

- 2 Ruta D, Mitton C, Bate A, Donaldson C. Programme budgeting and marginal analysis: bridging the divide between doctors and managers. *BMJ* 2005;330:1501-3.
- 3 Wanless D. *Securing our future health—taking a long-term view*. London: HM Treasury, 2002.
- 4 Martin D, Lloyd I. Half a billion and counting: the NHS's black hole revealed. *Health Serv J* 2005 Jan 6:12-5.
- 5 Health Committee. *Second report of session 2001-02 on the National Institute For Clinical Excellence. Vol 1. Report and proceedings of the committee (HC 515-J)*. London: Stationery Office, 2002.
- 6 Smith J, Mays N, Dixon J, Goodwin N, Lewis R, McClelland S, et al. *A review of the effectiveness of primary care-led commissioning and its place in the NHS*. London: Health Foundation, 2004.
- 7 MacDonald R. *Using health economics in health services: rationing rationally?* Buckingham: Open University Press, 2002.
- 8 Mooney G, Gerard K, Donaldson C, Farrar S. *Priority setting in purchasing: some practical guidelines*. Scotland: National Association of Health Authorities and Trusts, 1992. (Research paper No 6.)
- 9 Miller P, Parkin D, Craig N, Lewis D, Gerard K. Less fog on the Tyne? Programme budgeting in Newcastle and North Tyneside. *Health Policy* 1997;40:217-29.
- 10 Mooney G, Wiseman V. *Listening to the bureaucrats to establish principles for priority setting*. Sydney: SPHERE, University of Sydney, 1999.
- 11 Mitton C, Donaldson C. Setting priorities in Canadian regional health authorities: A survey of key decision makers. *Health Policy* 2002;60:39-58.
- 12 Peacock S. *An evaluation of programme budgeting and marginal analysis applied in south Australian hospitals*. Melbourne: Centre for Health Programme Evaluation, Monash University, 1998.
- 13 Mitton C, Peacock S, Donaldson C, Bate A. Using PBMA in health care priority setting: description, challenges and experience. *Appl Health Econ Health Policy* 2003;2:121-34.
- 14 Murtagh MJ, Cresswell P. *Ageing and inequalities: tackling inequalities in older peoples' health in the north east of England*. Stockton: Northern and Yorkshire Public Health Observatory, 2003.
- 15 Ham C, Coulter A. Explicit and implicit rationing: taking responsibility and avoiding blame for health care choices. *J Health Serv Res Policy* 2001;6:163-9.
- 16 Daniels N, Sabin J. The ethics of accountability in managed care reform. *Health Aff (Millwood)* 1998;17:50-64.
- 17 Hope T, Reynolds J, Griffiths S. Rationing decisions: integrating cost-effectiveness with other values. In: Rhodes R, Battin MP, Silvers A, eds. *Medicine and social justice*. New York: Oxford University Press, 2002. (Accepted 14 October 2005)

## Child health

# Overuse of institutional care for children in Europe

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Children in institutional care are at risk of attachment disorder and developmental delay, but Europe still relies heavily on this form of care for children in adversity

A minority of children live without their parents, either because their biological parents have died or abandoned them or because their parents do not have the means to care for them appropriately. Under the United Nations' Convention on the Rights of the Child all 52 countries in the World Health Organization's European region agreed to provide children in need with temporary or permanent substitute care. Substitute care varies from institutional care to forms of family based care, such as guardianship by relatives or friends, fostering, or adoption. The services that have been offered have changed over time and have been influenced by political, economic, and social changes.

### Institutional care is commonplace

The recent special issue of the *BMJ* on Europe in transition identified the problems associated with the reform of healthcare systems from centralised state bureaucracies to health insurance and market led services. The editorial on mental health in post-communist countries highlighted the overuse of institutions for people with mental health problems and intellectual disability and the lack of a public health approach involving primary care and community services.<sup>1</sup> A recent survey by the University of Birmingham and the WHO regional office for Europe reported overuse of institutional care for young children in need—with and without disabilities.<sup>2</sup> However, institutional care of young children was not restricted to countries in transition and was common throughout the European region (table). Institutions were defined as residential health or social care facilities with 11 or more children, where children stay for more than three months without a primary care giver. Small institutions had the capacity for 11-24 children and large institutions 25 or more children, regardless of age.<sup>2</sup>

The recent WHO initiative on the prevention of child abuse<sup>3</sup> expressed concern about the lack of com-

munity services to uphold the child's right to grow up in a family environment. National child protection policies and legal procedures to rescue children from abuse, neglect, and abandonment have sometimes developed piecemeal and not in parallel with primary care strategies for prevention of abuse and alternative family based care. Thus, in some countries, not enough surrogate family placements are available, so that children may be placed in institutions for long periods.

