Countdown to 2015: changes in official development assistance to reproductive, maternal, newborn, and child health, and assessment of progress between 2003 and 2012

Leonardo Arregoces, Felicity Daly, Catherine Pitt, Justine Hsu, Melisa Martinez-Alvarez, Giulia Greco, Anne Mills, Peter Berman, Josephine Borghi

Summary

Background **Tracking of aid resources to reproductive, maternal, newborn, and child health (RMNCH) provides timely and crucial information to hold donors accountable. For the first time, we examine flows in official development assistance (ODA) and grants from the Bill & Melinda Gates Foundation (collectively termed ODA+) in relation to the continuum of care for RMNCH and assess progress since 2003.**

Methods **We coded and analysed financial disbursements for maternal, newborn, and child health (MNCH) and for reproductive health (R*) to all recipient countries worldwide from all donors reporting to the creditor reporting system database for the years 2011–12. We also included grants from the Bill & Melinda Gates Foundation. We analysed trends for MNCH for the period 2003–12 and for R* for the period 2009–12.**

Findings **ODA+ to RMNCH from all donors to all countries worldwide amounted to US$12·2 billion in 2011 (an 11·8% increase relative to 2010) and $12·8 billion in 2012 (a 5·0% increase relative to 2011). ODA+ to MNCH represents more than 60% of all aid to RMNCH. ODA+ to projects that have newborns as part of the target population has increased 34-fold since 2003. ODA to RMNCH from the 31 donors, which have reported consistently since 2003, to the 75 Countdown priority countries, saw a 3·2% increase in 2011 relative to 2010 ($8·3 billion in 2011), and an 11·8% increase in 2012 relative to 2011 ($9·3 billion in 2012). ODA to RMNCH projects has increased with time, whereas general budget support has continuously declined. Bilateral agencies are still the predominant source of ODA to RMNCH. Increased funding to family planning, nutrition, and immunisation projects were noted in 2011 and 2012. ODA+ has been targeted to RMNCH during the period 2005–12, although there is no evidence of improvements in targeting over time.**

Interpretation **Despite a reduction in ODA+ in 2011, ODA+ to RMNCH increased in both 2011 and 2012. The increase in funding is encouraging, but continued increases are needed to accelerate progress towards achieving MDGs 4 and 5 and beyond.**

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Department of Health Services Research and Policy (L Arregoces MSc) **and Department of Global Health & Development, London School of Hygiene & Tropical Medicine, London, UK** (C Pitt MSc, G Greco PhD, M Martinez-Alvarez PhD, Prof A Mills PhD, J Borghi PhD, F Daly DrPH, J Hsu MSc); **Department of Health Systems Governance and Financing, World Health Organization, Geneva, Switzerland** (J Hsu); **and Harvard School of Public Health, Boston, MA, USA** (Prof P Berman PhD)

Correspondence to:
Dr Josephine Borghi, Department of Global Health and Development, London School of Hygiene & Tropical Medicine, 15–17 Tavistock Place, London WC1H 9SH, UK
jo.borghi@lshtm.ac.uk

Introduction

With only 6 months remaining to reach the 2015 deadline of the Millennium Development Goals (MDGs), progress on the targets for child survival (MDG 4) and maternal and reproductive health (MDG 5) has been uneven. Achievements include almost halving child and maternal mortality since 2000, but further efforts are required to drive down mortality and increase access to reproductive health services.[1,2] Official development assistance (ODA), as well as private foundation grant making for global health, surged after the MDG summit in 2000, but the extended period of economic austerity since 2007–08 has slowed the growth of this aid.[3]

However, high level commitments have been made since 2010 to accelerate progress on MDGs 4 and 5. These include pledges of US$40 billion from 2010–15 towards the Global Strategy for Women's and Children's Health, incorporating $5 billion promised by the G8 and other donors, including the Bill & Melinda Gates Foundation under the Muskoka Initiative.[4] Although welcomed, these pledges might fall short of the estimated annual requirements to meet the health-related MDGs of between $10 billion and $33·9 billion.[5–8]

There has been growing attention to resource tracking and assessment of whether commitments are honoured, with initiatives undertaken by the Institute for Health Metrics and Evaluation (IHME),[9] the Partnership for Maternal, Newborn and Child Health (PMNCH),[6] and the Resource Flows project of the United Nations Population Fund (UNFPA) and the Netherlands Interdisciplinary Demographic Institute (NIDI). This paper contributes to these accountability efforts and seeks to understand whether donor resources are better targeted to countries with the highest need as we approach 2015. We build on past analyses undertaken for the Countdown to 2015 initiative to track donor funding to reproductive, maternal, newborn, and child health (RMNCH) considering the full continuum of care, with a

particular focus on the 75 Countdown countries where more than 95% of all maternal and child deaths occur.[10,11] We analyse trends in donor funding to MNCH for the period 2003–12 and to reproductive health for the period 2009–12.

