TAKE IT FOR MAINTENANCE AND REPAIR ?

To your
local general mechanic

Or the high tech up to date specialists that are experts on the subject?

Pediatricians are the only medical Professionals that are both and simultaneously Generalists and Specialists

As generalists they treat a wide range of humans with various distinctive problems

As specialists they deal with a specific group of Humanity with unique concerns mainly related to age

The system may prefer GPs over Pediatricians as …*"a GP provides better 'value for money' for the tax-payer, if not the individual, by acting as a gatekeeper and containing costs (1)."*
But this is exactly what we do not want!
A PPCT **should not act** merely as a gatekeeper playing a "**re-active**" role to altered states of health previously recognized and diagnosed. He should have a "**pro-active role**" in the prevention and early detection of disease states.
In other Words:

NOT ONLY	BUT ALSO
• Early recognition of disease	•Prevention of Diseases
• Maintenance of health	•Promotion of Health
• Delay and postponement of the inevitable	•Advance and promise of normal growth & development

(1) Stephenson Arch Dis Child 2010 95: 767-768

What's so special about Pediatrics and pediatricians' training?

- **Special knowledge, ethics, behavior, services.**

e.g. : Pediatrics gives special importance and has a specific approach to prevention, survey and follow-up.
As most monitoring of growth, development and health is done in primary care settings, this has become the focus and emphasis of today's primary paediatrics.

What's special about Pediatrics and pediatricians' training

- Special knowledge, ethics, behavior, services.
- **Distinct applications of Medical Basic sciences.**

Anatomy

Physiology

Epidemiology & Biostatistics

Pathology

Toxicology & Pharmacology

What's special about Pediatrics and pediatricians' training

- Special knowledge, ethics, behavior, services.
- Distinct applications of Medical Basic sciences.
- **Relative prominence & importance of certain subjects.**

e.g.:

genetics, congenital defects, inborn errors of metabolism,

inoculations & vaccinology

Developmental Neurology

What's special about Pediatrics and pediatricians' training

- Special knowledge, ethics, behavior, services.
- Distinct applications of Medical Basic sciences.
- Relative prominence & importance of certain subjects.
- **Importance in recognizing the wide range of Normal.**

As children may present with many variations of the Normal

What's special about Pediatrics and pediatricians' training

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- Relative prominence & importance of certain subjects.
- Importance in recognizing the wide range of Normal.
- **Special legal and ethical considerations**

guardianship, privacy, legal responsibility,
informed consent, rights of minors, etc.

What's special about Pediatrics and pediatricians' training

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- Distinct applications of Medical Basic sciences.
- Relative prominence & importance of certain subjects.
- Importance in recognizing the wide range of Normal.
- Special legal and ethical considerations
- **Role as advisors for parents and patients**

Need to have *special personal qualities and training* as they are the primary and logical source of knowledge and advice for parents and surrogates in matters of physical health, developmental pace, behavioral characteristics, etc and their involvement in the raising of children is a kind of *partnership* in which, unlike other specialties, the knowledge and expertise inevitably extends past the fundamental responsibilities of medical diagnosis and treatment of disease to include all the disciplines at work in the world of a growing child, such as human relations, expected behavior in a given cultural environment, academic progress and others.

So: besides training, knowledge, experience, ethics, services, legal considerations, etc.

Does the daily **PRACTICE** of pediatricians differ that much from that of GPs?

LET'S TEST IT STEP BY STEP!

What's so different between Primary Care Management and Pediatric primary Care management?

All have to manage primary contact

Pediatricians need to do so in relation with patient's age and condition!

All have to deal with unselected problems

Pediatricians need to do it thrice: for curative, palliative and preventive measures

All have to cover the full range of health conditions

in Pediatrics these change in relation with age and condition!

All have to coordinate care with other professionals

From pediatricians we require detailed and specific knowledge of their spectrum of care (e.g. when to refer a child with low academic achievements to a developmental expert, a psychologist, a psychiatrist, a neurologist, a learning disabilities expert, a social worker, etc.)

