

Development assistance for health in central and eastern European Region

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Objective We aimed to quantify development assistance for health to countries of central and eastern Europe and the Commonwealth of Independent States (CEE-CIS).

Methods We used the International Development Statistics database of the Organisation for Economic Co-operation and Development and the database on development assistance for health compiled for the Commission on Macroeconomics and Health to quantify health development assistance to the region, compared to global and overall development assistance. We based our analysis on standard health indicators, including child mortality, life expectancy at birth and health expenditures.

Findings Although total development assistance per capita to CEE-CIS was higher than that for most other regions of the world, development assistance for health was very low compared to other countries with similar levels of child mortality, life expectancy at birth and national expenditures on health.

Conclusion The allocation of development assistance for health on a global scale seems to be related far more to child mortality rather than adult mortality. Countries of CEE-CIS have a high burden of adult morbidity and mortality from non-communicable diseases, which does not appear to attract proportionate development assistance. Levels of development assistance for health should be determined in consideration of the region's particular burden of disease.

Keywords Financial support; Financing, Organized; Delivery of health care/economics; Resource allocation/trends; Health services needs and demand; Health status indicators; Child mortality; Life expectancy; Health expenditures; International cooperation; Comparative study; Europe, Eastern; Commonwealth of Independent States (*source: MeSH, NLM*).

Mots clés Aide financière; Organisation financement; Délivrance soins/économie; Allocation de ressources/orientations; Besoins et demande services santé; Indicateur état sanitaire; Mortalité de l'enfant; Espérance vie; Dépenses de santé; Coopération internationale; Etude comparative; Europe orientale; Communauté Etats Indépendants (*source: MeSH, INSERM*).

Palabras clave Apoyo financiero; Organización del financiamiento; Prestación de atención de salud/economía; Asignación de recursos/tendencias; Necesidades y demanda de servicios de salud; Indicadores de salud; Mortalidad en la niñez; Esperanza de vida; Gastos en salud; Cooperación internacional; Estudio comparativo; Europa Oriental; Comunidad de Estados Independientes (*fuente: DeCS, BIREME*).

الكلمات المفتاحية: الدعم بالتمويل، التمويل، التمويل المنظم، إيتاء الرعاية الصحية، إيتاء الرعاية الصحية والطلب عليها، تخصيص الموارد، اتجاهات تخصيص الموارد، الاحتياجات من الخدمات الصحية والطلب عليها، مؤشرات الوضع الصحي، وفيات الأطفال، مأمول الحياة، النفقات الصحية، التعاون الدولي، دراسة مقارنة، أوروبا، أوروبا الوسطى، دول الكومنويلث المستقلة. (المصدر: رؤوس الموضوعات الطبية المكتب الإقليمي لشرق المتوسط)

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يمكن الاطلاع على الملخص بالعربية في صفحة 926.

Introduction

International development assistance can have a significant impact on the economic and social development of recipient countries. The importance of official development assistance (ODA) has been repeatedly emphasized during conferences of the United Nations. Millennium Development Goal 8 specifically calls upon the donor community to increase its aid efforts. Despite this renewed political commitment, the actual levels of ODA have shown a declining trend since 1992 (1).

Social and economic upheavals have affected health systems in many countries of central and eastern Europe and the Commonwealth of Independent States (CEE-CIS) in the past decade and the health status of the population has de-

clined. In a number of countries of the former Soviet Union, life expectancy has still not recovered to the levels that existed a decade ago and has shown a deteriorating trend in recent years. However, most development assistance for health is still destined for the "traditional" developing countries, particularly in sub-Saharan Africa, with the CEE-CIS countries receiving little or no attention.

We attempted to analyse whether international development assistance for health to the CEE-CIS region is commensurate with the existing health needs of the region and its financial resources. We considered possible reasons for the current low allocation with respect to health indicators, such as child mortality and life expectancy, and whether higher

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levels of national health expenditures per capita result in lower external assistance for health.

Methods

We reviewed the distribution and development of total ODA to the countries of CEE-CIS and worldwide and quantified the proportion that is specifically designated for health. Official development assistance is defined (2) by the Organisation for Economic Co-operation and Development (OECD) as flows to a defined set of developing countries provided by official agencies, including state and local governments, or by their executive agencies, which are:

- administered with the promotion of economic development and welfare of developing countries as their main objective; and
- are concessional in character and convey a grant element of at least 25%.

