

Chapter 13

Workforce and Professional Education

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Abstract

Given that the workforce constitutes a principal resource of primary care, appraisal of models of care requires thorough investigation of the health workforce in all Models of Child Health Appraised (MOCHA) countries. This chapter explores this in terms of workforce composition, remuneration, qualifications and training in relation to the needs of children and young people. We have focused on two principal disciplines of primary care; medicine and nursing, with a specific focus on training and skills to care for children in primary care, particularly those with complex care needs, adolescents and vulnerable groups. We found significant disparities in workforce provision and remuneration, in training curricula and in resultant skills of physicians and nurses in European Union and European Economic Area Countries. A lack of overarching standards and recognition of some of the specific needs of children reflected in training of physicians and nurses may lead to sub-optimal care for children. There are, of course, many other professions that also contribute to primary care services for children, some of which are discussed in Chapter 15, but we have not had resources to study these to the same detail.

Keywords: Workforce; medical education; nursing education; adolescent medicine; primary care; child health; human resource; training



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Introduction

Physicians and nurses provide preventive care, education and guidance as well as diagnostic, curative care and management of the mental and physical disorders of childhood. Analysis within Models of Child Health Appraised (MOCHA) countries has shown that the size of the primary care workforce affects outcomes for children (Chapter 5). The ability to communicate with children in an inclusive, non-threatening but nevertheless informative and authoritative manner is essential (Alma, Mahtani, Palant, Klůzová Kráčmarová, & Prinjha, 2017). The MOCHA project has investigated the acquisition of these skills by means of analysis of medical and nursing training curricula.

The Primary Care Workforce

In most countries, the healthcare workforce is comprised of multiple professional groups with diverse skills and roles. In addition to including front-line personnel of all types and levels whose roles are in the direct delivery of care, healthcare systems are run on a daily basis by significant numbers of managers, administrators and support staff whose roles are not patient facing. Establishing overall expenditure on the human resource contribution to the production of healthcare additionally needs to incorporate resources committed to training. Workforce data that are available from MOCHA countries are limited and relate only to broad groups of professionals such as general practitioners (GPs), nurses and paediatricians (including community paediatricians and neonatologists, but excluding paediatric specialties such as child psychiatry, oncology, cardiology and surgery). The distribution of the workforce between primary and secondary care is not reported, although it would usually be assumed that GPs and community paediatricians work in primary care. The available data are not routinely captured, with information related to 2013 being the most recent at the time of writing (2018), as shown in Table 13.1.

On a national level, gross domestic product (GDP) per capita (a recognised indicator of a country's standard of living) is highly correlated with health expenditure per capita (Pearson correlation: 0.92, 2016 from Table 13.1). Hence, among the MOCHA countries, those with the highest GDP per capita have the highest health expenditure (e.g. Luxembourg and Norway) and vice versa (e.g. Romania and Latvia). There is also a direct relationship between the size of the workforce and health expenditure, although at a disaggregated level, this is affected by healthcare system features. A primary care-based system, for example, will tend to result in a higher ratio of GPs and community paediatricians to specialist doctors. In MOCHA countries, the total number of nurses correlates strongly with health expenditure per capita, but the association is less strong for GPs (Pearson correlation coefficients nurses 0.688, GPs 0.362). Cross-tabulating the MOCHA typology of models for child health care (GP led, paediatrician led, mixed) with the number of paediatricians per 100,000 of the population confirms the lower proportions of non-specialist paediatricians in GP led systems (see Table 13.2). The tendency for paediatrician-led countries to

Table 13.1. Healthcare expenditure and workforce data for the MOCHA countries.

Countries	GDP Per Capita: PPP, US\$ (2016) ^a	Health Expenditure Per Capita, PPP: Constant 2011 International US\$ (2014) ^b	Population Total (2016)	% of Population, 19 Years and under (2016)	Physicians, Paediatric Per 100,000 Population (2013) ^b	General Practitioners, Per 100,000 Population (2013) ^b	Nurses Per 100,000 Population (2013) ^b
Austria	44,143.70	5,038.88	8,712.137	19.22	16.21	76.95	803.09
Belgium	41,945.69	4,391.60	11,358.379	22.57	12.65	111.67	–
Bulgaria	17,709.08	1,398.88	7,131.494	18.27	19.93	62.93	491.82
Croatia	21,408.55	1,652.12	4,213.265	20.28	18.52	53.72	658.48
Cyprus	31,195.51	2,062.37	1,170.125	23.44	–	–	512.92
Czech Republic	31,071.75	2,146.32	10,610.947	19.43	12.33	70.13	841.28
Denmark	45,686.48	4,782.06	5,711.870	22.83	7.02	–	1,685.66
Estonia	27,735.14	1,668.31	1,312.442	20.57	13.43	70.33	587.94
Finland	39,422.65	3,701.14	5,503.132	21.81	12.93	–	–
France	38,058.87	4,508.13	64,720.690	24.11	12.09	160.11	999.73
Germany	44,072.39	5,182.11	81,914.672	18.05	12.38	66.66	1,323.07
Greece	24,263.88	2,098.05	11,183.716	19.33	30.33	23.36	353.68
Hungary	25,381.29	1,826.68	9,753.281	19.48	–	–	659.65
Iceland	45,276.45	3,881.70	332.474	26.64	4.63	58.07	1,626.8
Ireland	62,828.34	3,801.06	4,726.078	27.57	9.86	73.17	–
Italy	34,620.13	3,238.89	59,429.938	18.31	29.01	75.05	634.19
Latvia	23,712.09	940.30	1,970.530	19.46	12.67	–	508.09

Table 13.1. (Continued)

Countries	GDP Per Capita: PPP, US\$ (2016) ^a	Health Expenditure Per Capita, PPP: Constant 2011 International US\$ (2014) ^b	Population Total (2016)	% of Population, 19 Years and under (2016)	Physicians, Paediatric Per 100,000 Population (2013) ^b	General Practitioners, Per 100,000 Population (2013) ^b	Nurses Per 100,000 Population (2013) ^b
Lithuania	27,904.10	1,718.02	2,908,249	20.19	26.91	86.28	785.28
Luxembourg	97,018.66	6,812.08	575,747	22.40	14.91	85.95	1,230.12
Malta	35,694.04	3,071.63	429,362	19.83	13.93	80.3	744.16
Netherlands	47,128.31	5,201.70	16,987,330	22.53	9.54	78.5	–
Norway	63,810.79	6,346.62	5,254,694	24.06	13.92	78.05	1,720.93
Poland	26,003.01	1,570.45	38,224,410	19.90	13.17	21.75	587.46
Portugal	27,006.87	2,689.94	10,371,627	19.13	17.8	56.83	629.31
Romania	21,647.81	1,079.26	19,778,083	20.75	10.97	56.95	552.42
Slovakia	29,156.09	2,179.05	5,444,218	20.44	–	–	607.81
Slovenia	29,803.45	2,697.67	2,077,862	19.33	26.22	49.78	838.08
Spain	33,261.08	2,965.82	46,347,576	19.34	25.53	75.15	532.4
Sweden	46,441.21	5,218.86	9,837,533	22.46	10.48	64.53	1,192.12
United kingdom	38,901.05	3,376.87	65,788,574	23.30	15.1	79.57	867.61

Notes: ^aWorld Bank, International Comparison Program database. ^bWorld Health Organization Global Health Expenditure database. ^cUnited Nations, Department of Economic and Social Affairs, Population Division (2017). World Population Prospects. GDP, gross domestic product; PPP, purchasing power parity.

Table 13.2. Density of paediatricians by MOCHA typology of primary care for children.