We expect all to perform effective & appropriate care provision / health service utilization, guidance through the complexities of the system & assistance in accessing services

From pediatricians we expect special emphasis on protecting patients from unnecessary screening, testing, and treatment

Pediatricians have also special emphases in the expected performance in a Person-centered manner

Their communication skills must include **non verbal communication with young patients**

They should adopt a patient-centered approach but simultaneously not forget the guardians place and role, bringing about an effective doctor-patient-guardian relationship with respect for the patient's autonomy and rights

While setting priorities and acting in partnership they should balance between those of the patient and those of the parents

The provision of longitudinal continuity of care should be determined by the needs of the patient while seeing in mind the perspective of decades to come of continuing and coordinated care management

Specific Problem Solving Skills

Specific decision making processes related to the prevalence and incidence of illness in the community and **in the age group.**

Adoption of appropriate working principles.

Incremental investigation

The use of time as a tool

Tolerance of uncertainty

Recognition of states in which urgent intervention is necessary

Managing conditions which may present early

Making effective & efficient use of diagnostics/therapeutics

Are Pediatricians better than GPs and FDs?

Three ways of judging the matter:

- Patients feeling and appraisal
- Economic cost benefit considerations
- Objective Evidence based facts

Patient appraisal

Objective appraisal:

When and how accurate was the diagnosis

How efficient was the treatment

Was recuperation fast and uneventful.

Subjective appraisal:

Empathy showed by the doctor

Trust by the patient

Time & effort spent in diagnosing, treating and following up the patient

Availability of the doctor when needed

MORE THAN 15.000.000 RESULTS IN THE WEB

The vast majority of Parents and sites (excepting the UK) recommend Paediatricians!

- Objective Evidence based facts
- Economic cost benefit considerations
- Subjective patient feeling

The cost of Healthcare is the sum of the cost of training the caretakers + diagnostic procedures + laboratory tests + salaries + therapeutics + legal fees for malpractice suits + rehabilitation + CME + pensions + ……….

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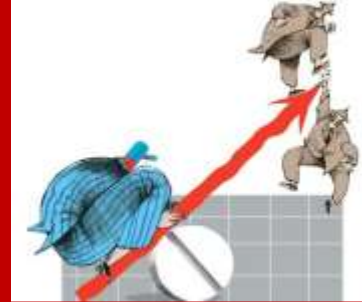

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Nobody ever did the Arithmetic
Data published is only on and about specific parameters

Paediatric primary care in Europe: variation between countries

Diego van Esso,[1] Stefano del Torso,[2] Adamos Hadjipanayis,[3] Armand Biver,[4] Elke Jaeger-Roman,[5] Bjorn Wettergren,[6] Alf Nicholson[7]; and the members of the Primary–Secondary Working Group (PSWG) of the European Academy of Paediatrics (EAP)

'Conventional healthcare indicators, such as neonatal and infant mortality rates ……are probably more related with income per capita than with health care systems'.

LETS COMPARE HEALTH EXPENDITURE IN COUNTRIES WITH PRIMARY PEDIATRIC CARE VS THOSE WITH PRIMARY GP CARE

Health expenditure, total (% of GDP)

Total health expenditure is the sum of public and private health expenditure. It covers the provision of health services (preventive and curative), family planning activities, nutrition activities, and emergency aid designated for health but does not include provision of water and sanitation. Note: The latest updates on these data are accessible in WHO's National Health Accounts (NHA) website (http://www.who.int/nha/en/).

Country	$		%	
Czech Republic	1141 $	1873.71 ± 649.84 $	6.8 %	7.85714 ± 1.0163 %
Cyprus	1778		6.6	
Greece	2679		9.6	
Israel	1893		8	
Slovakia	1077		7.7	
Slovenia	1836		7.8	
Spain	2712		9.6	

Country	$		%	
Ireland	4556 $	3225.33 ± 2234.19 $	7.6 %	8.01667 ± 1.4609 %
Bulgaria	384	4497.87 ± 1508 $	7.3	8.86257 ± 0.7999 %
Norway	7354		8.9	
Estonia	837		5.4	
Denmark	5551		9.8	
Sweden	4495		9.1	
Netherlands	4243		8.9	
Finland	3809		8.2	
Poland	716		6.4	
UK	3867		8.4	
Latvia	784		6.2	
Portugal	2108		10	

CONCLUSION: COUNTRIES WITH GPs SPEND MUCH MORE!!!