Methods

Data sources

For the **OECD creditor reporting system** see http://stats.oecd.org/index.aspx?DataSetCode=CRS1

ODA disbursement data for 2011 and 2012 were downloaded from the creditor reporting system of the Organisation for Economic Co-operation and Development (OECD) on March 12, 2014. Disbursement data from the Bill & Melinda Gates Foundation were downloaded from the same source on June 24, 2014. We tracked disbursements to all recipient countries worldwide (147 countries in 2011 and 148 in 2012), from all donors reporting to the creditor reporting system (47 donors in 2011 and 49 in 2012). We also reviewed private grants from the Bill & Melinda Gates Foundation, which began reporting to the creditor reporting system in 2009. Although grants from the Bill & Melinda Gates Foundation are not regarded as ODA, these projects are included in our analyses and estimates from previous years updated accordingly. We refer to ODA+ when reporting aggregated results that include these grants. We also analysed data for disbursements from the 31 donors (23 bilateral, six multilaterals, and two global health initiatives) that have reported to the creditor reporting system consistently since we began this resource-tracking exercise, to the Countdown priority countries, of which there are now 75, including South Sudan in 2011, which had previously been included within data reported for Sudan. To avoid double counting, the OECD definitions were used to classify aid as bilateral, where the recipient country or purpose of aid is specified by the donor government, and as multilateral for disbursements from multilateral institutions with governmental membership where the recipient country or purpose of aid is specified by the multilateral institution. The allocation of unspecified regional disbursements to individual recipient countries was based on their year-specific share of direct regional disbursements.[12]

For the **WHO Global Health Expenditure Database** see http://apps.who.int/nha/database

Data coding

We scanned and coded 507 954 disbursement records for the period 2011 and 2012 across all sectors, including 5858 records from the Bill & Melinda Gates Foundation, according to a previously developed framework.[12–15] The 2003–10 datasets were not updated, thus any changes to the datasets by the OECD since the initial download were not analysed. Reproductive health expenditures (termed R*) included expenditures on family planning, sexual health, and sexually transmitted infections, including HIV.[16] Maternal and newborn health expenditures included activities to restore, improve, and maintain the health of women and their newborns during pregnancy, childbirth, and the first month of life.[15] Expenditures for child health included activities to restore, improve, and maintain the health of children up to 5 years of age.[15] Where age was unclear, we assumed the term child referred to children younger than 5 years. To identify expenditures that mentioned or exclusively benefited newborns, an automated key term search was applied to the full creditor reporting system dataset.[17] Such expenditures were classified as exclusively benefiting newborns, or as inclusive if they also aimed to improve the health of other population groups. Funding for research activities was excluded.

To maximise coding consistency across years, we compared records from 2011 and 2010, and 2012 and 2011 with an exact string non-case-sensitive matching system. Where records shared the same donor and recipient country name, project title, and short description, the 2010 (2011) code was assigned to the 2011 (2012) record. Slightly more than 35% of each year's records were coded in this way. Remaining records were manually coded by four coders by reading the project title, and short and long descriptions prior to assigning a code. Intercoder consistency was evaluated with Krippendorff's α on a sample of 1270 records. A value of more than 0·9 was noted among three of the coders, with the remaining coder scoring 0·7. All records coded by this coder were recoded by a second coder, and differences solved by discussion.

As in previous years, we included funding exclusively earmarked for RMNCH and allocated a share of other activities thought to benefit RMNCH, including funds for general health systems or health care, general budget support, basket or health sector funding (eg, (such as the sector wide approach [SWAp]), and some condition-specific funding (for example, malaria and HIV). Country-specific allocation factors were used for condition-specific funding based on the latest estimates of the crude birth rate; the total under-5 population;[18] the number of children and people of reproductive age living with HIV; and the prevalence of people living with any of four sexually transmitted diseases (*Chlamydia trachomatis*, *Neisseria gonorrhoeae*, syphilis, and *Trichomonas vaginalis*).[19,20] For general budget support, allocation factors were obtained from the National Health Accounts database. The allocation of health systems funds and basket or sector funding was fixed across countries and based on the literature.[12]

Statistical analysis

We analysed trends in donor funding to MNCH for the period 2003–12 and to R* for the period 2009–12. We examined variation in funding levels with time for every donor and by donor type (bilateral, multilateral, global health initiative, and private foundation). We also analysed trends in funding by modality (pooled funding *vs* project funding), and by project type. Finally, we considered variation in funding levels to recipient countries and regions over time. All data from the

period 2003–12 were converted to constant 2012 US$ with the donor-specific development assistance committee deflators.[21]

We assessed the extent to which donors targeted their development assistance based on country need and whether targeting improved with time. A series of univariate ordinary least squares regressions were estimated to evaluate whether ODA+ was targeted to countries with higher under-5 mortality rates,[22] higher maternal mortality,[23] higher HIV prevalence,[19] and lower female life expectancy at birth[24] for 3 years, 2005, 2010, and 2012. Disbursements from all donors to all countries receiving ODA+ were included. The first model used the natural logarithm of ODA+ to child health per child as the dependant variable and the under-5 mortality rate (deaths per 1000 children younger than 5 years) as the independent variable; the second model used the natural logarithm of ODA+ to maternal and newborn health per livebirth as the dependant variable and the maternal mortality ratio (maternal deaths per 100 000 livebirths) as the independent variable; and the third and fourth models used the natural logarithm of ODA+ to reproductive health per woman of reproductive age as the dependant variable and HIV prevalence (model 3) and female life expectancy at birth (model 4) as the independent variables. The Huber-White sandwich estimator was used to deal with heteroskedasticity after transforming the dependant variable. Targeting according to need was assessed in relation to the sign and significance ($p<0·05$) of the coefficient on the independent variable, a positive sign on the coefficient of the first three models and a negative sign in the fourth model. Targeting was considered to have improved with time if there was an increase in the R^2 value between years, indicating a better fit of the data. We tested the significance of the difference in the R^2 value between years using Fischer's Z transformation of correlation coefficients followed by a t test for the null hypothesis that the difference is equal to zero. We also examined whether targeting differed across types of donor (multilateral, bilateral, global health initiatives, and