MOCHA Typology of Primary Care for Children	More Than 20 Paediatricians per 100k Population	Less Than 20 Paediatricians per 100k Population
GP led		Bulgaria, Denmark, Estonia, Finland, Ireland, Malta, Netherlands, Norway Portugal, Romania and UK
Paediatrician led	Greece, Italy, Slovenia	Croatia, Czech Rep., Germany
Mixed	Lithuania, Spain	Austria, Belgium, Iceland, France, Latvia, Luxembourg, Poland, Sweden

have lower GDPs (except Germany) accounts for the negative correlation between health expenditure per capita and the density of paediatricians (Pearson correlation -0.208).

There are many drawbacks with the data that are available which restrict the conclusions that can be drawn. Despite attempts by the international organisations that assemble the data to ensure uniformity of definitions across countries, local practices may affect the compilation of the statistics. Also, data are only available after a lag and situations and systems are often undergoing reform.

Training in Primary Care

International variability in healthcare expenditures may extend to differences in professional training and methods of care delivery. To gain further understanding of such features, a series of questions were asked of the MOCHA country agents, as outlined in Table 13.3. Responses are summarised in Tables 13.4 and 13.5. Training is discussed later in the chapter.

With the exception of Slovakia, where children in primary care are treated by single practitioners (paediatricians), responses indicated that the health professionals worked in a multidisciplinary team either in a community practice or a group practice. This was regardless of GDP level or model type (GP or paediatrician led, or mixed). Policies around case load sizes varied, as did whether health promotion and prevention functions were conducted within primary care. About one half of countries reported national salary scales; just over one half reported data available on the primary care workforce (Table 13.4).

In terms of training of healthcare professionals (Table 13.5), it was clear from the 28 responses that in all countries, paediatricians had mostly six years of

Table 13.3. Questions on workforce sent to Country Agents.

Category	Question
Found in Table 13.4	
On organisation of care	What type of primary care system is available? Q1
	Is there a regulatory upper limit (maximum number) of children that a primary care paediatrician or GP can have in their list? Q2
	Within your primary care system, how is the healthcare workforce organised to provide services? Options: single practitioner, multidisciplinary team, paediatric group practice, GP group practice, other model Q3
On health promotion and health promotion/curative care services	Are universal prevention and health promotion services (e.g. immunisation, routine developmental examinations) provided in the primary care setting described above, or by a separate preventive health service? Q4
	Are there suggested caseloads for staff numbers who provide universal prevention and health promotion services? Q5
	Is the case load of Q5 based on population size, geographical area/transport conditions, socio-economic factors, other? Q6
	Are there suggested case loads for staff numbers who provide curative care within the primary care setting? Based on population size, geographical area/transport conditions, socio-economic factors, other? Q7
On salary and national datasets	Does your country have a national salary scale for the members of the primary care system? Q8
	Does your country have a dataset for the number of staff (by group) in the primary care system? Q9
Found on Table 13.5	
On training of paediatricians	On average, how many years mandatory training at college/university level does a paediatrician working in primary health care have? (If possible and appropriate, split into general medical education (medical faculty) and paediatric-specific education (postgraduate)). Q10

Table 13.3. (Continued)

Category	Question
On training of GPs	<ul style="list-style-type: none"> • What type of (if any) postgraduate specialisation does the paediatrician have? Q10a • In what type of setting does the postgraduate training take place? (e.g. in hospital, or in community-based clinics under the supervision of a primary care paediatrician). Q10b <p>On average, how many years mandatory training at college/university level does a GP working in primary health care have? Q11</p> <ul style="list-style-type: none"> • What type of (if any) postgraduate specialisation does the GP have? (If possible and appropriate, split into general medical education, and general practice-specific education). Q11a • In what type of setting does the postgraduate training take place? (e.g. in hospital paediatric ward, or emergency department, or in community-based clinics or GP offices under the supervision of a primary care/public health physician). Q11b
On training of nurses	<p>On average, how many years mandatory basic training at college/university level does a registered nurse need to undertake this additional qualification/work in universal prevention and health promotion services nursing service for all children (e.g. public health nurse, health visitor, other)? Are these postgraduate qualifications? Q12</p> <p>In your country, what type of (if any) postgraduate specialisation does a nurse need to work in universal prevention and health promotion services nursing service for all children (e.g. paediatrics, public health, community health, other), Q12a and what is the duration of that training? Q12b</p>

Table 13.4. Primary care (PC) workforce configuration, summary of Country Agent responses.

Country	Type of PC System for Children (Q1)	Regulatory Maximum Number of Children on Doctor List (Q2)	How Workforce Organised to Provide Services					Prevention/Promotion in Primary Care or Separate? (Q4)	Suggested Caseloads Prevention/Promotion? (Q5)	What is Suggested Case Load Based on? (Q6)	Suggested Caseloads Curative? (Q7)	National Salary Scale Primary Care? (Q8)	Available Datasets Primary Care Staff? (Q9)
			1	MDT	PN	GPN	5						
Austria	Combined	N		x				N	N		N	N	N
Belgium	Combined	N	x	x	x	x	x	N	Y & N		N	N	Y & N
Bulgaria	GP led	Y (2,500~)	x					N	N		N	N	N
Croatia	Combined	Y (1,000)	x	x	x	x	x	Y	Y	Pop; other	Y	Y	Y
Cyprus	Paediatrician led	Y (30)	x					N	N		N	N	N
Czech rep.	GP led	N	x				x	N	N		Y	N	N
Denmark	Combined	Y (1,600)	x	x	x	x		Y	Y	–	Y & N	Y	Y
Estonia	GP led	N	x			x		N	Y	Pop; geog	Y	N	Y
Finland	Combined	N		x				N	Y	Pop; geog	N	N	Y
Germany	Paediatrician led	N	x	x	x	x		Y	Y	–	Y	Y	Y
Greece	Combined	N	x	x				Y	N		N	Y	N
Hungary	Combined	N	x		x	x		Y	Y		Y	Y	Y
Iceland	Combined	N		x		x		Y	Y	Pop; geog	N	Y	Y
Ireland	Combined	N		x				Y	Y	Pop	Y	Y	Y
Italy	Combined	Y (1,000)	x		x			Y	N	Pop; geog	Y	Y	N
Latvia	Combined	Y (800)			x	x		Y	Y		Y	Y	Y

Lithuania	Combined	Y (varies)	x	x		x		N	N	Pop	Y	N	N
Malta	Combined	N	x	x				Y	Y		N	Y	Y
Netherlands	Other	N					x	Y	Y		N	Y	Y
Norway	Combined	N	x	x	x	x	x	N	N		N	N	N
Poland	Combined	Y (2,950~)		x				N	Y		N	N	Y
Portugal	Combined	N		x				Y	Y	Pop	N	Y	Y
Romania	GP led	N	x	x		x	x	N	Y	Pop; geog; other	Y	N	Y
Slovakia	Paediatrician led	Y (1,000)	x					N	Y	Pop	Y	N	Y
Slovenia	Combined		x	x				Y	N	Pop	Y	Y	N
Spain	Paediatrician led	Y (2,000)		x				Y	Y	Pop; geog; soc-ec	Y	Y	Y
Sweden	*	*		x				*	*	*	*	*	*
UK	GP led	N	x	x		x		N	Y		Y	N	Y

Notes: Missing data: France, Luxembourg, Sweden. *Clarification needed/missing data; ~ people not children; N = No, Y = Yes; Pop – Population; Geog – Geography/Transport; Soc-ec – Socio-economic factors.

How primary care workforce organised. 1, Single practitioner; MDT, multidisciplinary team in community practice; PN, paediatric group with nursing staff; 4 GPN, group with nursing staff; 5, Other.

Table 13.5. Country Agent responses to questions on training of workforce for children in primary care.