Official aid is the development assistance meeting the above criteria but for the remaining recipient countries (most of which are from CEE-CIS). In this paper we use the term ODA for both types of assistance.

Development assistance includes *commitments* (funds set aside to cover the costs of projects, which can span several years) and *disbursements* (actual amounts made available by donor countries each year). We used the ODA data based on commitments as they are more broadly reported and more directly capture donor decisions (3). To compensate for annual fluctuations in commitments, we calculated 3-year averages.

Data sources

We used two main data sources: (i) the International Development Statistics database of the OECD (2003), and (ii) the Development Assistance for Health database compiled for the Commission on Macroeconomics and Health (1997 to 1999). The OECD database provides information on receipts of total ODA and sector-specific commitments in ODA by bilateral donors. The Development Assistance for Health database is

more comprehensive as it includes bilateral and multilateral donor organizations, as well as transfers from major nongovernmental foundations (4).

Results

Total development assistance

The Oceania region received the highest per capita total ODA allocation (largely explained by its small population), while regions most commonly associated with development needs, such as the Far East, South Asia and sub-Saharan Africa received comparatively limited ODA in per capita terms (Table 1).

The CEE-CIS region received the second-highest total ODA per capita. We adjusted for economic development with per capita gross national income, and found that most of the CEE-CIS countries were located above the regression line (Fig. 1), implying that they received more ODA than other countries with similar per capita incomes.

Development assistance for health

In per capita terms, only US\$ 0.34 was given as development assistance for health to countries of CEE-CIS in 1997–99, corresponding to 1.7% of total ODA (Table 1). In comparison, US\$ 1.00 was spent globally on average as development assistance for health, representing almost 9% of ODA received globally. As development assistance for health also includes aid from nongovernmental foundations, the share of ODA to the health sector can be assumed to have been even lower than indicated.

An analysis of the share of development assistance for health in total ODA at the country level showed that in many countries of CEE-CIS it was almost non-existent (Table 2). In 15 of the 27 countries of the region, the average development assistance for health during 1997–99 was less than 0.1% of total ODA. Even in the countries that received the highest share of development assistance for health and the highest per capita amounts (Albania, Armenia, Georgia, Tajikistan and Turkmenistan), these levels typically are lower or do not substantially exceed the global average (except for Uzbekistan).

Table 1 Official development assistance (1999–2001 average in US\$) and development assistance for health (1997–99 average in US\$) to different regions of the world

Region	Official development assistance per capita	Development assistance for health per capita	Development assistance for health in % of official development assistance
CEE-CIS	27	0.34	1.7
Central America	22	4.22	19.8
Far East	6	0.50	7.8
Middle East	14	0.52	3.4
North Africa	22	1.24	4.4
Oceania	208	9.98	4.7
Rest of Europe ^a	12	0.28	2.3
South America	10	1.64	16.5
South Asia	4	0.84	16.8
Sub-Saharan Africa	23	2.06	8.6
Average		1.00	8.9