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Worldwide*										
All ODA+ (excluding debt forgiveness)	78 306	86 261	101 887	114 716	110 460	124 263	140 174	146 989	146 899	148 221
ODA+ for health (% of all ODA+)	7604 (9·7%)	8614 (10·0%)	11 046 (10·8%)	12 426 (10·8%)	14 186 (12·8%)	15 599 (12·6%)	19 118 (13·6%)	20 217 (13·8%)	20 661 (14·1%)	21 512 (14·5%)
ODA+ for RMNCH (% of all ODA+ to health)	..	..	..	..	..	..	10 810 (56·5%)	10 947 (54·1%)	12 234 (59·2%)	12 843 (59·7%)
ODA+ for R* (% of all ODA+ to health)	..	..	..	..	..	..	3587 (18·8%)	3805 (18·8%)	4674 (22·6%)	4499 (20·9%)
ODA+ for MNCH (% of all ODA+ to health)	2673 (35·2%)	2689 (31·2%)	3673 (33·3%)	4455 (35·9%)	4770 (33·6%)	5529 (35·4%)	7222 (37·8%)	7142 (35·3%)	7561 (36·6%)	8345 (38·8%)
ODA+ for MNH (% of ODA+ to MNCH)	930 (34·8%)	737 (27·4%)	1333 (36·3%)	1507 (33·8%)	1589 (33·3%)	1693 (30·6%)	2303 (31·9%)	2198 (30·8%)	2024 (26·8%)	2392 (28·7%)
ODA+ for CH (% of ODA+ to MNCH)	1743 (65·2%)	1952 (72·6%)	2340 (63·7%)	2948 (66·2%)	3181 (66·7%)	3836 (69·4%)	4920 (68·1%)	4945 (69·2%)	5536 (73·2%)	5953 (71·3%)
75 Countdown priority countries†										
ODA for RMNCH (% of all ODA+ to health)	..	..	..	..	..	..	7715 (40·4%)	8049 (39·8%)	8305 (40·2%)	9289 (43·2%)
ODA for R* (% of all ODA+ to health)	..	..	..	..	..	..	2615 (13·7%)	2828 (14·0%)	3021 (14·6%)	3119 (14·5%)
ODA for MNCH (% of all ODA+ to health)	2047 (26·9%)	2224 (25·8%)	2936 (26·6%)	3627 (29·2%)	3641 (25·7%)	4367 (28·0%)	5101 (26·7%)	5221 (25·8%)	5284 (25·6%)	6170 (28·7%)
ODA to CH (% of ODA to MNCH)	1399 (68·3%)	1634 (73·5%)	1929 (65·7%)	2453 (67·6%)	2467 (67·8%)	3027 (69·3%)	3552 (69·6%)	3640 (69·7%)	3819 (72·3%)	4374 (70·9%)
ODA to MNH (% of ODA to MNCH)	648 (31·7%)	590 (26·5%)	1006 (34·3%)	1174 (32·4%)	1174 (32·2%)	1340 (30·7%)	1548 (30·4%)	1582 (30·3%)	1465 (27·7%)	1796 (29·1%)
ODA for projects exclusively targeted to newborns (% of ODA to MNCH)	0·85 (0·04%)	2·82 (0·1%)	0·19 (0·01%)	0·78 (0·02%)	0·30 (0·01%)	5·66 (0·1%)	3·80 (0·1%)	3·94 (0·1%)	4·55 (0·1%)	6·01 (0·1%)
ODA for projects that mention newborns (% of ODA to MNCH)	33 (1·6%)	41 (1·8%)	72 (2·4%)	59 (1·6%)	65 (1·8%)	258 (5·9%)	380 (7·4%)	510 (9·8%)	552 (10·5%)	1136 (18·4%)

Values are in constant 2012 US$ (millions). ODA+=official development assistance plus the grants from the Bill & Melinda Gates Foundation. CH=child health. MNH=maternal and newborn health. MNCH=maternal, newborn, and child health. R*=reproductive health. ODA=official development assistance. *ODA+ from all donors reporting to the creditor reporting system of the Organisation for Economic Co-operation and Development in that year to all countries. †ODA from 31 donors that have consistently reported since 2003 to the 75 Countdown priority countries.

Table 1: **ODA+ and ODA to reproductive, maternal, newborn, and child health, 2003–12**