Country	Paediatrician			GP			Nursing		
	Mandatory Training, Years (Q10)	Postgraduate Specialisation, Years (Q10a)	Type of Postgraduate Specialisation (Q10b)	Mandatory Training, Years (Q11)	Postgraduate Specialisation, Years (Q11a)	Type of Postgraduate Specialisation (Q11b)	Mandatory Basic Training Prevention/Promotion, Years (Q12)	Postgraduate Specialisation, Years (Q12a)	Type of Postgraduate Specialisation (Q12b)
Austria	3	27 Months	Hospital	3	Generic	Hospital, GP office, practice	3, Paediatric school for nurses.	Certified paediatric nurse – no additional specialisation	N
Belgium	5	5	Hospital	3	6m, Paediatrics	GP office, hospital	4, general	Community health, paediatrics	N
Bulgaria	6	4	Paediatrics	3	3	General medicine	4, General	None	N
Croatia	6.25	5	Paediatrics	6.25	4	Paediatric-specific	3, General	Optional	N
Cyprus	6	4	Paediatrics	6	4	Postgraduate training	*, General	Public health or Community	N
Czech Rep.	5	5	*	No GPs	*		3, General	Professional module	
Denmark	6	5	Hospital	5–5.5	4.5	Hospital depts	3.5	1.5, health visitor	N
Estonia	6	4	Paediatrics	6	5, residency	Family medicine	4, General	Community care	N

Finland	6	6	Paediatrics. Other	6	6	General practice, other	4, Public health	None	3.5, General
Germany	6.25	5	Hospital	6.25	5	Specialist medical training	–	None	Y
Greece	6	4	Paediatrics. Other	6	4	General medicine	4, General nurse	Optional, paediatric	N
Hungary	*	*	Paediatrics. Other	3	2.2	Paediatric	4, Midwifery	None*	N
Iceland	6	4–5	Paediatrics	*	*	None	4, General	Optional; primary care	N
Ireland	5–6	*	Minimum requirements	5–6	4	*	4, General	Public health	N
Italy	6	5	Paediatrics	3	*	General medicine	3, General	Optional; masters	N
Latvia	6	4	Paediatrics. Other	6	3	Family medicine	4, University; 2, College	Ambulatory/ child care	1 Year
Lithuania	6	5	Paediatric surgery. Other	6	3	Family medicine	3.5, General nurse	Optional; community	N
Malta	5	5	Paediatrics	5	3	General practice	4, General; 3, Diploma	Optional; public health	N
Netherlands	6	2	Preventive	3	*	Postgraduate	4, General	Optional; children	N
Norway	6	5	Paediatrics	6	Generic	None	3, General	Public health	N
Poland	6	5	Paediatrics	6	*	Family medicine.	3, General	*	N

Table 13.5. (Continued)

Country	Paediatrician			GP			Nursing		
	Mandatory Training, Years (Q10)	Postgraduate Specialisation, Years (Q10a)	Type of Postgraduate Specialisation (Q10b)	Mandatory Training, Years (Q11)	Postgraduate Specialisation, Years (Q11a)	Type of Postgraduate Specialisation (Q11b)	Mandatory Basic Training Prevention/Promotion, Years (Q12)	Postgraduate Specialisation, Years (Q12a)	Type of Postgraduate Specialisation (Q12b)
Portugal	6	5	Paediatrics	6	4	Paediatrics, internal General/family	4, General	Optional; paediatrics	N
Romania	6	5	Paediatrics	6	3	Family medicine	3/4, General	*	N
Slovakia	6	5	Paediatrics	6	3	Core specialisations	4, General	Optional; public health	N
Slovenia	6	5	Paediatrics	6	4	Hospital/clinic/GP off	4, Secondary; 3, college		N
Spain	6	4	Paediatrics	6	4	General medicine	4, General	Paediatrics	N
Sweden	5	5.5	*	5	*	*	3, General	Optional; Paediatric/district	N
UK	8	*	Paediatrics	5	3	General practice	3/4, General	Optional; Children's/health visiting	N

Notes: Missing data: France, Luxembourg.

mandatory training. The Czech Republic, Malta and Sweden offer a minimum of five years. On average, almost all countries offered four to five years' post-graduate specialisation. This is in line with the European Academy of Paediatrics (EAP) recommendations (European Academy of Paediatrics, EAP, 2018). GP training, however, had more variability (EAP, 2018). All countries had a minimum of three years mandatory training with more than half of the country responses offering six years mandatory medical training and most requiring further specialisation in general practice/family medicine after the mandatory training. Paediatric specialisation was mentioned by three countries: Croatia, Hungary and Poland.

Looking at training requirements for nurses in 28 countries (Table 13.5), there was a minimum of three years mandatory basic training requirement for general nurses with optional specialisations in most countries. Eight countries specifically mention paediatric/children postgraduate/specialist training; others refer to community nursing and primary care. Hungary identified midwifery as a mandatory basic training. Midwifery in Hungarian context refers to Visiting Nurses.

Undergraduate (Basic) Medical Training

Healthcare professionals in primary care support the individual child to achieve optimal health within the context of the family and wider community. Undergraduate medical training, therefore, addresses the huge variety of requirements a physician needs to care for children, over and above their basic education on human physiology, illness, diagnostics and therapies. These include the following:

- checks on children's development (in the form of 'well child reviews'), early identification of any impairments or conditions that require treatment or management and the support of children living in vulnerable circumstances, for instance those experiencing abuse, those already in the care system (see Chapter 5), and those with a long-term, possibly complex, physical or mental condition (see Chapter 10);
- identification of children at risk of poor physical or mental health, such as those vulnerable to discrimination, poverty, traumatic experiences and migrant status and where possible assist in preventive activities;
- adaptation to the child's changing needs as they age and to the current situation of the child. This requires competencies to be attained in topics such as nutrition, parenting, children's rights and understanding of the (child) health system in the country;
- communication skills and the management of a consultation with two parties (the child and the parents) and an empathic style of interaction (see training in adolescent health); and
- training and experience in multi and inter disciplinary work with professionals such as social workers or the justice system (Završnik et al., 2018).

Table 13.6. A whole population approach: patient segments in child health.

Population Group ‘Segments’	Examples of Activities/Conditions
Healthy child	Advice, health protection and promotion, immunisation, mental health and wellbeing, nutrition, child development and growth
Child with social needs	Complex family and schooling issues, children in care of the State, self-harm and substance misuse
Child with complex health needs	Severe neurodisability, Down syndrome, long-term ventilation, intractable epilepsy, ADHD and autism
Child with single long-term condition	Asthma, eczema, allergy, diabetes, coeliac disease and continence issues
Acutely mild-moderately unwell child	Common cold, flu, rash, ear infection and urinary tract infection
Acutely severely unwell child	Sepsis, meningitis, traumatic brain injury, acute appendicitis or other surgical emergency

Source: Klaber and Watson (2015).

These requirements provide many training challenges, which are addressed by European Union (EU) and European Economic Area (EEA) countries in subtly different ways. Table 13.6 illustrates a framework for describing the child health population in primary care settings. This has the advantage of classifying clinical groups of children and some of their typical health needs and is useful for appraising the curricula against and reflects our selected tracer conditions in MOCHA. The full framework has both time and equity dimensions in recognition of the changing needs of the developing child and young person as well as the need to ensure coverage of all children in a population.

Curriculum recommendations by a number of European paediatric associations exist, but national decisions have to be made regarding the content of medical school curricula; thus, there is a variety of extent and type of training undertaken by medical students in the EU and EEA countries, in general, and then specifically regarding children.

As one of the special groupings we were interested in, the basic requirements of training to work with vulnerable children in particular are outlined in Figure 13.1.

In Figure 13.1, the smaller circle represents basic medical (undergraduate) training. These qualifications and knowledge are required for all practitioners as a basis of medical studies. The larger circle represents specialist (post-graduate) training, which includes the qualifications and knowledge required for health professionals specialising in child health and treatment.