Finally let's compare Objective Evidence based facts.

Unfortunately most Universally accepted Health care parameters do not measure "good practice" at all.

Some are of epidemiological importance (Infant Mortality Rate, Vaccination Rate, Prevention of Accidents, prevention of Venereal Diseases, prevention of teenage pregnancy and abortion, prevention of use of drug, alcohol and tobacco)

Others measure mainly MANAGEMENT CONTROL AND PROFESIONAL ADVANCEMENT (EBM = evidence-based medicine, Chart audits, Clinical governance, Capitated budgets, CME and continuing professional development, TQM = total quality management, Organizational learning and development, Patient empowerment).

EUROPEAN JOURNAL OF PUBLIC HEALTH 2003; 13 (3 SUPPLEMENT): 38–46

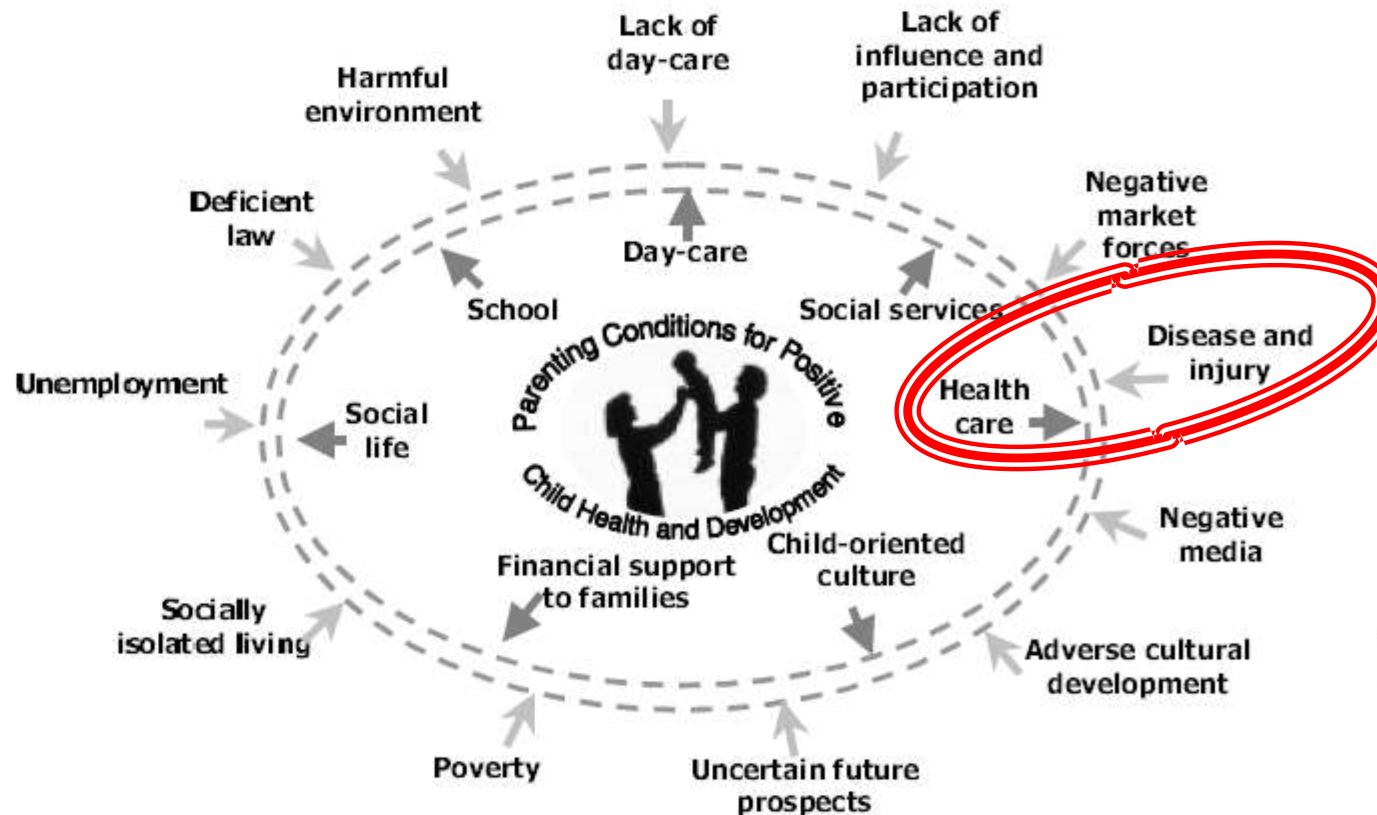
Child Health Indicators for Europe

A priority for a caring society

MICHAEL J. RIGBY, LENNART I. KÖHLER, MITCH E. BLAIR, RELI METCHLER *

Background: Measurement of children's health is important for two reasons: first, because young people are citizens in their own right, yet largely unable to act as self-advocates, particularly at the population level; and second, because their health determines the health of the future population. Indicators based on measurements of child health are important for identifying progress, problems and priorities, changes over time, and newly emergent issues. The European Community Health Monitoring Programme (HMP) is a comprehensive programme to develop and implement a set of national-level indicators. The Child Health Indicators of Life and Development (CHILD) project is the only population group-specific project, seeking to determine a holistic set of measures. Methods: The project endeavoured to address all aspects of child health and its determinants, balancing positive and negative aspects. It undertook a structured search of published evidence to seek to identify, and validate, indicators of health and illness, health determinants and challenges to health, quality of healthcare support and health-promoting national policies. A systematic approach was used in identifying valid indicators, and in assembling a balanced composite list. All ages from infancy to adolescence were covered. Results: The project's final report identifies 38 core desirable national indicators, citing purpose and evidence for each. Of equal importance, it also identifies 17 key child health topics on which further research work is needed in order to identify and validate indicators appropriate across different national settings.