	2003 (MNCH)	2004 (MNCH)	2005 (MNCH)	2006 (MNCH)	2007 (MNCH)	2008 (MNCH)	2009		2010		2011		2012	
							MNCH	R*	MNCH	R*	MNCH	R*	MNCH	R*
Bilateral aid agencies	1597·9	1454·4	2069·5	2111·0	2925·9	3338·7	3924·1	2779·6	3787·4	2795·3	3985·9	3615·7	4197·1	3325·7
Australia*	75·3	65·3	7·3	129·8	78·8	81·5	137·8	25·0	205·5	36·9	177·2	72·0	291·4	53·8
Austria*	4·0	4·5	5·1	6·9	7·3	6·1	5·8	1·0	5·6	0·6	10·6	0·2	4·0	0·1
Belgium*	14·6	0·8	31·7	38·1	54·3	43·1	46·3	12·4	55·5	10·9	54·7	9·6	45·2	3·1
Canada*	86·0	103·7	142·4	134·7	281·2	238·0	320·7	34·2	284·6	22·1	491·1	15·8	507·4	14·8
Czech Republic	..	..	..	..	..	..	..	..	..	..	1·1	0·0	1·8	0·3
Denmark*	0·0	30·6	38·4	32·6	32·8	35·2	68·0	19·6	67·4	30·1	58·2	35·7	49·6	16·9
Finland*	9·3	0·0	0·0	17·7	20·0	22·8	22·0	2·1	21·1	5·7	20·1	6·2	17·5	7·1
France*	54·5	69·6	47·6	10·5	38·6	54·4	64·4	10·7	53·8	8·6	87·1	8·3	91·8	7·9
Germany*	76·9	41·3	68·4	90·1	123·8	160·9	168·7	54·5	201·1	78·0	133·5	69·2	194·1	72·5
Greece*	18·0	2·8	14·5	7·8	13·5	2·8	6·7	3·5	11·4	4·2	0·8	0·0	0·0	0·0
Iceland	..	..	..	..	..	..	..	..	..	..	1·1	0·2	1·2	0·0
Ireland*	19·8	29·8	25·6	29·4	51·9	39·0	38·7	18·0	37·6	14·2	42·8	15·5	36·2	12·7
Italy*	26·2	26·1	3·2	32·7	41·2	44·5	42·8	6·0	41·3	2·8	33·2	5·3	24·0	2·0
Japan*	146·6	110·4	107·6	208·0	252·1	176·0	245·9	17·5	236·8	15·4	345·3	18·1	235·8	6·3
Korea*	..	..	..	13·8	15·5	25·8	42·9	2·0	47·1	2·5	33·5	0·2	44·4	1·3
Kuwait	..	..	..	..	..	..	..	..	8·5	0·0	6·7	0·0	1·7	0·0
Luxembourg*	0·0	15·7	15·6	18·3	31·5	26·1	21·2	4·8	27·5	1·2	12·3	2·3	14·2	1·5
Netherlands*	88·6	67·3	87·6	86·0	123·5	112·4	162·5	57·2	112·6	57·5	105·8	72·1	97·6	44·0
New Zealand*	4·9	9·1	8·9	10·2	5·0	11·5	13·6	2·1	14·5	2·2	11·8	3·3	11·1	4·1
Norway*	57·8	49·4	53·0	69·1	88·7	105·2	174·0	31·3	115·4	24·0	110·6	31·4	105·7	22·3
Portugal*	2·4	2·8	4·0	2·8	1·0	1·6	2·4	0·0	5·0	0·4	7·0	0·2	7·2	0·0
Spain*	45·2	43·3	57·0	64·9	163·5	171·0	159·6	17·3	139·4	14·3	54·0	12·0	33·1	3·4
Sweden*	43·7	53·8	80·3	85·7	105·5	92·8	108·1	44·2	87·5	35·8	61·6	48·9	171·5	42·8
Switzerland*	23·6	26·1	17·1	33·3	26·2	31·5	36·4	2·5	35·9	2·1	40·6	5·4	44·1	5·1
United Arab Emirates							30·5	0·1	19·4	0·3	12·0	0·0	51·5	0·0
UK*	240·1	184·3	332·1	312·7	331·1	425·4	585·5	135·3	500·5	140·7	601·6	259·8	762·2	223·2
USA*	560·3	517·8	922·3	676·0	1038·8	1431·1	1419·7	2278·4	1452·3	2284·9	1471·6	2924·2	1353·1	2780·5
Multilateral aid agencies	866·3	875·5	1027·5	1789·1	1122·2	1081·2	1624·0	294·3	1472·2	234·7	1586·0	287·1	1648·8	237·1
AfDB	..	..	..	..	..	..	..	..	..	..	0·3	0·0	0·1	0·0
AfDF	..	..	0·0	..	0·0	52·6	58·3	2·6	43·4	3·9	48·6	2·7	40·0	1·1
Arab Fund (AFESD)	..	..	..	..	..	..	..	..	0·9	0·0	1·1	0·0	1·5	0·0
AsDB Special Funds	..	..	..	..	..	..	..	..	84·2	3·7	50·7	2·2	35·4	0·3
BADEA	..	..	..	..	..	..	..	..	..	..	2·7	0·0	0·9	0·0
EU institutions*	67·6	74·5	172·8	335·9	257·7	351·6	399·4	25·0	393·8	21·7	550·1	14·5	748·2	31·8
GEF	..	..	..	..	..	0·3	..	..	..	..	..	..	0·1	0·0
IDA*	460·8	631·8	543·7	1171·6	411·5	334·0	550·1	103·9	350·3	76·7	375·5	85·7	359·9	60·4
IDB Sp Fund	..	..	..	..	..	..	11·2	0·0	10·6	0·0	29·7	0·0	19·2	0·0
IMF (concessional trust funds)	..	..	..	..	..	..	..	..	43·7	0·0	42·9	0·0	39·1	0·0
IMF (SAF/ESAF/ PRGF)	..	..	..	..	..	..	89·2	0·0	..	..	..	..	..	..
OFID	..	..	..	..	..	..	11·2	0·0	8·9	1·0	4·5	4·4	9·8	2·4
UNAIDS*	4·2	4·0	3·4	3·1	3·9	3·9	2·0	99·6	4·3	72·0	10·7	106·2	8·1	55·0
UNDP*	..	0·5	0·3	0·4	0·8	1·2	1·2	8·0	0·6	4·9	1·4	6·1	1·5	4·6
UNECE	..	..	..	..	..	0·1	..	..	0·2	0·0	0·0	0·0	0·2	0·0

(Table 2 continues on next page)