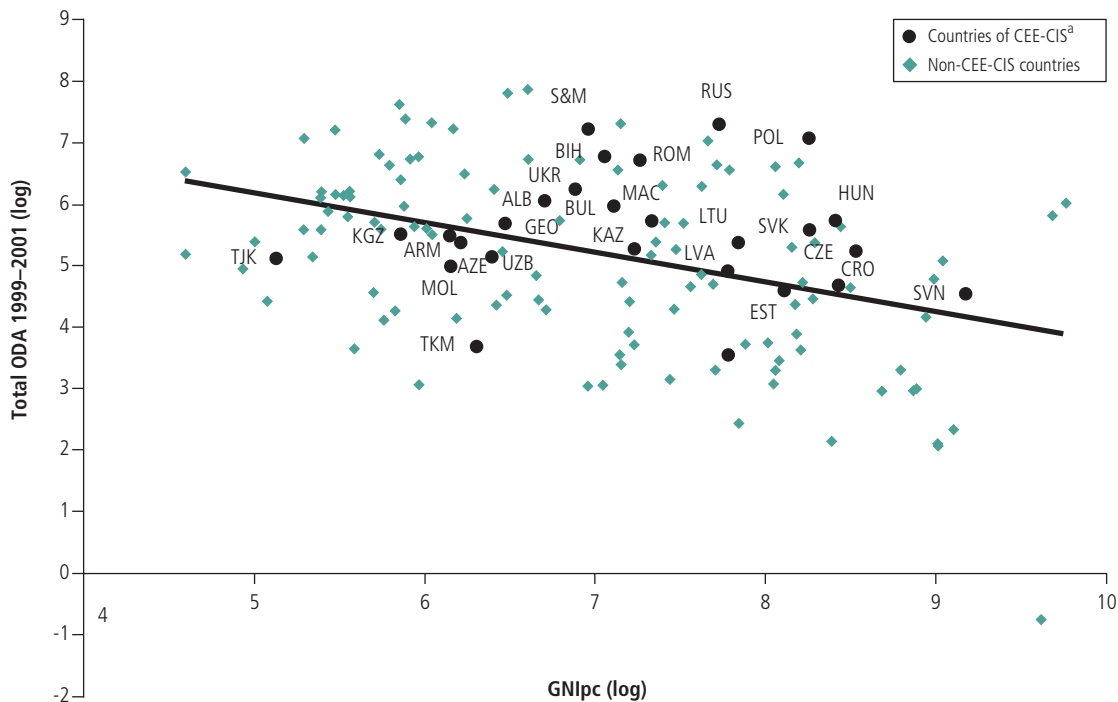
Source: (4, 5)

Note: Data refer to commitments.

Unallocated commitments are included in regional totals.

^a Includes Cyprus, Gibraltar, Malta and Turkey.

Fig. 1. Official development assistance (ODA) (1999–2001 average) and gross national income per capita (GNlpc) (1998) in countries worldwide



Source: (5)

Note: Data refer to commitments. The ordinary least squares (OLS) regression for all countries is $\ln(\text{ODA}) = 8.6 - 0.49 \ln(\text{GNlpc})$ with $R^2=0.17$, with a slope coefficient that is significant at the 1%-level. The OLS regression for the 26 CEE-CIS countries only is $\ln(\text{ODA}) = 5.5 - 0.004 \ln(\text{GNlpc})$ with $R^2=0.00$, and a slope coefficient that is statistically insignificant.

^a Central and Eastern Europe and the Commonwealth of Independent States (CEE-CIS):

ALB-Albania, ARM-Armenia, AZE-Azerbaijan, BLR-Belarus, BIH-Bosnia and Herzegovina, BUL-Bulgaria, CRO-Croatia, CZE-Czech Republic, EST-Estonia, GEO-Georgia, HUN-Hungary, KAZ-Kazakhstan, KGZ-Kyrgyzstan, LVA-Latvia, LTU-Lithuania, MAC-Macedonia (former Yugoslav Republic), MOL-Republic of Moldova, POL-Poland, ROM-Romania, RUS-Russian Federation, S&M-Serbia and Montenegro, SVK-Slovakia, SVN-Slovenia, TJK-Tajikistan, TKM-Turkmenistan, UKR-Ukraine, UZB-Uzbekistan.

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“Needs” indicators

There was a positive relationship between child mortality rate (i.e. under 5 mortality; $R^2=0.24$) and development assistance per capita across recipient countries worldwide (Fig. 2). A 10% increase in child mortality rate was on average associated with an almost identical percentage increase (10.6%) in development assistance for health per capita. However, most of the countries of CEE-CIS are below the global regression line, indicating that they received less development assistance for health per capita than other countries with similar levels of child mortality.

There was a negative relationship between life expectancy ($R^2=0.14$) and development assistance per capita across recipient countries worldwide (Fig. 3). Therefore, allocations of development assistance for health on a global level have not been proportional to differences in life expectancy. Most CEE-CIS countries were located below the global regression line, indicating that they received less development assistance than other countries with similar levels of life expectancy. Even among CEE-CIS countries alone, the relationship between life expectancy and development assistance for health per capita ($R^2=0.01$) was statistically insignificant.

The association between levels of national health expenditure per capita and development assistance for health ($R^2=0.08$) was also negative (Fig. 4). Most CEE-CIS countries were below

the global regression line, suggesting that development assistance for health is on average lower than that for other countries with similar levels of national health expenditures.