Keywords: child health, health determinants, health indicators, health measurement



Forces and influences in child health

Adapted by Gunnlaugsson G and Rigby M from Skolhälsovården 1998. Underlag för egen kontroll och tillsyn. Stockholm: Socialstyrelsen, 1998.

Can we measure success by looking at the "END RESULTS"

Diagnosis and Treatment

Did the doctor make the **right** diagnosis, as **early** as possible, gave the **proper** treatment according to the state of the art and evidence based medicine?.

Succesfull prevention of disease

Preemptive (primary) form: evading the occurrence (immunizations, patient education)

Secondary prevention: slow or halt the progression of a disease (e.g. screening)

Are Pediatricians better than GPs and FDs?

PEDIATRICS®
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Demography of Pediatric Primary Care in Europe: Delivery of Care and Training

Manuel Katz, Armido Rubino, Jacqueline Collier, Joel Rosen and Jochen H. H. Ehrich

Pediatrics 2002;109;788-796
DOI: 10.1542/peds.109.5.788

"…clear disadvantages (*of the GP system*) regarding mental health, immunizations, preventive measures of health and infant mortality rate for countries using GPs/FD and low income per capita".

Paediatric primary care in Europe: variation between countries

Diego van Esso,[1] Stefano del Torso,[2] Adamos Hadjipanayis,[3] Armand Biver,[4] Elke Jaeger-Roman,[5] Bjorn Wettergren,[6] Alf Nicholson[7]; and the members of the Primary–Secondary Working Group (PSWG) of the European Academy of Paediatrics (EAP)

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ABSTRACT
Background Although it is known that differences in paediatric primary care (PPC) are found throughout Europe, little information exists as to where, how and who delivers this care. The aim of this study was to collect information on the current existing situation of

'Conventional healthcare indicators, such as neonatal and infant mortality rates ……are probably more related with income per capita than with health care systems'.