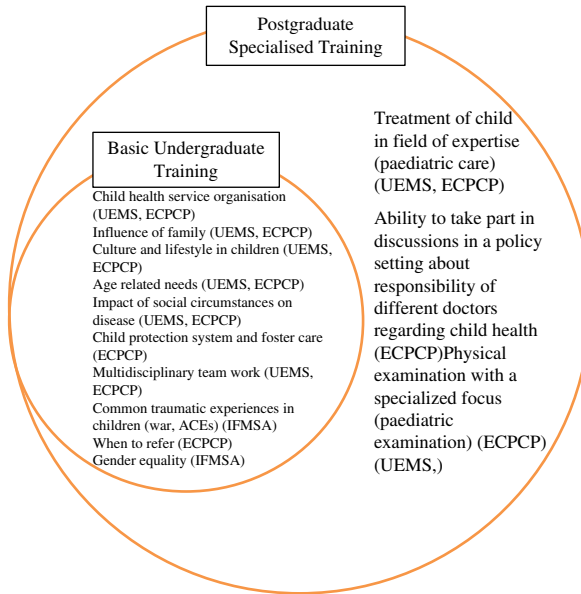


Figure 13.1. Skills and qualifications required to adequately treat and monitor vulnerable children.

Figure 13.1 is based on the recommendations by European Union Medical Specialties (UEMS 2015), European Confederation of Primary Care Paediatricians (ECPCP 2018) and International Federation of Medical Student Associations (IFMSA 2017) for undergraduate and postgraduate training.

Time and cost restraints in the MOCHA project meant that in order to explore the content of medical training in the EU and EEA countries, we identified three representative countries (Bulgaria, Germany and Iceland) based on the levels of GDP, child poverty and Gini coefficient, in which we identified how the current training programme prepares paediatricians and GPs to work with different vulnerable groups of children including specific knowledge, attitudes and skills. We asked the MOCHA country agents to provide us with medical curricula of their country, either a national curriculum, if it existed, or that of the largest medical school in their country as a representative example of training of physicians in primary care. We then reviewed the medical curricula against the standards recommended by the European bodies for medical education in terms of the physician model of care, Gini-coefficient and the levels of child poverty. The three representative countries are shown in Table 13.7 and Table 13.8 (see Chapter 12).

We reviewed the undergraduate study programmes identified by the MOCHA country agents of the three countries to see whether the curriculum

Table 13.7. Three representative countries.

	Lead Medical Practitioner	Number of Children 0–19 Years	Gini Co-efficient (Source: OECD/Eurostat)	Child Poverty (%)*
Bulgaria	GP	1,335,049	0.37	41.3%
Germany	Primary care paediatrician	14,550,756	0.29	20.0%
Iceland	Mixed service	89,316	0.25	13.0%

Notes: *<http://www.oecd.org/social/income-distribution-database.htm>.

Table 13.8. Characteristics of the European medical schools' curricula analysed by MOCHA.

Country Medical School	Type of Reference/Data*	Number of Medical Students (Per Institution)	Duration of Undergraduate Training (Years)
Bulgaria Sofia	List of mandatory courses including European Credit Transfer System (ECTS)**	4,000 in total	6
Germany Munich	List of mandatory courses	500/year	6
Iceland Reykjavik	List of learning goals	50/year	3 + 3*

Notes: *Bsc + Msc degree. <http://www.oecd.org/social/income-distribution-database.htm>.

**ECTS, https://ec.europa.eu/info/education/study-or-teach-abroad/selecting-university-or-other-institution/higher-education-system_en.

listed or covered the following topics related to health management of vulnerable children in the three identified countries:

- paediatric chronic conditions;
- development of a child;
- mental health of a child;
- disability and complex medical conditions;
- children in palliative care;
- trauma (such as accidents);
- child protection (including Adverse Childhood Experiences (ACEs));
- looked-after children (LAC);
- cultural challenges and immigration;

- refugees;
- poverty, homelessness (socio-economic status (SES)); and
- discrimination (including gender equality).

The coverage of the curricula of these topics is described in [Table 13.9](#).

Preparing Students for Management of Vulnerable Children in Undergraduate Programmes in Bulgaria, Germany and Iceland

We found that that the various topics related to vulnerable children were not well described in the undergraduate medical training programmes. This may represent a suboptimal minimum knowledge and skills in this regard. Our findings are shown in [Table 13.10](#).

Mandatory Undergraduate Courses Related to Health Care of Vulnerable Children

All three countries covered the topics *Development, Mental Health* and *Trauma (other than ACEs)* in their courses in paediatrics. However, further details as to the content of these courses were not provided. It is possible that the mandatory course on psychiatry may cover additional aspects of *Development, Mental Health* and *Trauma (other than ACEs)* in children. Subgroups of vulnerable children including children subject to child protection plans, children affected by cultural challenges and immigration, refugees and children in poverty or who are homeless were not identified in the curricula, so it is impossible to establish if the needs of these cohorts are specifically addressed. Germany was the only country that listed palliative care in the training programme, but not with a focus on children.

Training in Personal and Interpersonal Skills

Communication skills and knowledge about the national health system, multidisciplinary work and representation of the medical point of view (for instance in a court of law) were not overtly covered in any of the curricula, except in Iceland. Organisation and time management were not covered in any of the curricula.

Qualifications of a Doctor to Deal with Cases in a Paediatric and Social Setting

We investigated how undergraduate training prepares future doctors to cope with emotionally challenging situations. Iceland covered the skills *Talk about difficult cases, coping strategies* and *Knowledge about their own limits as a doctor* (in terms of own knowledge and when to seek other advice) in their curricula. Bulgaria listed *Sports for students in year 1* which might contribute to encourage the students to learn about work–life balance, but this was the only country of the three that did so. In Germany, a mentor programme is available and may include discussion of difficult cases. We found no data from students giving feedback on the training programme in any of the three countries. None of the countries addressed the importance of social determinants of health and how these

Table 13.9. Mandatory courses related to health care of subgroups of vulnerable children in Bulgaria, Germany and Iceland.

Country <i>Medical School</i>	Bulgaria <i>Sofia</i>	Germany <i>Munich</i>	Iceland <i>Reykjavik</i>
Paediatric chronic condition	Paediatrics	Paediatrics	Paediatrics
Development	Paediatrics	Paediatrics	Paediatrics
Mental health	Psychiatry^Paediatrics	Psychiatry^Paediatrics	Psychiatry^Paediatrics
Disability; complex medical condition	Physiotherapy^Rehabilitation^	Rehabilitation^	Rehabilitation^
Children in palliative care	Not listed	Palliative medicine^	Not listed
Trauma (other than ACEs*)	Psychiatry^Paediatrics	Psychiatry^Paediatrics	Psychiatry^Paediatrics
Child protection including ACEs*	Not listed	Not listed	Not listed
LAC	Not listed	Not listed	Not listed
Cultural challenges and immigration	Not listed	Not listed	Not listed
Refugees	Not listed	Not listed	Not listed
Poverty, homelessness (SES#)	Not listed	Not listed	Not listed
Discrimination	Not listed	Not listed	Not listed

Notes: ^not only focused on vulnerable children; not listed: not listed in outline of undergraduate study programme. * Adverse Childhood Experiences

Table 13.10. Skills and qualifications to overcome challenges in adequate treatment of vulnerable children.

Country <i>Medical School</i>	Bulgaria <i>Sofia</i>	Germany <i>Munich</i>	Iceland <i>Reykjavik</i>
Communication	Not listed	Not listed	Covered^
Organisation and time management	Not listed	Not listed	Not listed
Child health in the context of the society	Social medicine^	Social medicine^	Social medicine^
Children's rights, ethics, impact of SES	Ethics^; Other not listed	Ethics^; Other not listed	Ethics^; Other not listed
Knowledge to give preventative advice (nutrition, parenting, risk factors like environment and hygiene, projects, UNICEF, WHO)	Environment^Other not listed	Environment^Other not listed	Environment^Other not listed
Knowledge about the national health system to provide information for support and to enable access for the patient to different health services (e.g. referral)	Not listed	Not listed	Covered^
Multidisciplinary team work	Not listed	Not listed	Covered^
Giving evidence in court/coroner	Not listed	Not listed	Covered^

Notes: ^Not only focused on vulnerable children; not listed: not listed in outline of undergraduate study programme.