A multi-variate analysis, where we controlled for a set of relevant determinants of development assistance for health reflecting both the needs and the quality of governance of the recipient countries, also confirmed that countries of CEE-CIS on average received significantly less development assistance for health per capita than expected. Results of the multi-variate analysis are available from the authors upon request.

Discussion

Our analysis has shown that total ODA for countries of CEE-CIS is higher than what most other regions of the world receive as development assistance, even after controlling for differences in per capita income levels. This, however, does not necessarily mean that the CEE-CIS region received “enough” development assistance. Per capita income is not the only relevant determinant of whether ODA to a country is low or high. The quality of governance of recipient countries or the self-interest of donors are two other explanations (3, 8–10). We did not attempt to measure countries’ requests for assistance, which undoubtedly influence patterns of ODA. One indication for the presence of other determinants of ODA apart from gross domestic product

Table 2 Development assistance for health to CEE-CIS (1997–99 average) countries

	Development assistance for health per capita (US\$)	Development assistance for health as % of official development assistance
Acceded to the EU in June 2005		
Bulgaria	0.02	0.05
Czech Republic	0.00	0.02
Estonia	0.03	0.07
Hungary	0.00	0.01
Latvia	1.65	4.22
Lithuania	0.01	0.03
Poland	0.0006	0.00
Romania	0.01	0.04
Slovakia	0.004	0.01
Slovenia	0.01	0.05
Total	0.04	0.21
Central Asia		
Kazakhstan	1.01	6.33
Kyrgyzstan	0.04	0.07
Tajikistan	1.76	8.16
Turkmenistan	1.30	11.60
Uzbekistan	1.16	18.38
Total	1.10	7.02
Caucasus		
Armenia	2.43	3.42
Azerbaijan	0.02	0.07
Georgia	2.15	3.91
Total	1.22	2.49
Western CIS		
Belarus	0.02	0.68
Republic of Moldova	0.02	0.05
Russian Federation	0.15	1.64
Ukraine	0.003	0.03
Total	0.11	1.15
South-eastern Europe		
Albania	6.20	5.17
Bosnia and Herzegovina	2.66	0.94
Croatia	0.15	0.90
The former Yugoslav Republic of Macedonia	0.02	0.02
Serbia and Montenegro	0.10	0.23
Total	1.34	1.45
Total CEE-CIS	0.34	1.73

Source: (4, 5)

per capita is the relatively low overall explanatory power of the global regression line, and the statistical insignificance of the relationship to only the CEE-CIS countries (see the note to Fig. 1).

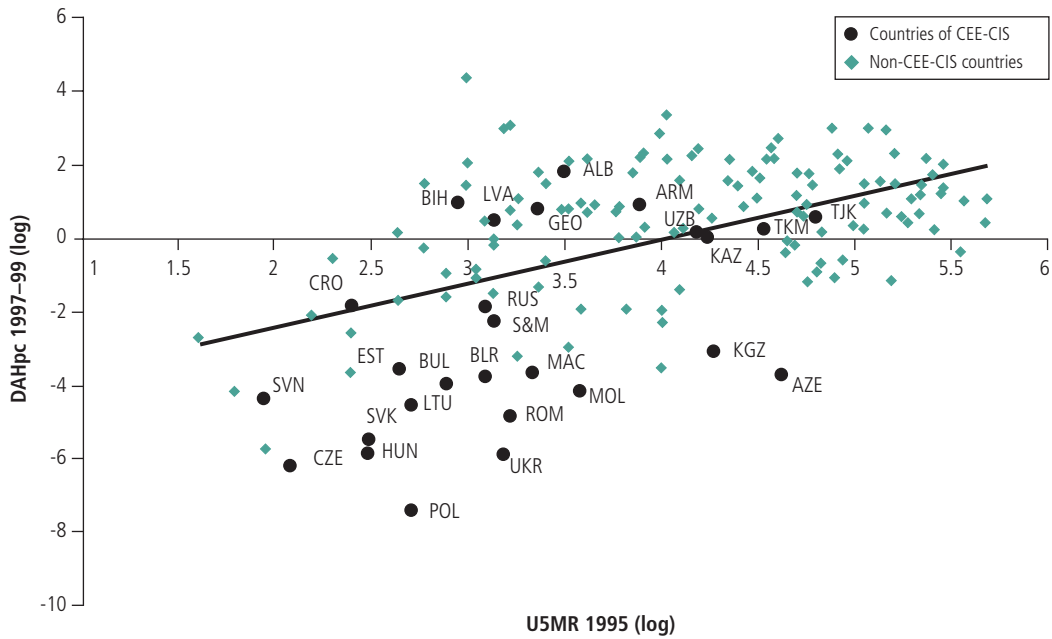
The results for development assistance for health, however, are very different, with CEE-CIS countries receiving much less external aid than other regions of the world. It could be expected that countries with a lower health status should receive more development assistance for health. But health status is not a narrowly defined and easily measurable concept. Two population health indicators could be expected to have implications for donors' allocations; child mortality rate and life expectancy at birth. Of these, child mortality is more reliably measured and data more widely available than that of adult mortality (7).