### Is the evidence of harm being ignored?

More than 50 years of research provides convincing evidence that institutional care is detrimental to the cognitive, behavioural, emotional, and social development of young children.<sup>4-6</sup> Improvements are seen in cognitive ability when children are removed from institutional care at an early age and placed in a family.<sup>6,7</sup> However, institutional care has a lasting impact on behavioural and social development, even when a child is later placed in a supportive family.<sup>8-10</sup>

Children in institutional care rarely have the opportunity to form an attachment to a parent figure/

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**Table 1** Rates per 10 000 (rounded to the nearest whole number) of children under 3 in institutional care without a parent across the WHO European region in 2002

Countries	Population of children under 3 years*,†	Rate per 10 000 in institutional care‡ (Unicef social monitor)	Rate per 10 000 in institutional care* (EU/WHO survey)
Albania	166 800†	6¶	—
Andorra	1842*	—	33
Armenia	90 000†	1**	—
Austria§	107 709*	—	3
Azerbaijan	412 800†	3	—
Belarus	253 800†	25	—
Belgium	383 639*	—	56**
Bosnia Herzegovina	122 400†	4††	—
Bulgaria	245 704*	88	50
Croatia	178 142*	6	8
Cyprus	33 339*	—	4***
Czech Republic	270 293*	34	60
Denmark	197 758*	—	7
Estonia	37 953*	10**,§§	26
Finland	168 370*	—	28
France	2 294 439*	—	13
FYR Macedonia	—	5	—
Georgia	166 800†	3	—
Germany	2 232 569*	—	7
Greece	377 930*	—	3
Hungary	174 893*	22	44
Iceland	12 412*	—	0
Ireland	166 208*	—	6***
Italy	1 614 667*	—	2
Kazakhstan	690 600†	20	—
Kyrgyzstan	315 000†	5	—
Latvia	71 250*	60	55
Lithuania	100 268*	26	46
Malta	16 485*	—	27
Netherlands	818 713*	—	16
Norway	172 877*	—	<1
Poland	1 490 440*	15‡‡	9
Portugal	434 616*	—	16
Republic of Moldova	144 000†	20	—
Romania	877 772*	71§§	33
Russian Federation	3 718 200†	28	—
Serbia and Montenegro	374 400†	50¶¶	—
Slovak Republic	160 186*	21¶¶	31
Slovenia	53 736*	2¶¶	0
Spain	1 064 764*	—	23***
Sweden	278 400*	—	8
Tajikistan	444 000†	4	—
Turkey	4 388 000*	—	2
Turkmenistan	297 000†	4	—
Ukraine	1 234 800†	26	—
Uzbekistan	1 627 800†	3	—
United Kingdom	2 037 463*	—	<1

\*Figures from EU/WHO sponsored survey mapping the number of children under 3 years in the population and in institutional care 2002.†Estimated from 2002 population under 5 years published by Unicef.‡Estimated for children under 3 years in infant homes published by Unicef.§Combined figures for 3 Austrian states: Niederösterreich, Vorarlberg, and Vienna.¶Data for 2000/2001 (excludes figures for Kosovo in Serbia and Montenegro).\*\*Estimated from number of children under 7 years.††Data for 1999.‡‡Data for 1993. §§Data for 1997. ¶¶Data for 1995-6.\*\*\*Estimated from number of children under 18 years.

carer,<sup>11</sup> and they spend less time on play, social interaction, and individual care than children in a family.<sup>12-13</sup> Thus, the institutional care of children less than 3 years old may have negative effects on neural functioning at this crucial period of brain development.<sup>14-15</sup>

### The hidden extent of institutional care

Despite the importance of this issue, few data are available on the numbers and characteristics of young children in institutional care, although reports to the *World*

*Perspectives on Child Abuse* between 1998 and 2004 show that 38 of the 52 countries in the European region have child protection services.<sup>16</sup> A search of EMBASE, Medline, ISI Web of Science, SOSIG, and Science Direct up to 2003 yields little information. However, EU/WHO and Unicef have surveyed official statistics from governments relating to children under 3 raised in institutional care (table).<sup>2-17</sup>

These results have several limitations including incomplete data, the use of data from before 2002 in four countries, and the need to estimate population figures for children under 3 from figures for children under 5 in 15 countries. Pearson product moment correlations were performed on 11 countries that appeared in both surveys. The correlation between the two data sources ( $r=0.633$ ,  $P<0.04$ ), suggests that reasonable estimates can be made.