Table 13.11. A child health provider's required qualifications.

Country <i>Medical School</i>	Bulgaria <i>Sofia</i>	Germany <i>Munich</i>	Iceland <i>Reykjavik</i>
Talk about difficult cases, coping strategies	Not listed	Mentor programme	Covered
Knowledge about own limit (exceeded personal skills, exceeded medical treatment)	Not listed	Not listed	Covered
Work–life balance	Sports for the student in year 1	Not listed	Not listed
Possibilities to give feedback on the training	No data	No data	No data

Note: Not listed: not listed in outline of undergraduate study programme.

affect child health outcomes – even in countries with a high level of poverty and inequality (represented by Bulgaria in our examples). Table 13.11 summarises our findings in the three exemplar countries.

Training in Adolescent Health Medicine

Adolescent medicine involves acquiring specific competences and skills to develop a mutually respectful relationship between the physician and the adolescent. These include the following:

- respecting adolescents' rights and confidentiality (Kokotailo, Baltag, & Sawyer, 2018; Michaud, Berg-Kelly, Macfarlane, & Lazar, 2010; Michaud, Blum, Benaroyo, Zermatten, & Baltag, 2015; United Nations, 1989);
- developing appropriate screening and counselling approaches to review an adolescent's lifestyle;
- navigating family conflicts or addressing situations that may pose ethical dilemmas; and
- acquiring the capacity to deal with health issues such as exploratory and risk behaviours, mental health and sexual and reproductive health (Baltag & Mathison, 2010; Michaud et al., 2018, 2010; World Health Organization, 2014; World Health Organization, 2015a).

For effective outcomes, medical and nursing students should be trained to deal concretely with clinical situations by means of interactive participative sessions, bedside teaching and observation, discussions of videos or testing their skills with simulated patients (Hardoff, S. Benita, & Ziv, 2008).

Several documents have recently outlined how high-quality health care can be achieved for adolescents (Ambresin, Bennett, Patton, Sanci, & Sawyer, 2013; Michaud, Weber, Namazova-Baranova, & Ambresin, 2018; Nair et al., 2015; Sawyer, Ambresin, Bennett, & Patton, 2014; World Health Organization, 2016), and a recent publication of the World Health Organization suggests that there are several core elements of quality care pertaining specifically to adolescents, in which the healthcare providers' competencies play a pivotal role (World Health Organization, 2015b; Michaud & Baltag, 2015).

In MOCHA, we surveyed the country agents as to the extent of training in adolescent medicine and care in 30 countries. We sought to evaluate the number of European countries providing under- and postgraduate training curricula specifically focusing on the field of adolescent medicine and health, either as a stand-alone topic or as sessions embedded in the programme of other disciplines. In addition to the country agents, the questionnaire was sent to members of the European Association of Paediatrics (EAP) and the 'young EAP' group whose members extend beyond the 30 MOCHA countries. Further details about the survey can be found in the study by Jansen et al. (2018).

Results

Status of Adolescent Medicine and Health within European Countries

Only 10 countries from the MOCHA project (Croatia, Finland, France, Greece, Italy, Portugal, Slovenia, Spain, Sweden and the UK) and three from outside the EU (Moldova, Switzerland and Turkey) have some units where paediatric residents can train in specialised wards with tutors specifically trained in adolescent medicine, but it is likely that these are situated only in selected parts of the country. Sixteen countries (Austria, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Greece, Italy, Malta, Norway, Portugal, Slovenia, Spain, Sweden and the UK) and three from outside the EU or EEA (Israel, Switzerland and Turkey) have set up a national association for adolescent health. Finally, four MOCHA countries (Bulgaria, Czech Republic, Finland and Spain (pending)) and two non-MOCHA countries (Armenia and Ukraine) have a formal title for physicians specialising in adolescent medicine and health in each country.

Under- and Postgraduate Training in the Field of Adolescent Medicine and Health

Stand-alone sessions encourage learners to look at adolescents as patients with specific health needs (World Health Organization, 2015). We asked if these were present or whether the teaching of adolescent health issues is embedded in the mainstream curriculum tackling issues such as mental health or reproduction in general. Table 13.12 gives an overview of the answers received from all participating countries: the dark grey colour indicates good training coverage, the light grey indicates some coverage, and the white colour indicates no or little coverage among various professions and disciplines.

Table 13.12. Training in adolescent health delivered within various disciplines and important topics in primary care, across all participating countries.

	Cat	Student SA	I Paed SA	II Paed SA	GPs SA	Gyn SA	Psych SA	School SA	Nurse SA	Topics Stud	Topics Paed	Topics GPs	Ward	CME	Spec	Assoc
Armenia		No	Mandatory	Mandatory	Optional	Optional	Mandatory	Not appl	Not that I know	All	Most	Few	No	All	Yes	No
Austria		Opt	Mand	Opt	Opt	Opt	Opt	Mand	No		All	Few	No	All	No	Yes
Belgium		No	Not SA	Not SA	Not SA	Not SA	Mand	Mand	No	All	All	Few	No	Ment h	No	No No
Bosnia Herzeg		No	Not SA	Not SA	Not SA	Opt	Opt	Not applic	No	Most	Ethics	None	No	Most	No	No
Bulgaria		Opt SA	Not appl	Opt	Opt	Opt	Opt	Mand	Yes SA	None	None	None	No	All	Yes?	±
Croatia		Mand SA	Not SA	Mand	Not SA	Mand	Mand	Mand	No	All	All	All	±	All	No	Yes
Cyprus	C	No	Not SA	Not SA	Not appl	Not appl	Not appl	Not SA	No	Most	None	None	No	Some	No	No
Czech Republic		Mand SA	Mand SA	Not SA	Not SA	Not SA	Not SA	Not appl	No	All	All	None	No	Some	Yes	Yes
Denmark	A	No	Not appl	Mand SA	Not SA	Not SA	Not SA	Not appl	No	None	Some	None	No	None	No	Yes
Estonia	A	No	Not SA	Not SA	Not SA	Not SA	Not SA	Not SA	No	Most	Most	All	No	SRH	No	No
Denmark	A	No	Not appl	Mand SA	Not SA	Not SA	Not SA	Not appl	No	None	Some	None	No	None	No	Yes
Estonia	A	No	Not SA	Not SA	Not SA	Not SA	Not SA	Not SA	No	Most	Most	All	No	SRH	No	No