The average development assistance for health to countries of CEE-CIS is lower than in other countries with similar levels of child mortality, life expectancy at birth and national health expenditures, even when simultaneously accounting for a larger set of needs and quality of governance indicators.

Interestingly, variations in child mortality are related to donor decisions even more strongly within the CEE-CIS region. Our results also show that if we assume that donor allocations were guided by the distribution of life expectancy across countries, countries of CEE-CIS would still be receiving less development assistance for health than other countries with similar levels of life expectancy.

It is difficult to establish whether the deficit in development assistance for health reflects a failure on the part of the donor or the recipient countries. While data on ODA are readily

Fig. 2. Development assistance for health per capita (DAHpc) (1997–99 average) and under-5 mortality (U5MR) rate in countries worldwide



Source: (5, 6)

Note: Data refer to commitments. The ordinary least squares (OLS) regression line for all countries is $\ln(\text{DAHpc}) = -4.16 + 1.06\ln(\text{U5MR})$ with $R^2 = 0.24$. The OLS regression for 26 CEE-CIS countries is $\ln(\text{DAHpc}) = -8.13 + 1.76\ln(\text{U5MR})$ with $R^2 = 0.29$. For both samples the slope coefficient is statistically significant at the 1%-level.

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Fig. 3. Development assistance for health per capita (DAHpc) (1997–99 average) and life-expectancy (Life Exp) in countries worldwide

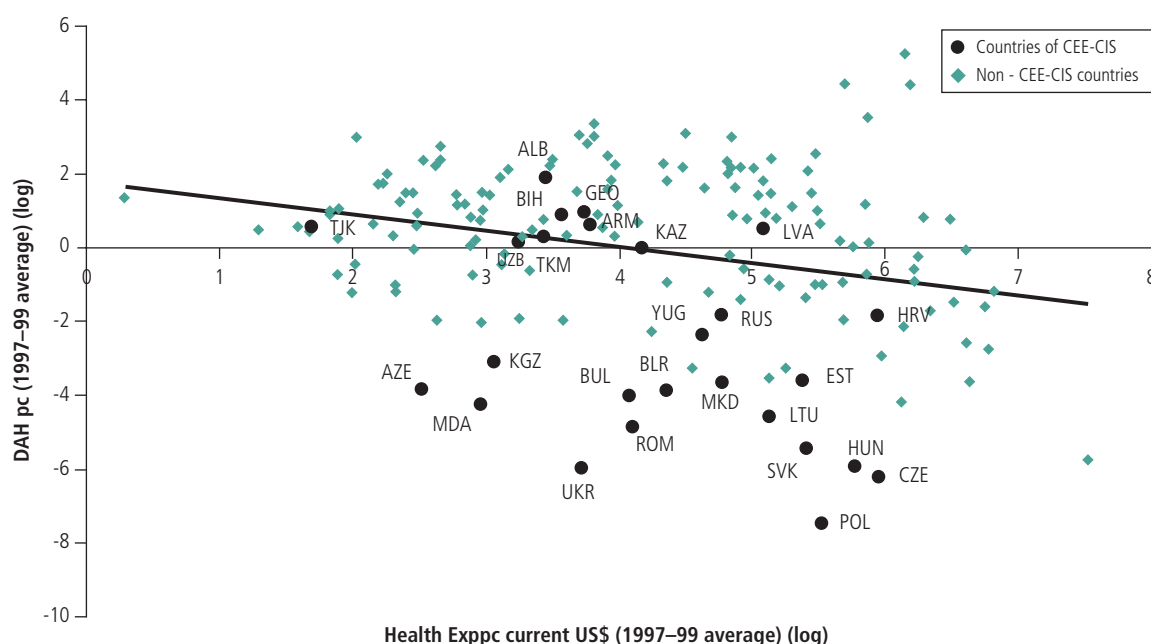


Source: (5, 6)