The data from both surveys were averaged and the overall numbers and rates per 10 000 children under 3 in institutional care were calculated for countries in the WHO European region where data were available (not FYR Macedonia, Israel, Luxembourg, Monaco, San Marino and Switzerland). It was estimated that 43 842 children under 3 resided in institutional care within 46 countries. With an estimated total population of children under 3 of 30 521 197 in these countries, the overall rate of institutionalisation was 14.4/10 000.

The five countries with the highest numbers of children under 3 in institutional care were Russia (10 411), Romania (4564), Ukraine (3210), France (2980), and Spain (2471). However, when considered as a proportion of the population under 3 in each country, the five countries with the highest rates of institutionalisation of young children were Bulgaria (69/10 000), Latvia (58/10 000), Belgium (56/10 000), Romania (52/10 000), and Serbia and Montenegro (50/10 000). Although institutional care for children in need is generally seen as most prevalent in eastern Europe, other European countries have a high number of young children in this form of care.

Countries that spend less on community health and social services are more likely to have higher proportions of institutionalised children.<sup>2</sup> When parent support services (such as mental health and alcohol or drug addiction services) are absent young children are likely to remain in institutional care for long periods. This is particularly important for children under 3, for whom a six month institutional placement represents a large proportion of their early life experience.<sup>5-6</sup> EU/WHO sponsored research in Denmark, France, Greece, Poland, Hungary, Romania, and Slovakia showed that the average length of stay for infants was 15 months, with a mean age of 11 months on admission and 26 months on departure.<sup>18</sup>

### Alternatives to institutional care

Countries in transition have used international adoption as an alternative to the long term institutional care of children.<sup>2</sup> However, adoption is not always in the best interests of the child and article 21 of the UN convention states that it should be considered only as a last resort. Services should be offered to parents and surrogate parents before adoption is considered, but this rarely happens with international adoption.<sup>19</sup> Furthermore, adoption agencies and the

parents they represent often assume that many children in residential care are orphans,<sup>19</sup> a myth propagated by the term "orphanages." In fact, only 4% of young children in residential care have no biological parent living.<sup>2</sup> Ironically, some economically developed countries that "import" children have high numbers of children in their own residential care institutions (France and Spain, for example). This indicates that parental rights are better respected and defended in these countries than in others, sometimes at the expense of children's rights.

Therapeutic foster care and rehabilitation services have been introduced in Iceland, Norway, Slovenia, and the United Kingdom (table) to prevent institutional care of young children. This approach is urgently needed in those European countries with high proportions of young children in institutional care, such as Bulgaria, Latvia, Belgium, and Romania. Only a few countries use foster care therapeutically to provide treatment for the child or a role model for parents in difficulty as a part of family rehabilitation. Those countries in transition that are developing foster care (for example, Latvia and Romania) provide care only until the child is adopted, with little attempt at rehabilitating parents in difficulty. Parents may object to foster care when its purpose is unclear, often preferring the anonymity of institutional care and not understanding the potential damage to their developing child.

Education and training for policy makers and practitioners is urgently needed on the appropriate care and placement of young children facing adversity. Any form of alternative, family based care must provide high quality care that enhances the development and protection of the child. Surrogate families require careful selection, support, and monitoring to prevent the child continuing to experience poor parenting, maltreatment, and additional moves.

## Conclusions and recommendations

Young children who are institutionalised experience developmental delay, although those who are placed in a caring family environment by the age of 6 months will probably recover and catch up on their physical and cognitive development.<sup>5-7</sup> However, difficulties with social behaviour and attachments may persist,<sup>20</sup> leading to a greater chance of antisocial behaviour and mental health problems.<sup>5</sup>

Children less than 3 years old, with or without disability, should not be placed in residential care without a parent. When institutions are used as an emergency measure, the child should be moved into a foster family as soon as possible. In all countries in Europe, child protection legislation and interventions to deal with abusive and neglectful parents should be developed in parallel with community services and alternative family based care for children.