with a broad knowledge on how PPC is organised in their countries.
Results Responses were received from 29 countries. Twelve countries (41%) have a family doctor/general practitioner (GP/FD) system, seven (24%) a

Information on the efficiency in terms of healthcare for the different systems is lacking but should help to define weaknesses and future strength for child healthcare.
There is a need to measure ……the impact of the different primare care systems on child health"

undertaken by different health professionals (school doctors, GPs/FDs, nurses and paediatricians) depending on the country.
Conclusions Systems and organisations of PPC in Europe are heterogeneous. The same is true for paediatric training, school healthcare involvement and adolescent care. More research is needed to study specific healthcare indicators in order to evaluate the efficacy of different systems of PPC.

What is already known on this topic

- Primary paediatric care in Europe is provided by paediatricians, family doctors/general
- healthcare for the different systems is lacking but should help to define weaknesses and future strength for child healthcare.
- There is a need to measure, with adequate child healthcare indicators, the impact of the different primary care systems on child health.

SENSIBLE AND PROPER USE OF ANTIBIOTICS

GOOD PRACTICE (BASED ON EBM, GUIDELINES)

Schwartz RH, Freij BJ et al

Antimicrobial prescribing for acute purulent rhinitis in children: a survey of pediatricians and family practitioners.

Pediatr Infect Dis J. 1997 Feb;16(2):185-90

Immediate prescription of antibiotics for infants with scant, green nasal mucopurulent secretions of 1 day duration
71% of FP and 53% of PD ($P = 0.001$)

Idem for older child = 50% FP vs. 24% PD ($P < 0.00001$).

Only 15% of FP vs. 23% of PD ($P = 0.07$) waited for 7 to 10 days of persistent purulent nasal drainage in infants before prescribing antibiotics.

SENSIBLE AND PROPER USE OF ANTIBIOTICS

GOOD PRACTICE (BASED ON EBM, GUIDELINES)

McIsaac WJ, Coyte P, Croxford R, Harji S, Feldman W
Referral of children with otitis media. Do family physicians and pediatricians agree?
Can Fam Physician. 2000 Sep;46:1780-2, 1785-8.

Family physicians refer children with otitis media after
Fewer episodes of illness
Fewer months of effusion
Lower levels of hearing loss
Fewer months of prophylactic antibiotic therapy

} all $P < .001$

Pediatricians prescribe continuous antibiotics longer (11.8 weeks) than family physicians (8.9 weeks, $P < .0001$), which correlated with lower referral thresholds for family physicians.

SENSIBLE AND PROPER USE OF ANTIBIOTICS

GOOD PRACTICE (BASED ON EBM, GUIDELINES)

Roark R, Petrofski J, Berson E, Berman S:
Practice variations among pediatricians and family physicians in the management of otitis media.
Arch Pediatr Adolesc Med. 1995 Aug;149(8):839-44.

Use of **high-cost antibiotics** (amoxicillin plus clavulanate potassium, cefaclor, or cefixime) to treat persistent middle ear effusions
FD twice as often as pediatricians ($P < .002$).

Administration of **oral decongestant**
FD three times as often ($P < .001$).

Referral to ventilating tube surgery after 9 weeks
FD three times as often ($P < .001$).

IMMUNIZATIONS

SENSIBLE AND PROPER USE OF ANTIBIOTICS

GOOD PRACTICE (BASED ON EBM, GUIDELINES)

Bocquet A, Chalumeau M, Bollotte D, Escano G, Langue J, Virey B

Comparison of prescriptions by pediatricians and general practitioners: a population-based study in Franche-Comté from the database of Regional Health Insurance Fund

Arch Pediatr. 2005 Dec;12(12):1688-96. Epub 2005 Aug 15.

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Pediatricians - **25% fewer consultations**

6% fewer hospitalizations.

25% fewer prescriptions for drugs

17% fewer for laboratory tests

42% fewer for speech and language therapy.

took antibiotics much less often,

half as many corticoids and NSAIDs

Vaccination coverage was more complete

Better Prevention against rickets and cavities

SENSIBLE AND PROPER USE OF ANTIBIOTICS

Otto O, Peleg R, Press Y

Streptococcal pharyngitis among children: comparison of attitudes between family physicians and pediatricians

Harefuah. 2009 Aug;148(8):511-4, 573.