	2003 (MNCH)	2004 (MNCH)	2005 (MNCH)	2006 (MNCH)	2007 (MNCH)	2008 (MNCH)	2009		2010		2011		2012	
							MNCH	R*	MNCH	R*	MNCH	R*	MNCH	R*
(Continued from previous page)														
UNFPA*	235·4	73·2	193·0	180·3	146·2	136·9	148·3	41·4	143·1	36·6	130·5	49·4	114·6	63·1
UNICEF*	98·2	91·4	114·3	97·9	302·0	200·6	182·4	7·3	186·8	9·9	147·1	11·4	121·5	8·3
UNPBF	..	..	..	..	..	..	..	..	0·1	0·0	0·0	0·3	0·0	0·2
UNRWA	..	..	..	..	..	..	..	..	48·9	0·0	47·5	0·0	24·5	0·0
WFP	..	..	..	..	..	..	22·2	6·5	29·3	4·3	0·2	3·6	0·1	3·7
WHO	..	..	..	..	..	..	148·6	0·0	123·2	0·0	142·5	0·5	124·1	6·2
Global health initiatives	208·8	358·8	576·4	554·7	721·9	1109·1	1296·4	483·4	1506·8	732·8	1248·7	642·1	1790·8	789·5
GAVI*	152·0	222·9	244·4	213·4	353·5	655·2	475·4	0·0	697·4	0·0	712·0	0·2	958·0	0·0
Global Fund*	56·9	135·9	332·0	341·4	368·4	453·9	821·0	483·4	809·4	732·8	536·6	641·9	832·8	789·5
Private donors	..	..	..	..	..	..	377·8	30·1	376·1	42·0	740·0	128·8	708·2	146·3
Bill & Melinda Gates Foundation	..	..	..	..	..	..	377·8	30·1	376·1	42·0	740·0	128·8	708·2	146·3
Grand total	2673·0	2688·7	3673·3	4454·9	4770·0	5529·0	7222·4	3587·3	7142·4	3804·8	7560·6	4673·7	8344·8	4498·6

Disbursements are in constant 2012 US$ (millions). MNCH=maternal, newborn, and child health. R*=reproductive health. AfDB=African Development Bank. AfDF=African Development Fund. AFESD=Arab Fund for Economic and Social Development. AsDB=Asian Development Bank. BADEA=The Arab Bank for Economic Development in Africa. GEF=Global Environment Fund. IDA=International Development Association. IDB Sp Fund=Inter-American Development Bank. IMF=International Monetary Fund. SAF=Structural Adjustment Facility. ESAF=Enhanced Structural Adjustment Facility. PRGF=Poverty Reduction and Growth Facility. OFID=OPEC Fund for International Development. UNAIDS=Joint United Nations Programme on HIV/AIDS. UNDP=United Nations Development Programme. UNECE=United Nations Economic Commission for Europe. UNFPA=United Nations Population Fund. UNPBF=United Nations Peace Building Fund. UNRWA=United Nations Relief and Works Agency for Palestine Refugees in the Near East . WFP=World Food Programme. GAVI=Global Alliance for Vaccines and Immunisation. ODA+=official development assistance from the grants from the Bill and & Melinda Gates Foundation. *Correspond to the set of 31 donors that have consistently reported to the creditor reporting system of the Organisation for Economic Co-operation and Development.

Table 2: **Worldwide ODA+ to reproductive, maternal, newborn, and child health by type and name of donor, 2003–12**

private donor) by running the same set of regressions for each type of donor. All models were run in Stata version 13.

Role of the funding source

The funder had no role in the study design, data extraction, data analysis, data interpretation, or writing of the report. All authors reviewed drafts of the manuscript, and the corresponding author had final responsibility to submit for publication. All authors had full access to the dataset.

Results

Reported ODA+ from all donors to all sectors and recipients reduced slightly in 2011 relative to 2010 for the first time since 2007, and increased only marginally (0·9%) in 2012 (table 1; appendix pp 1, 2). However, development assistance to health continued to increase, albeit at a slower rate than previous years, representing an increasing share of overall ODA+ (13·8% in 2010, 14·1% in 2011, and 14·5% in 2012; table 1).

ODA+ to RMNCH from all donors to all recipient countries amounted to $12·2 billion in 2011, an 11·8% increase relative to 2010 ($10·9 billion; table 1; appendix pp 1, 2). ODA+ to RMNCH increased to $12·8 billion in 2012, a 5·0% increase relative to 2011. ODA+ to MNCH represented greater than 60% of RMNCH, at $7·6 billion in 2011 and $8·3 billion in 2012 (table 1). ODA+ to MNCH increased by 5·9% in 2011 relative to 2010 and by 10·4% in 2012 relative to 2011 (appendix p 2). 2011 saw a 7·9% drop in funds to maternal and newborn health relative to 2010 (from $2·2 billion to $2·0 billion), while funds to child health increased by 12·0% (from $4·9 billion to $5·5 billion; table 1; appendix p 2). However, funds to maternal and newborn health increased again in 2012 relative to 2011 by 18·2% up to $2·4 billion (table 1; appendix p 2). Funding to R* rose to $4·7 billion in 2011 (up from $3·8 billion in 2010, an increase of 22·8%), but decreased in 2012 to $4·5 billion (down by 3·7% relative to 2011; table 1; appendix pp 1, 2).