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## Summary points

Institutional care for young children is not restricted to countries in transition but is common throughout the WHO European region of 52 countries

An estimated 43 842 (14.4/10 000) children under 3 are in institutional care within 46 countries of the WHO European region

Education and training for policy makers and practitioners is urgently needed on the appropriate care and placement of young children facing adversity

Children who move from institutional into family care before the age of 6 months will probably recover their physical and cognitive development

In life threatening circumstances emergency institutional care may be essential, but the child should be moved into foster care as soon as possible

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- Jenkins R, Klein J, Parker C. Mental health in post-communist countries. *BMJ* 2005;331:173.
- Browne KD, Hamilton-Giachritsis C, Johnson R, Chou S, Ostergren M, Leth I, et al. A European survey of the number and characteristics of children less than three years old in residential care at risk of harm. *Adoption and Fostering* 2005;29:23-33.
- Arie S. WHO takes up issue of child abuse. *BMJ* 2005;331:129.
- Bowlby J. *Maternal care and mental health*. Geneva: WHO, 1951.
- Marcovitch S, Goldberg S, Gold A, Washington J, Wasson C, Krekewich K, et al. Determinants of behavioral problems in Romanian children adopted in Ontario. *Int J Behav Dev* 1997;20:17-31.
- Rutter M, the English and Romanian Adoptees Study Team. Developmental catch-up, and deficit, following adoption after severe global early privation. *J Child Psychol Psychiatry* 1998;39:465-76.
- O'Connor TG, Rutter M, Beckett C, Keaveney L, Kreppner J, the English and Romanian Adoptees Study Team. The effects of global severe privation on cognitive competence: extension and longitudinal follow-up. *Child Dev* 2000;71:376-90.
- Hodges J, Tizard B. Social and family relationships of ex-institutional adolescents. *J Child Psychol Psychiatry* 1989;30:77-97.
- Hodges J, Tizard B. IQ and behavioural adjustment of ex-institutional adolescents. *J Child Psychol Psychiatry* 1989;30:53-75.
- Fisher L, Ames EW, Chisholm K, Savoie L. Problems reported by parents of Romanian orphans adopted to British Columbia. *Int J Behav Dev* 1997;20:67-82.
- Rushton A, Minnis H. Residential and foster family care. In: Rutter M, Taylor E, eds. *Child and adolescent psychiatry*, 4th ed. Oxford: Blackwell, 2002:359-72.
- Giese S, Dawes A. Child care, developmental delay and institutional practice. *S Afr J Psychol* 1999;29:17-22.
- Trevarthen C, Aitken KJ. Infant intersubjectivity: research, theory, and clinical applications. *J Child Psychol Psychiatry* 2001;42:3-48.
- Balbernie R. Circuits and circumstances: the neurobiological consequences of early relationship experiences and how they shape later behaviour. *J Child Psychother* 2001;27:237-55.
- Schore AN. Effects of a secure attachment relationship on right brain development affect regulation and infant mental health. *Infant Ment Health J* 2001;22:7-66.
- International Society for the Prevention of Child Abuse and Neglect. *World perspectives on child abuse*, 3rd to 6th eds. Chicago: International Society for the Prevention of Child Abuse and Neglect, 1998-2004.
- Unicef. *Innocenti social monitor: economic growth and child poverty in the CEE/CIS and the Baltic states*. Florence: Unicef Innocenti Research Centre, 2004.
- Browne KD, Hamilton-Giachritsis CE, Chou S, Johnson R, Agathonos H, Anaut M, et al. *Identifying best practice in deinstitutionalisation of children under five from European institutions*. European Union Daphne programme. Final project report no. 2003/046/C. Birmingham: WHO/University of Birmingham, 2005.
- Bainham A. International adoption from Romania: why the moratorium should not be ended. *Child Fam Law Q* 2003;15:233-6.
- Glaser D. Child abuse and neglect and the brain: a review. *J Child Psychol Psychiatry* 2000;41:97-116.
- Unicef. *The state of the world's children*. New York: Unicef, 2004. (Accepted 1 December 2005)