Finland	A	Opt SA	Mand SA	Mand SA	Opt SA	Opt SA	Opt SA	Mand SA	Spec SA	All	All	All	Partly	All	Yes	Yes
France		No	Opt SA	Opt SA	Not SA	Not SA	Op SA	Not SA	No	Most	Most	Few	Partly	All	No	Yes
Germany	A	No	Mand SA	Mand SA	Opt SA	Opt SA	Mand SA	Not appl	No	Some	Several	Few	No	Several	No	No
Greece		Opt SA	Mand SA	Opt SA	Opt SA	Mand SA	Mand SA	Not appl	No	Few	None	None	Yes	Several	No	Yes
Hungary		No SA	Not SA	Not SA	Not SA	Not SA	Mand SA	Mand SA	No	Some	Few	Few	No	Several	No	No
Iceland	C	No	Not SA	Not SA	Not SA	Not SA	Not SA	Not SA	Spec SA	Most	All	All	No	Some	No	No
Ireland		No	Not SA	Mand SA	Mand SA	Opt SA	Opt SA	Not SA	No	Few	Few	Few	No	Few	No	No
Israel		No	Not SA	Not SA	Not SA	Not SA	Not SA	Not SA	No	Few	Several	Few	No	Few	No	Yes
Italy		No	Mand SA	Mand SA	Opt SA	Not SA	Opt SA	Not appl	No	Few	All	No	Yes	Several	No	Yes
Latvia	C	No	Not SA	Not SA	Not SA	Opt SA	Mand SA	Not appl	No	Few	Few	Few	No	None	No	No
Lithuania	C	No	Not SA	Opt SA	Not SA	Opt SA	Not SA	Not appl	Spec SA	All	All	All	No	All	No	No
Malta	C	No	Not SA	Not SA	Not SA	Not SA	Not SA	Not appl	No	Some	All	Some	No	Several	No	Yes
Moldova		Opt SA	Mand SA	Mand SA	Mand SA	Mand SA	Mand SA	Not appl	Spec SA	All	All	All	Yes	Most	No	No
Netherlands	A	No	Not appl	Opt SA	Opt SA	Opt SA	Opt SA	Mand SA	Spec SA	All	All	All	No	None	No	No

Table 13.12. (Continued)

Norway		Yes mand SA	Opt SA	Opt SA	Opt SA	Opt SA	Opt SA	Opt SA	Spec SA	All	All	All	No	Few	No	Yes
Poland	C	No	Mand SA	Not SA	Not SA	Not SA	Not SA	Not SA	Spec SA	All	All	Some	No	None	No	No
Portugal		Opt SA	Opt SA	Opt SA	Opt SA	Not appl	Opt SA	Not appl	Spec SA	All	All	Few	Yes	Several	No	Yes
Romania	C	No	Opt SA	Opt SA	Not appl	Opt SA	Opt SA	Mand SA	No	Few	Few	Few	No	All	No	No
Serbia		No	No SA	Opt SA	No SA	Opt SA	Mand SA	Not SA	No	None	Several	Some	No	Several	No	No
Slovenia	C	Mand SA	Mand SA	Mand SA	Opt SA	Mand SA	Mand SA	Mand SA	Spec SA	All	All	All	Yes	All	No	Yes
Spain	A	Opt SA	Mand SA	Mand SA	Mand SA	Not appl	Not appl	Not appl	Yes SA	Several	All	Few	Yes	All	Pending	Yes
Sweden		No	Mand SA	Mand SA	Opt SA	Opt SA	Opt SA	Mand SA	Spec SA	Several	All	All	Yes	All	No	Yes
Switzerland		Mand SA	Opt SA	Not SA	Not SA	Not SA	Not SA	Not SA	Some	All	All	All	Yes	All	No	Yes
Turkey		Mand SA	Opt SA	Opt SA	Opt SA	Opt SA	Opt SA	Not SA	No	All	All	All	Yes	Most	No	Yes
Ukraine		Mand SA	Not SA	Not SA	Not SA	Not SA	Not SA	Not SA	No	Few	Few	Few	No	None	Yes	No
United Kingdom	A	No	Not appl	Opt SA	Opt not SA	Opt not SA	Opt not SA	Not appl	No	Most	All	Most	Yes	Few	No	Yes

Notes: SA, stand-alone sessions; stud, medical students; Paed I, primary care paediatricians; Paed II, secondary care paed; GPs, general practitioners; school doctors; topics: in dark shade = all or most topics covered; ward: in dark shade: possibility to train in specialised adol. wards and specialisation in adol health and country-based association in adol health.

Undergraduate Curricula

Seven countries reported that some stand-alone teaching is available and mandatory for medical students, and another seven countries report optional stand-alone teaching. In terms of content, a number of countries provide sessions tackling specific adolescent health issues, either as stand-alone sessions or as part of the programme of larger disciplines (paediatrics, psychiatry and gynaecology): for instance, communication skills are taught in some form in 17 countries, ethical issues in 18 countries, how to assess lifestyles in 19 countries, the area of sexual and reproductive health in 22 countries and the field of mental health in 22 countries. Interestingly, countries that propose mandatory stand-alone training for medical students cover all the five areas considered as critical. In terms of nursing education, very few countries propose sessions specifically dedicated to adolescent health, only Bulgaria and Spain do so. Ten countries have implemented such courses as part of a specialisation process, but 24 countries do not provide any stand-alone training.

Postgraduate Curricula

Only four MOCHA countries, (Italy, Slovenia, Spain and Sweden), and Armenia and Moldova from outside the EU and EEA, provide stand-alone training sessions to residents in paediatrics and in family practice (overall primary care doctors). In other words, the majority of countries provide some specific sessions dealing with adolescent health, to primary and secondary care paediatricians, but in most cases, these are optional and embedded in sessions dealing with other topics. The content of training provided to future paediatricians varies, depending on the issue: Communication skills as well as topics related to sexual and reproductive health are taught in around 20 countries, while screening of lifestyles, ethics, and mental health seem better covered (respectively, in 25, 28 and 29 countries).

The coverage among family physicians, gynaecologists and psychiatrists is much lower, as can be seen in [Table 13.12](#). Only two MOCHA countries, Ireland and Spain, plus Moldova from the non-EU countries offer mandatory sessions to GPs or gynaecologists. Ten countries provide sessions dealing with adolescent health to psychiatrists, but tend to tackle only mental health. The educational opportunities covering important topics in adolescent health are optional in 15 countries. The session content to junior GPs varies little and includes communication skills, ethics, screening of lifestyles and issues related to sexual and reproductive life; these are covered in only 16–18 countries and the area of mental health in 23 countries.

Continuing Medical Education (CME)

[Table 13.12](#) shows that the percentage of countries organising CME training sessions is similar to that of postgraduate training in adolescent health. It is largely the same countries who provide training at postgraduate level that do so within CME curricula. Only nine countries offer CME sessions in all areas considered

as important to adolescent health and in nine countries, there are no sessions on adolescent health and medicine.

Quality of Adolescent Primary Care and Amount and Content of Training

The MOCHA project attempted to identify three clusters of countries with different levels of standards of adolescent care. Countries belonging to the first group are Denmark, Finland, the Netherlands, Spain and the UK (England) and to a lesser extent are Croatia, Czech Republic, Estonia, Germany, Italy, Portugal and Slovenia. These countries have implemented policies and strategies which guarantee good access to health care for adolescents, as well as a respect of confidentiality and other aspects of ‘adolescent friendly’ care (Ambresin et al., 2013; Baltag & Mathison, 2010; Tylee, Haller, Graham, Churchill, & Sancu, 2007). The second group includes Austria, Belgium (French-speaking), Bulgaria, Greece, Ireland, Luxembourg, Norway and Sweden, which have developed only basic policies in adolescent health training, and the third group of Cyprus, Hungary Iceland, Latvia, Lithuania, Malta, Poland, Romania and Slovakia does not meet most standards.

While there is some consistency between the quality of adolescent health care and the amount and content of training delivered in countries such as Finland, Germany, the Netherlands, Spain and the UK, it is puzzling that Denmark and Estonia were classified high in terms of quality of care despite not offering adequate training in the field.

The Nursing Workforce

Nurses are the largest single profession within the European health workforce with over six million nurses in the region (World Health Organization, 2018). They play a critical role in public health, working across the breadth of primary and community care services, such as GP or primary care paediatrician-led practices, health centres, preventative health services, school health services (SHS), home care and residential services. A skilled and competent nursing workforce can influence not only people’s health outcomes but also the practices and policies needed to achieve change (World Health Organization, 2013).