The 75 Countdown priority countries received $8·3 billion in ODA to RMNCH in 2011 from the 31 donors reporting consistently since 2003 (a 3·2% increase relative to 2010), and $9·3 billion in 2012 (an 11·8% increase relative to 2011; table 1; appendix p 2). They received $5·3 billion in ODA to MNCH in 2011 and $6·2 billion in 2012 (table 1). Between 2010 and 2011, ODA to child health to the 75 priority countries increased by 4·9%, and ODA to maternal and newborn health reduced by 7·4%, resulting in an overall increase in ODA to MNCH of 1·2% (appendix p 2). However, we noted a sharp increase in ODA to child health and to maternal and newborn health in 2012 (an increase by 14·5% and 22·6%, respectively, relative to 2011 levels; appendix p 2). ODA to R* in the priority countries increased steadily up to $3·0 billion in 2011 (6·8% increase relative to 2010), and to $3·1 billion in 2012 (3·2 % increase relative to

See Online for appendix

2011; table 1; appendix p 2). In 2012, the 31 donors reporting consistently to the credit reporting system accounted for 92·4% of the disbursements received by the 75 Countdown countries (appendix p 3).

The proportion of ODA for MNCH explicitly mentioning a term or activity for newborns increased sharply from 1·6% in 2003 to 18·4% in 2012 (table 1; appendix p 2). More than $1 billion went to projects that mentioned newborns in 2012 compared with $33 million in 2003 (a 34-fold increase; table 1). In 2012, $6·0 million were devoted to projects exclusively benefiting newborns, representing 0·3% of ODA to maternal and newborn health (a 6·5-fold increase relative to 2003).

In 2011 and 2012, more than half of ODA+ to MNCH to all countries worldwide was from bilateral agencies and slightly less than a quarter from multilateral agencies,

	2003		2004		2005		2006		2007		2008	
	MNCH	%	MNCH	%	MNCH	%	MNCH	%	MNCH	%	MNCH	%
General budget support	72	3·5%	99	4·4%	99	3·4%	141	3·9%	157	4·3%	94	2·2%
Sector budget support	5	0·2%	6	0·3%	44	1·5%	87	2·4%	141	3·9%	134	3·1%
Basket-funding	55	2·7%	83	3·7%	69	2·3%	50	1·4%	70	1·9%	178	4·1%
Projects	1916	93·6%	2036	91·5%	2724	92·8%	3349	92·3%	3273	89·9%	3961	90·7%
HIV (specific to MNCH)	3	0·2%	4	0·2%	22	0·8%	25	0·8%	87	2·7%	45	1·1%
Malaria	89	4·7%	136	6·7%	280	10·3%	387	11·6%	347	10·6%	549	13·9%
Immunisation	479	25·0%	605	29·7%	496	18·2%	531	15·8%	658	20·1%	801	20·2%
Other child health activities	96	5·0%	93	4·6%	223	8·2%	171	5·1%	250	7·6%	186	4·7%
HIV (not specific to MNCH)	40	2·1%	67	3·3%	71	2·6%	58	1·7%	131	4·0%	122	3·1%
Reproductive health	427	22·3%	363	17·8%	732	26·9%	482	14·4%	667	20·4%	825	20·8%
Nutrition	75	3·9%	90	4·4%	127	4·7%	330	9·8%	182	5·6%	171	4·3%
General health care, including health systems	707	36·9%	678	33·3%	773	28·4%	1365	40·8%	950	29·0%	1262	31·9%
Total	2047	..	2224	..	2936	..	3627	..	3641	..	4367	..

Disbursement are in constant 2012 US$ (millions). Percentage values represent the proportion of total ODA except for project lines where percentage values represent the proportion of the total project-based ODA. MNCH=maternal, newborn, and child health. R*=Reproductive health. ODA=official development assistance.

Table 3: **ODA to maternal, newborn, and child health to the 75 Countdown priority countries from the 31 donors reporting consistently to the creditor reporting system of the Organisation for Economic Co-operation and Development, by type of ODA and purpose of projects between 2003 and 2008**

	2009				2010				2011				2012			
	MNCH	%	R*	%	MNCH	%	R*	%	MNCH	%	R*	%	MNCH	%	R*	%
General budget support	82	1·6%	..	..	82	1·6%	..	..	83	1·6%	..	..	54	0·9%	..	..
Sector budget support	43	0·9%	..	..	64	1·2%	..	..	60	1·1%	..	..	62	1·0%	..	..
Basket-funding	303	5·9%	..	..	300	5·7%	..	..	180	3·4%	..	..	89	1·4%	..	..
Projects	4672	91·6%	2615	..	4776	91·5%	2828	..	4961	93·9%	3021	..	5966	96·7%	3119	..
HIV (specific to MNCH)	94	2·0%	..	..	114	2·4%	..	..	46	0·9%	..	..	59	1·0%	..	..
Malaria	970	20·8%	..	..	981	20·5%	..	..	816	16·4%	..	..	1087	18·2%	..	..
Immunisation	665	14·2%	..	..	824	17·3%	..	..	854	17·2%	..	..	1063	17·8%	..	..
Other child health activities	204	4·4%	..	..	209	4·4%	..	..	260	5·2%	..	..	175	2·9%	..	..
HIV (not specific to MNCH)	157	3·4%	2226	85·2%	172	3·6%	2371	83·9%	260	5·2%	2528	83·7%	254	4·3%	2565	82·2%
Reproductive health	1081	23·1%	139	5·3%	1053	22·0%	151	5·4%	911	18·4%	72	2·4%	1206	20·2%	44	1·4%
Family planning	..	..	63	2·4%	..	..	55	2·0%	..	..	384	12·7%	..	..	462	14·8%
Sexually transmitted infections	..	..	118	4·5%	..	..	163	5·8%	..	..	16	0·5%	..	..	14	0·4%
Sexual health	..	..	68	2·6%	..	..	87	3·1%	..	..	21	0·7%	..	..	34	1·1%
Nutrition	337	7·2%	..	..	341	7·1%	..	..	401	8·1%	..	..	577	9·7%	..	..
General health care, including health systems	1166	25·0%	..	..	1081	22·6%	..	..	1413	28·5%	..	..	1545	25·9%	..	..
Total	5101	..	2615	..	5221	..	2828	..	5284	..	3021	..	6170	..	3119	..