Note: Data refer to commitments. The ordinary least squares (OLS) regression line for all countries is $\ln(\text{DAHpc}) = 19.6 - 4.8 \cdot \ln(\text{Life Exp})$ with $R^2 = 0.14$. The OLS regression for all 26 CEE-CIS countries – not given in the figure – is $\ln(\text{DAHpc}) = 30.4 - 7.75 \cdot \ln(\text{Life Exp})$ with $R^2 = 0.01$. For both samples the slope coefficient is statistically significant at the 1% level.

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Fig. 4. Development assistance for health per capita (1997–99 average) and health expenditure per capita (Exppc) in countries worldwide



Source: (5, 7)

Note: Data refer to commitments.

The ordinary least squares (OLS) regression line for the full sample ($n=138$) has the form $\ln(\text{DAHpc}) = 1.8 - 0.43$

$\ln(\text{Health Exppc})$ with an $R^2 = 0.08$.

The regression line for CEE-CIS countries only ($n=26$) – not given in the figure – has the form

$\ln(\text{DAHpc}) = 2.32 - 1.15\ln(\text{Health Exppc})$ with an $R^2 = 0.22$.

For both samples the slope coefficient is statistically significant at the 1% level.

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available and in the public domain, governments' requests for aid are not. In principle it may be possible to investigate the role of recipient countries by analysing the extent of government co-financing of external assistance; costing studies for which state financing is already available and amounts that would be required to meet specific targets; or studying health sector policy documents, which may or may not translate into allocation of financing priorities from national governments. While this is an important area for future research, such information is not easily accessible.

In drawing policy conclusions from our analysis, these and other limitations should be borne in mind. In particular, we could not analyse trends in development assistance for health over time due to lack of appropriate data. Furthermore, the way money is spent is likely to matter more for health outcomes than the sheer amount of public expenditure, although it is hard to imagine that the extremely low expenditures in parts of the Caucasus and Central Asia have no negative impact on health. In addition, the allocation of development assistance for health may have been disproportionately driven by communicable diseases that pose a risk to the citizens of donor states.

To the best of our knowledge this analysis has been the first comprehensive look at the issue. We can only speculate about the reasons for the relatively low development assistance for health to countries of CEE-CIS. A partial explanation is that development assistance for health seems to be allocated

on the basis of child mortality. This emphasis is sustained by the focus of the health-related Millennium Development Goals on child and maternal mortality, disregarding more general population health indicators (11). In countries of CEE-CIS, non-communicable diseases play a much greater role in the burden of mortality and disease than in traditional developing countries, which are often characterized by high rates of communicable diseases and high levels of infant and child mortality. Our results lend weight to the hypothesis that noncommunicable diseases are being overlooked in development assistance worldwide (12).

We conclude that more effort is required in the CEE-CIS region to diminish the burden of ill-health. Given the potential implications of poor health in countries of CEE-CIS on economic and social stability across the whole of Europe, coupled with severe resource constraints in many of the countries themselves, there is a strong justification for effective international assistance for health in countries of CEE-CIS. ■

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Competing interests: none declared.

Résumé

Aide au développement en faveur de la santé destinée aux pays d'Europe centrale et orientale

Objectif Quantifier l'aide au développement en faveur de la santé dont bénéficient les pays d'Europe centrale et orientale et les membres de la Communauté des États indépendants (PECO - CEI).

Méthodes L'étude a fait appel à la base de données statistiques internationales sur le développement de l'Organisation de coopération et de développement économiques (OCDE), ainsi qu'à la base de données sur l'aide au développement en faveur de la santé compilée par la Commission Macroéconomie et santé, pour quantifier l'aide au développement en faveur de la santé apportée à la région, en comparaison de l'aide dans ce domaine fournie globalement à l'échelle mondiale. Cette étude s'appuie sur des indicateurs de santé standards, dont la mortalité juvénile, l'espérance de vie à la naissance et les dépenses de santé.