51.9% of FP vs 18.8% Pediatricians began empiric antibiotic treatment (**0.01**).

All FP (100%) recommended Rafapen (penicillin V) vs. 57.4% Ped **($p<0.0001$).**

IMMUNIZATIONS

Koepke CP, Vogel CA, Kohrt AE:
Provider characteristics and behaviors as predictors of immunization coverage.
Am J Prev Med. 2001 Nov;21(4):250-5.

Immunization rates pediatricians vs. GPs = 78% vs. 58% (**$p < 0.001$**)

Practices treating > or = 100 children in the past 30 working days and the **provider specialty are** significant predictors of coverage.

THERAPEUTICS

Shaoul R, Shahory R, Tamir A, Jaffe M.
Comparison between pediatricians and family practitioners in the use of the prokinetic cisapride for gastroesophageal reflux disease in children.
Pediatrics. 2002 Jun;109(6):1118-23

1. **FP** do not prescribe the recommended dose of cisapride **X 1.5**
2. **42% of FP** prescribe cisapride for infantile colic (vs. **6% of pediatricians)**
3. **50% of pediatricians vs. only 22% of family practitioners** were aware of possible interactions with macrolides.

GOOD PRACTICE (BASED ON EBM, GUIDELINES)

Finkelstein JA, Lozano P, Shulruff R et al.
Self-reported physician practices for children with asthma: are national guidelines followed?
Pediatrics. 2000 Oct;106(4 Suppl):886-96.

FD were more likely to use spirometry in diagnosis (odds ratio [OR] = 5.9), less likely to recommend **daily peak flow measurement** (OR =.3).

Family physicians were **more likely than pediatricians to refer a child** (to a specialist) after a **single** hospitalization, 2 to 3 ER visits, after 2 exacerbations, or if the child was <3 years old and required daily medications.

THERAPEUTICS

GOOD PRACTICE (BASED ON EBM, GUIDELINES)

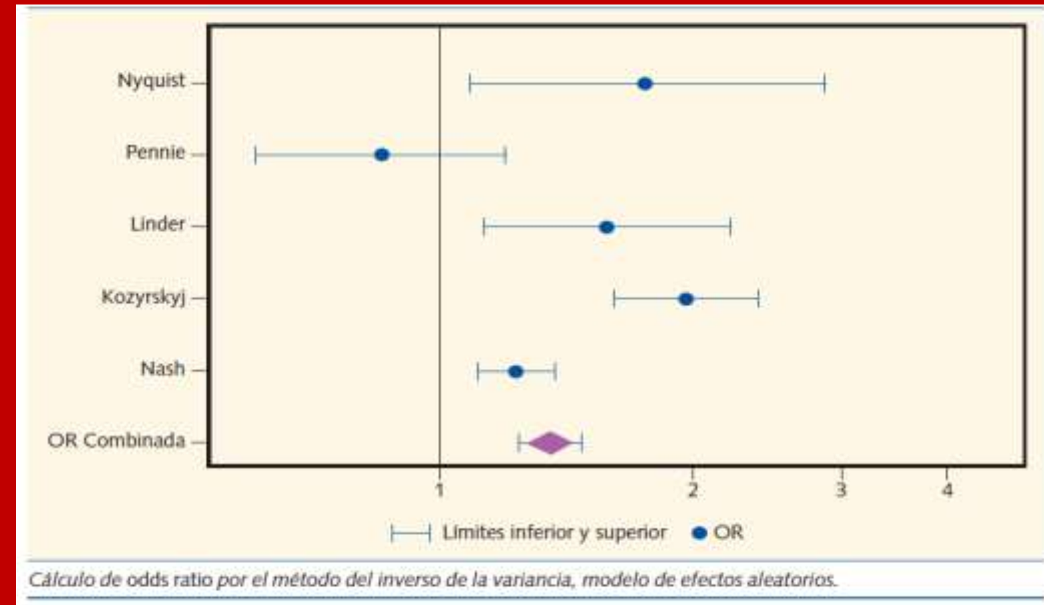
Rushton JL, Clark SJ, Freed GL.
Primary care role in the management of childhood depression: a comparison of pediatricians and family physicians.
Pediatrics. 2000 Apr;105(4 Pt 2):957-62

Most primary care physicians used referral (65%) and counseling (61%) for management of childhood depression.