Disbursement are in constant 2012 US$ (millions). Percentage values represent the proportion of total ODA except for project lines where percentage values represent the proportion of total project-based ODA. MNCH=maternal, newborn, and child health. R*=reproductive health. ODA=official development assistance.

Table 4: **ODA to reproductive, maternal, newborn, and child health to the 75 Countdown priority countries from the 31 donors reporting consistently to the creditor reporting system of the Organisation for Economic Co-operation and Development, by type of ODA and purpose of projects between 2009 and 2012**

	2003 (MNCH)	2004 (MNCH)	2005 (MNCH)	2006 (MNCH)	2007 (MNCH)	2008 (MNCH)	2009		2010		2011		2012	
							MNCH	R*	MNCH	R*	MNCH	R*	MNCH	R*
Afghanistan	48·1	48·0	83·9	86·7	121·6	195·7	263·3	27·8	224·2	20·2	283·1	35·1	262·0	34·8
Angola	21·1	15·3	61·1	25·4	52·4	67·2	49·1	9·8	46·5	13·2	33·1	14·9	56·2	14·2
Azerbaijan	1·6	2·1	4·1	3·2	3·7	5·6	6·5	2·3	7·8	4·8	9·0	2·0	6·2	1·9
Bangladesh	82·9	95·4	142·1	187·8	81·2	144·0	196·9	8·9	200·8	13·3	196·5	26·9	190·2	21·3
Benin	14·6	18·7	18·0	34·7	32·4	39·1	53·0	15·8	52·5	19·5	51·5	18·4	45·3	8·4
Bolivia	30·2	27·7	22·3	60·2	37·2	30·0	34·9	9·8	36·5	5·8	30·8	12·0	31·5	8·9
Botswana	3·3	1·3	1·5	1·5	2·6	61·2	5·1	123·9	4·8	42·3	3·1	42·8	1·8	27·7
Brazil	10·6	9·9	3·8	6·0	3·8	6·5	7·1	2·9	11·1	4·0	11·7	2·8	3·3	2·0
Burkina Faso	17·8	27·6	36·8	74·9	49·5	57·7	67·4	28·1	99·5	21·7	57·8	8·7	100·2	15·4
Burundi	12·8	13·9	21·3	19·7	29·9	37·6	34·7	18·4	54·9	8·4	51·0	13·8	39·7	11·5
Cambodia	19·9	11·4	26·7	23·9	32·5	41·1	58·7	35·0	84·3	28·3	59·2	43·6	59·0	24·9
Cameroon	10·0	14·4	27·1	29·4	20·0	23·0	31·9	16·6	26·0	8·6	83·4	8·1	40·0	14·3
Central African Republic	3·5	8·4	8·2	9·3	12·2	13·7	12·9	3·3	13·8	5·8	18·1	4·2	11·2	2·9
Chad	11·7	19·5	20·3	11·9	20·8	26·1	28·1	4·4	54·7	7·5	33·9	10·4	34·0	4·4
China	66·4	65·2	56·9	69·0	90·0	61·8	63·5	52·4	63·1	41·9	26·0	40·6	40·4	42·7
Comoros	3·5	2·7	2·1	1·4	1·5	1·2	2·1	0·1	5·7	0·1	3·2	0·5	4·3	0·4
DR Congo	37·1	59·7	68·2	88·6	115·6	202·3	227·9	37·0	249·5	68·2	302·4	55·7	310·9	68·2
Congo (Brazzaville)	4·6	5·1	4·4	3·0	7·0	9·2	5·0	3·4	20·8	6·3	13·4	5·7	9·5	2·4
Côte d'Ivoire	12·8	17·8	11·5	10·5	25·3	38·0	38·5	37·0	65·5	45·7	52·5	39·6	51·5	43·3
Djibouti	1·4	4·4	5·9	6·0	14·2	6·5	8·4	1·6	5·2	1·7	6·4	1·3	12·3	0·6
Egypt	11·0	15·1	35·8	50·3	30·7	31·5	26·6	9·3	31·2	5·6	23·7	5·2	23·6	1·4
Equatorial Guinea	1·1	1·4	2·8	5·8	4·2	8·0	6·4	0·7	6·5	1·0	2·4	0·3	1·1	0·1
Eritrea	21·7	18·1	18·4	13·4	16·9	12·7	13·0	9·4	28·8	11·9	12·7	3·9	11·7	9·2
Ethiopia	109·1	75·0	99·9	245·4	238·0	202·3	321·6	122·1	225·1	218·5	349·9	230·7	381·4	166·0
Gabon	0·9	3·6	5·3	4·5	4·3	2·3	3·9	2·7	1·5	1·5	1·7	1·8	1·3	1·3
Gambia	5·6	6·7	9·8	4·3	8·3	6·9	8·3	3·7	12·0	3·6	9·0	3·6	8·6	3·0
Ghana	59·8	79·0	93·3	102·2	81·5	83·2	122·1	38·7	120·6	22·9	109·4	40·7	172·8	25·0
Guatemala	18·2	11·3	17·9	21·4	27·0	35·4	25·6	10·6	17·7	7·7	22·7	13·7	21·5	10·6
Guinea	9·2	8·7	17·5	12·7	12·9	14·1	19·0	8·1	30·6	6·8	15·0	12·3	45·2	7·1
Guinea-Bissau	3·4	3·0	4·9	3·5	6·2	7·0	6·5	3·6	12·4	4·0	6·7	2·6	3·8	0·9
Haiti	5·3	13·9	11·1	22·4	37·7	43·5	41·4	92·2	108·3	89·4	153·7	86·5	81·9	87·4
India	271·7	363·7	432·6	230·4	350·1	374·1	365·1	102·7	373·1	70·0	253·5	137·0	321·8	73·4
Indonesia	75·6	68·3	58·5	120·6	87·0	94·9	98·6	19·4	98·4	14·8	64·1	22·5	93·0	25·4
Iraq	54·3	24·3	113·8	95·5	104·8	25·6	44·7	0·9	42·3	0·6	35·2	0·1	21·0	1·8
Kenya	64·8	64·2	90·1	115·0	92·0	139·0	167·2	207·6	209·8	224·7	194·6	280·9	224·9	351·7
North Korea	4·9	3·7	5·5	4·5	10·3	7·2	9·8	0·0	11·6	0·0	7·9	0·0	12·3	0·6
Kyrgyzstan	20·1	9·1	11·8	12·3	14·1	14·6	14·6	1·9	15·8	2·4	15·0	3·1	13·4	2·5
Laos	11·9	8·1	14·8	11·9	17·3	17·8	17·8	3·0	22·1	2·8	21·7	4·8	23·2	2·4
Lesotho	3·2	3·8	1·6	2·1	4·4	7·0	5·3	16·4	12·8	26·6	16·9	35·6	15·6	41·3
Liberia	9·8	12·8	8·2	17·3	25·1	38·9	54·7	6·0	53·6	11·4	81·1	15·8	57·5	11·5
Madagascar	34·6	38·1	42·7	120·4	55·8	63·7	50·5	6·7	96·5	10·5	61·6	10·4	57·9	15·1
Malawi	51·7	42·7	42·3	87·8	98·3	103·5	155·6	31·9	91·0	62·6	124·5	67·9	154·7	99·0
Mali	20·4	27·7	38·3	70·5	52·4	56·7	67·9	17·5	89·3	14·8	119·5	17·0	134·2	20·1
Mauritania	7·8	8·2	4·5	17·8	10·0	9·1	11·7	0·3	12·7	0·0	11·2	1·2	27·7	1·4
Mexico	6·4	4·7	5·9	4·7	5·0	2·6	2·1	1·1	2·7	1·2	2·1	3·0	3·3	3·9
Morocco	17·2	7·5	11·6	21·0	23·3	14·0	29·0	1·3	26·5	1·9	17·4	4·5	10·3	3·2
Mozambique	67·8	79·5	66·3	113·5	113·3	139·7	121·8	128·9	152·8	141·4	168·6	125·9	176·3	130·0
Myanmar	13·9	12·0	21·7	20·8	17·5	38·6	34·2	2·9	45·9	10·3	35·8	8·5	97·1	9·6
Nepal	22·6	13·6	25·0	30·9	38·8	55·7	52·8	9·7	79·6	11·2	54·3	16·3	50·1	13·8