Résultats Bien que le montant total par habitant de l'aide au développement accordée au pays du PECO et de la CEI soit

supérieur à celui apporté à la plupart des autres régions du monde, l'aide au développement consacrée à la santé est très faible par rapport à celle que reçoivent d'autres pays présentant des taux de mortalité juvénile, des espérances de vie à la naissance et des dépenses nationales en matière de santé similaires.

Conclusion L'affectation de l'aide au développement en faveur de la santé à l'échelle mondiale semble beaucoup plus liée à la mortalité juvénile qu'à la mortalité adulte. Les pays d'Europe centrale et orientale et les membres de la CEI supportent une forte charge de morbidité et de mortalité adulte due aux maladies non transmissibles, qui ne paraît pas attirer une aide au développement proportionnelle. Il convient de déterminer les niveaux d'aide au développement en faveur de la santé en tenant compte de la charge de morbidité spécifique à la région.

Resumen

Asistencia para el desarrollo destinada a la salud en Europa central y oriental

Objetivo Cuantificar la asistencia para el desarrollo destinada a la salud proporcionada a los países de Europa central y oriental y a la Comunidad de Estados Independientes (ECO-CEI).

Métodos Utilizamos la base de datos International Development Statistics de la Organización de Cooperación y Desarrollo Económico y la base de datos sobre asistencia para el desarrollo destinada a la salud compilada para la Comisión sobre Macroeconomía y Salud para cuantificar la asistencia de ese tipo que recibe la región, en comparación con la asistencia para el desarrollo mundial y total. Basamos nuestros análisis en indicadores de salud habituales, como la mortalidad en la niñez, la esperanza de vida al nacer y el gasto sanitario.

Resultados Aunque la asistencia total para el desarrollo por habitante proporcionada a la ECO-CEI fue mayor que la prestada

a la mayoría de las otras regiones del mundo, la asistencia para el desarrollo asignada a la salud fue muy baja en comparación con otros países con niveles similares de mortalidad en la niñez, esperanza de vida al nacer y gasto sanitario nacional.

Conclusión La distribución de la asistencia para el desarrollo destinada a la salud a escala mundial parece estar mucho más relacionada con la mortalidad en la niñez que con la mortalidad de adultos. Europa central y oriental y la CEI presentan una alta carga de morbilidad de adultos por enfermedades no transmisibles, que no parece atraer la parte proporcional correspondiente de la asistencia para el desarrollo. Los niveles de ese tipo de asistencia deberían determinarse teniendo en cuenta las características particulares de la carga de morbilidad de la región.

ملخص

مساعدا ت تنمية الصحة في منطقة أوروبا الشرقية والوسطى

ذات نفس المستوى من وفيات الأطفال ومأمول الحياة وقت الولادة والنفقات الصحية.

الاستنتاج: يبدو أن المخصصات من المساعدات الإنمائية الصحية على النطاق العالمي متعلقة بمعدلات وفيات الأطفال والرضع أكثر من معدلات وفيات البالغين. وبلدان أوروبا الشرقية والوسطى ودول الكومونويلث المستقلة تعاني من معدلات أعلى لوفيات ومرضاة البالغين بسبب الأمراض غير السارية، والتي قد لا تجتذب المساعدات الإنمائية بالمقادير التي تتناسب مع وخامتها. إن مقدار المساعدات الإنمائية الصحية ينبغي أن يقدر وفق العبء الإقليمي الخاص من المرض.

الطريقة: استفدنا من قواعد المعطيات الإحصائية الإنمائية الدولية في منظمة التنمية والتعاون الاقتصادي وقواعد المعطيات للمساعدات الإنمائية، والتي أعدت لصالح لجنة الاقتصاديات الإجمالية (الكلية) والصحة، وذلك لمعرفة كمية المساعدات المقدمة للإقليم، ومقارنتها مع المساعدات الإنمائية العالمية والإجمالية. وقد استفدنا في تحليلنا على المؤشرات الصحية المعيارية ومنها معدلات وفيات الأطفال ومأمول الحياة وقت الولادة والنفقات الصحية.

الموجودات: رغم أن المساعدات الإنمائية الإجمالية لكل فرد في دول الكومونويلث المستقلة كانت أعلى مما تلقاه معظم مناطق العالم الأخرى، فقد كانت المساعدات الإنمائية الصحية منخفضة جدا بالمقارنة مع بلدان أخرى

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