Family physicians used medications more commonly (18% vs 9%)

Pediatricians referred patients more commonly (77% vs 48%).

Bunuel Alvarez JC, Garcia Vera C, Gonzalez Rodriguez P et al
¿Qué profesional médico es el más adecuado para impartir cuidados en salud a niños en Atención Primaria en países desarrollados?
Revisión sistemática
Rev Pediatr Aten Primaria. 2010;12:(Supl 18): s9-s72



Cálculo de odds ratio por el método del inverso de la variancia, modelo de efectos aleatorios.

Family Doctors **prescribe more antibiotics** in upper respiratory tract infections of probable viral etiology

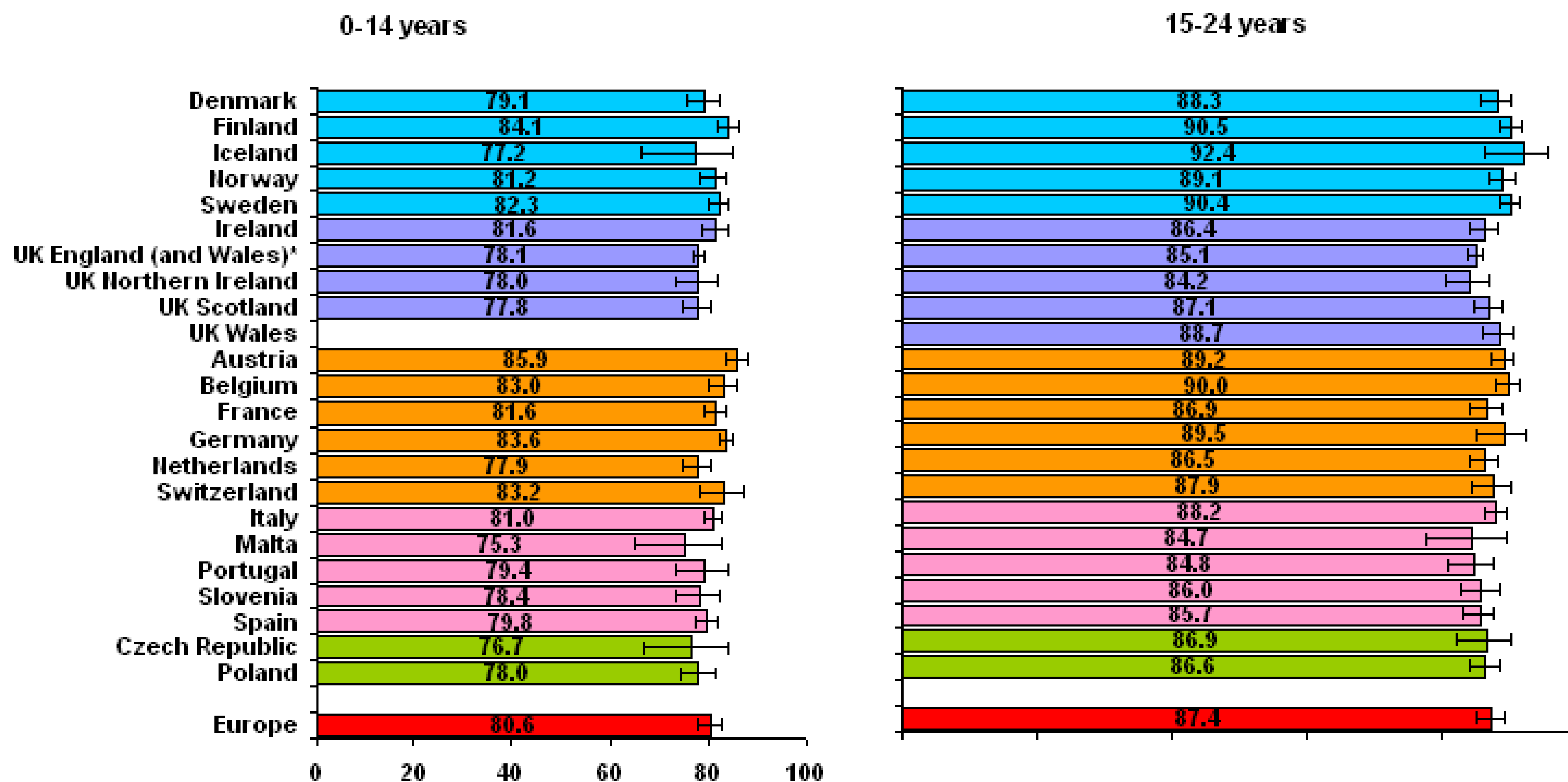
Pediatricians were more likely to **adhere to clinical guidelines** recommendations on febrile syndrome management and attention deficit disorder