The MOCHA project has described the nursing workforce and has proposed key components for inclusion in education and training programmes for nurses in primary care for children (See Hilliard, Clancy, Hollywood, & Brenner, 2018). There is considerable variation in the distribution and scope of the nursing role across Europe. In some countries, nursing may be the first point of contact for children and families with a medical issue, and some nurses have advanced practice roles with varying degrees of diagnostic, prescriptive and referral authority (Blair, Rigby, & Alexander, 2017; Maier & Aiken, 2016). The various primary care configurations manifest themselves in differing models of nursing services, such as working exclusively with a health promotion and prevention remit, having a specific paediatric caseload, or working within a ‘cradle to grave’ model. The MOCHA examination of SHS (see Chapter 11) similarly

identified variations in nurses' roles across the MOCHA countries, ranging from administering immunisations and preventative screening to managing minor illnesses or injuries to assessing the educational and participation needs of children with chronic healthcare needs (Jansen et al., 2018).

This variation in the role and configuration of the nursing workforce within primary care, and the multiplicity of other variables which influence primary care outcomes, creates a challenge when attempting to evaluate the contribution and impact of nurses. Nursing roles are changing to encompass greater autonomy and skills (Maier & Aiken, 2016), and it is known that effective planning of the skill mix of nursing expertise is beneficial to patient outcomes (Blegen, Goode, Spetz, Vaughn, & Park, 2011; Griffiths, Murrells, Maben, Jones, & Ashworth, 2010) and that access to primary care is a factor in improving children's health outcomes (see Chapter 3).

In order to identify an optimal service, there is a need for accurate and comparable data about the proportion and distribution of nurses across the MOCHA countries within the healthcare workforce and more specifically those with a remit for child health. Furthermore, there is a need to anticipate emerging healthcare issues to ensure primary care services are targeted appropriately and are responsive to the wider healthcare needs of children, as well as the needs of vulnerable groups such as marginalised populations, migrant children and children with complex care needs (CCNs).

However, research into nursing workforce and skill-mix in primary care is limited (Jackson, Wright, & Martin, 2016; Maier & Aiken, 2016). There is great variability in the type and quality of data collected about primary care structures, processes and outcomes across the participating countries, and children's data are frequently aggregated with whole population data (see Chapter 7). The proportion of nurses across MOCHA countries varies considerably, ranging from 355 per 100,000 population in Greece to 1,631 per 100,000 population in Norway (World Health Organization, 2018). Nurses per 100,000 population are highest in combined systems of primary care (MacPepple & Gage, 2018). However, there are limitations to this data as some countries report the number of practising nurses providing direct care, while other countries report professionally active nurses which includes those who are not involved in direct care. Respondents to MOCHA surveys on SHS stated that only a minority of MOCHA countries ($n = 8$) specify a defined pupil-to-nurse ratio, which ranged from one nurse per 100 students (Latvia) to one nurse per 3,500 students (Malta) (see Chapter 11; Jansen et al., 2018). It is difficult to critique this variation in the nursing resource with respect to its relative impact on student health outcomes, due to the varying role of nurses in SHS across the MOCHA countries. However, international evidence does show that SHS can enhance access to health care, improve health and education outcomes and improve school attendance particularly among children with chronic health conditions (Baltag, Pachyna, & Hall, 2015; Bersamin, Garbers, Gaarde, & Santelli, 2016; Knopf et al., 2016; Leroy, Wallin, & Lee, 2017).

There is a need to develop systematic approaches to gathering data which reflect nursing in primary care and the outcomes they achieve. Developing a

suite of nurse-sensitive indicators that are sufficiently broad to have utility across the various types of primary care workforce configurations would contribute to illuminating the impact of the nursing contribution. Factors such as patient experience, satisfaction, quality of life and engagement with treatment plans should also be evaluated to determine whether developments in nursing practice and service delivery add value to patients' care.

Nurses' Training and Skills

It is important that nurses working with children have the necessary skills and knowledge to deliver high-quality nursing care to all children and their families and are able to meet children's changing needs across their life course from infancy to adolescence. However, it is known that there is a great variation in the type, duration and availability of paediatric nursing programmes (Paediatric Nursing Association of Europe, 2011). In the MOCHA project, we explored nurses' preparedness for caring for children in primary care and found that a general nurse qualification is the minimum requirement for working with children in the community in the majority of responding MOCHA countries (Clancy, Montañaña Montañaña-Olaso, & Larkin, 2017). However, the educational preparation of general nurses across the MOCHA countries can vary from three years (e.g. France, Norway and Poland) to four years (e.g. Iceland, Ireland, Lithuania and Spain), which has an influence on both the theoretical and clinical content of these programmes. Specialised qualifications prior to working with children are required only in a minority of countries. These include paediatric nursing, public health or community nursing. However, five of the respondent countries (Estonia, Finland, Lithuania, Malta and Romania) had no paediatric options available for specialised training. In primary care, there are also differences. Nurses working in SHS, for example, are required to undergo specialised training in only half the responding countries ($n = 14/28$); yet, these nurses are increasingly encountering children and adolescents with chronic conditions, CCNs or psychosocial needs. Furthermore, despite the specific health-care needs of children with CCNs, 73.9% ($n = 17$) of MOCHA countries reported that specialised training was not required by nurses caring for these children in primary care; this is shown in Figure 13.2 (Clancy et al., 2017).

Children with CCN offer a good example of how the disparity in nurses' educational preparation manifests itself across the MOCHA countries. These children are cared for by nurses whose minimum education ranges from a three-year undergraduate programme in countries where additional qualifications or specialisation are not required (Croatia, France, Italy, Malta, Norway, Poland and Romania) to five years in Sweden, for example, where nurses must have one year of nursing experience following a three-year undergraduate degree, after which they undertake a one-year postgraduate training in paediatric or community nursing. It is within this context that Brenner and colleagues in WP2 defined the need for all primary care providers caring for children with CCN to have specialist training as a standard of care for these children (Brenner et al., 2017) (see Chapter 10).

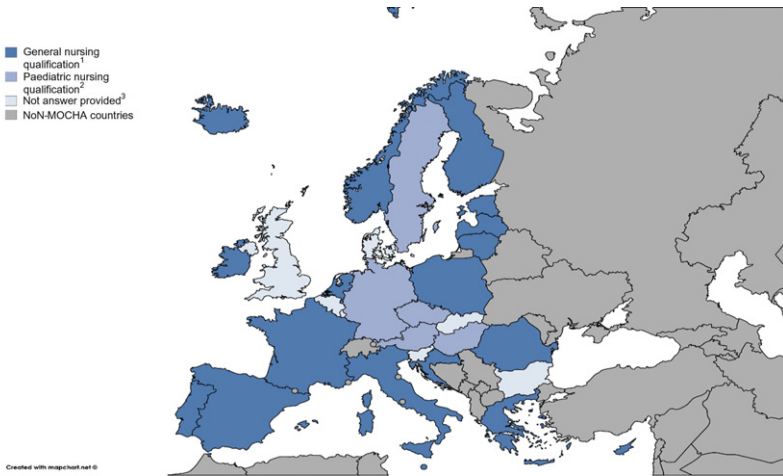


Figure 13.2. Nursing training requirements to look after children with CCN. *Source:* Clancy et al. (2017). *Notes:* ¹Cyprus stated that paediatric nursing was not offered in the community. ²Sweden stated that either community or paediatric nursing training was required to look after children with CCN in the community. ³Danish data not available for this analysis.

The Need for Specialised Knowledge

MOCHA highlights concerns related to the divide between nurse education and current and future needs in clinical practice. As outlined in Chapter 1, children have distinct and evolving health, developmental, educational, emotional and social needs as they journey through childhood into adolescence and transition to adulthood. Nurses in primary care meet children at various stages in their life course and across a variety of settings, and must have the knowledge and expertise to identify and be responsive to children's needs within the context of their role. This is of critical importance when they are the first point of contact, particularly in the light of the emerging epidemiological trends in health and illness in children.