Pediatricians showed **more resolution capacity** on prevalent conditions such as asthma and AOM

Pediatricians showed **higher vaccination coverage** in all the studies.

Survival of European children and young adults with cancer diagnosed 1995 - 2002

Figure: 5-year survival for all cancer combined in European children and adolescents/young adults



Royal College of Paediatrics and Child Health (RCPCH)

May

RCPCH response - Confidential Enquiry into Maternal and Child Health (CEMACH) - Why Children Die: A pilot study (2006) - 14 May 2008

Dr Patricia Hamilton, President, Royal College of Paediatrics and Child Health (RCPCH):

"This important report has significant implications for the care of children. Even though the deaths may not ultimately have been preventable, there is an unacceptable number of avoidable factors involved - and lessons must be learned. One important message is that children must be seen by healthcare personnel who have had the appropriate training to provide proper and timely care, or who will refer to a paediatrician who does have those skills.

We do not currently have enough numbers of paediatricians to provide comprehensive safe services for children and the government must recognise that we need to be resourced to do so."

Primary care for children in the 21st century

General practitioners must adapt to the changed spectrum of illnesses

BMJ VOLUME 330 26 FEBRUARY 2005 *BMJ* 2005;330:430–1

General practice is at a crossroads, and we need to contemplate the implications of either nurturing or abandoning the concept of the whole family doctor.[w10] To maintain their place as the main providers of health care for children and young people, general practitioners will need appropriate training and remuneration for providing a practice based quality child health service for the 21st century and opportunities to develop special interests in various aspects of child and adolescent health.[w11] The alternative is that children's health care will increasingly be offered outside general practice by a range of other disciplines and providers,[w12] supported by a new generation of general paediatricians for whom traditional barriers between hospital and community will seem irrelevant.[w3]

David Hall *professor of community paediatrics*

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David Sowden *dean of postgraduate medicine*

University of Nottingham, Trent Postgraduate Deanery, University of Nottingham, Nottingham NG7 2RD

WHAT IS THE CONCLUSION OF WESTERN EUROPEANS (BRITISH)?

"The options for a common harmonious future between paediatrics and family medicine (FM) are limited:
Either FM partially or wholly withdraws from the care of children, or they could compete directly with paediatrics for the PPC, or FM and paediatrics could collaborate in providing PPC for all children and their families"

Prof. Mykola Aryayev - Ukraine

WHAT IS THE CONCLUSION OF EASTERN EUROPEANS (UKRAINE)?

WHAT IS MY CONCLUSION ?

At present Primary care GPs or Family Doctors cannot care competently for children, at least beyond pre school age. They could do so if given proper and adequate **training** in paediatrics

1. **Length of training** (12 months minimum)
2. **Content** (curriculum drafted by paediatricians)
3. **Location** (at least 6 months in an ambulatory setting)
4. **Supervision** (by paediatricians)

Until then Physicians trained in Adult Primary Care should confine themselves to treat Adults !