Paediatric expertise and access to specialised education are important factors in the appropriateness of referrals from primary to secondary care and in the integration of care for children with CCN (see Chapters 10 and 15). Relational ethics and healthcare providers' communication skills are repeatedly identified in the literature as contributing to positive patient experiences and therapeutic relationships in paediatric health care (Daley, Polifroni, & Sadler, 2017; Schaeuble, Haglund, & Vukovich, 2010) underlined by MOCHA's interviews with young people (see Chapter 3; Alma et al., 2017) This is of critical importance in the context of MOCHA's finding that young people (16–24 years), although satisfied with health care, consistently report poorer experience of care than older adults and are less likely than adults to feel respected or have necessary confidence and trust in their doctors (Alma et al., 2017).

However, Clancy and colleagues' analysis of the curricular content of undergraduate general nursing programmes across the MOCHA countries revealed wide variation in the focus on child health, paediatrics and children with CCN. Almost three-quarters of the curricula analysed (70.6%, $n = 12$) contained one or more compulsory core modules that focused on the care of children as can be seen in Figure 13.3 (Clancy et al., 2017). The workload assigned to each module was variable, and elements of child health primarily appeared in other modules, for example pharmacology, rather than as stand-alone modules, and largely represented a biomedical focus with little visibility of the psychosocial and holistic care needs of children. As described in the context of medical education, earlier in this chapter, content related to the healthcare needs of adolescents was similarly varied and did not emerge as a distinct stand-alone topic within the curricula of general nursing programmes and was either absent or taught within the wider context of children's health care.

The EU Directive on recognition of professional qualifications provides a broad framework for general nursing curricula across Europe, but does not offer guidance on the specific content and skills that are necessary for the nursing care of children (European Parliament and European Council, 2005; European Parliament and European Council, 2013). The implications of this broad directive are visible in the results of MOCHA which illustrate the great variations in both the emphasis placed on children in general nursing programmes across Europe and the extent to which nurses are educationally prepared to care for children in primary care.

Preparing Nurses for the Emerging Models of Care

Despite previous calls for change (Benner, Sutphen, Leonard, & Day, 2010), MOCHA could not identify a current European competence framework for how the nursing care of children should be taught or what content on child health

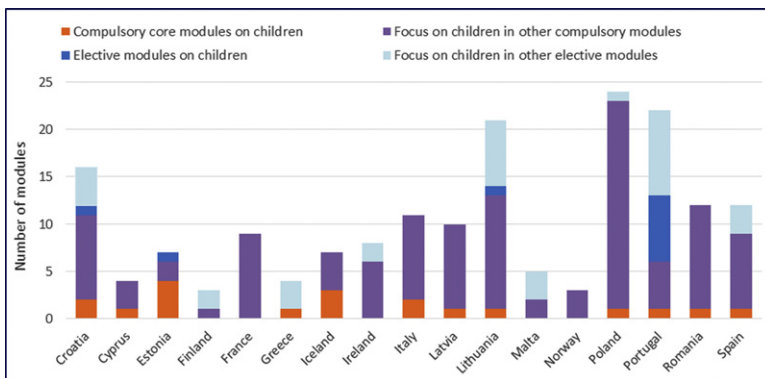


Figure 13.3. Distribution of child-related content across the different modules in the curriculum. *Source:* Clancy et al. (2017).

should be included in general nursing programmes. There remains no consensus on the minimum standard and content of postgraduate nurse education in relation to children's specific healthcare needs. This, combined with differences in legislation and regulation on advanced roles, makes it difficult for nations to change nursing roles to adapt to new models of care (Maier & Aiken, 2016). Consequently, our capacity in MOCHA to determine which primary care nursing model confers the best outcomes for children is impeded by the current variation in educational preparation and minimum requirements for nurses caring for children. While a competence framework for the wider contexts of nursing children was not identified, the WHO has defined core competencies for all primary healthcare providers caring for adolescents under three domains: (1) adolescent health and development and effective communication, (2) laws, policies and quality standards, and (3) clinical care of adolescents with specific conditions (World Health Organization, 2015). The incorporation of these competencies within both undergraduate and specialist programmes would contribute to developing a nursing workforce that is responsive to the needs of this particular group.

The extent to which healthcare professionals listened, were caring, sympathetic, non-judgemental and respectful, and '*knew how to communicate with [...] children*' (p. 77) (Alma et al., 2017), influenced the establishment of a trusting relationship between professionals, children and parents. This corroborates the evidence of other researchers who found that children and adolescents viewed the building of trust as critical to the quality of their relationship with their healthcare providers, (Robinson, 2010). Professional competence and a willingness to seek additional training are further attributes of all healthcare professionals that are valued by children and families (Alma et al., 2017), as can be seen in MOCHA's analysis of medical training for children and adolescents described earlier in this chapter. Children also called for a more holistic approach to their health, to include their feelings and experiences of their illness, rather than solely focusing on the physical manifestations of their condition (Alma et al., 2017). This is of particular importance for the increasing number of children who are living with chronic and/or CCNs. The experiences of the children described in the DIPEX report highlight the need for generalist and specialist nursing curricula to include an emphasis on the psychosocial elements of children's healthcare experiences and the interpersonal competencies necessary to meet these.

A requirement now exists to consider the outcome measures which would lend themselves to evaluating the effect of nursing education on a holistic approach to children's health care in the primary care setting and the added value which specific education in children's nursing may contribute.

Summary

Our appraisal of the models of medical and nursing workforce – the operational backbone – for primary care for Europe's children shows unacceptable variation

in terms of both numbers and adequacy of training required to meet the needs of Europe's children. The rapid reduction in numbers of primary care paediatricians in Europe with an increase in the number of family doctors and mixed systems necessitates a radical review of workforce planning in the EU and EEA for this large population group (van Esso et al., 2010). It is likely that a common set of uni- and multidisciplinary competencies needs to be developed for nursing in particular but also a much greater focus given to child health issues of most relevance in the twenty-first century highlighted in this report in both basic and postgraduate medical and nursing education. The preparation of medical students to work with children in primary care is varied and from our sample is, in many cases, lacking against defined essential knowledge for practice which may result in such career paths being less attractive and compound the workforce issues. The situation for nursing – the larger workforce having more interpersonal interaction with both well and ill children – is even more varied. But worse, there seems to be no basis of comparison or harmonisation, and little study of what is optimally required.

Within Europe, there is a common commitment and public expectation of quality of health care for children, but this does not manifest in professional education in key health professions. Europe has mutual recognition of qualifications, yet this is in effect mutual recognition of unequal knowledge and competencies. There is harmonisation of third-level educational structures through the Bologna framework, but no harmonisation of the content when applied to life-critical professions. There is work by the European Skills Council (ESCO) to harmonise skills and competencies across many employment sectors in Europe, but the application to medicine and nursing is low. Other than the paediatric associations' initiatives reported in this chapter, the health professions do not seem united or vocal in addressing standards of training for the health care of children. WHO has advocated standards for those working with adolescents (World Health Organisation 2015b), but not significantly for other groups. Thus, our appraisal of models of primary care for children has, unfortunately but importantly, discovered an indefensible lack of study or standards for educating Europe's doctors and nurses to care effectively for Europe's children in all 30 countries, and thus, there is no model of medical or nursing education over which we can stand – but several initiatives we can commend and a research need which we can articulate vigorously.

Adolescents are an important cohort of children (see Chapter 11). However, it is a concern that only seven countries in the MOCHA group provide some mandatory training in adolescent healthcare, which coupled with optional or ad hoc training available in other countries, could lead to sub-optimal care for this group of young people. Encouraging medical and nursing schools to progressively endorse and implement a minimal set of training objectives about adolescent health within stand-alone, mandatory sessions is an important aim. These sessions should include specific issues such as sexual and reproductive health, mental health or substance use and also address essential skills such as effective communication and ethical issues.

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