(Table 5 continues on next page)

	2003 (MNCH)	2004 (MNCH)	2005 (MNCH)	2006 (MNCH)	2007 (MNCH)	2008 (MNCH)	2009		2010		2011		2012	
							MNCH	R*	MNCH	R*	MNCH	R*	MNCH	R*
(Continued from previous page)														
Niger	14·7	17·2	25·1	63·8	47·0	67·4	63·2	10·9	87·8	3·8	69·2	11·4	98·5	6·8
Nigeria	68·7	94·0	111·4	157·2	193·7	268·9	462·0	220·0	225·6	222·3	296·8	207·3	396·6	239·5
Pakistan	82·4	72·3	106·7	164·1	188·0	190·8	248·8	13·5	318·4	13·8	277·3	22·8	389·5	29·8
Papua New Guinea	22·7	22·1	6·0	32·6	24·1	31·0	45·1	17·7	46·9	20·2	63·5	28·3	48·0	40·6
Peru	15·3	15·7	28·9	20·2	22·2	22·2	68·1	17·3	28·3	12·2	18·0	8·1	14·8	6·8
Philippines	24·0	16·1	14·0	18·7	32·4	25·5	43·1	18·1	60·9	11·0	45·2	21·2	34·2	20·1
Rwanda	17·9	31·1	30·7	55·7	44·8	84·9	96·0	74·1	71·7	114·6	88·0	107·7	78·7	114·5
São Tomé & Príncipe	1·6	1·7	2·4	2·0	7·7	3·2	1·7	0·1	2·8	0·1	4·6	0·7	2·8	0·4
Senegal	31·0	39·3	43·6	77·0	37·5	54·1	55·9	16·3	49·2	16·1	69·0	25·4	94·2	13·1
Sierra Leone	8·9	9·6	13·2	19·6	35·3	27·4	42·7	8·9	44·3	12·9	46·0	10·0	30·5	19·4
Solomon Islands	7·0	8·5	2·0	7·1	6·7	10·8	13·1	0·9	16·7	0·5	15·9	0·5	8·3	0·1
Somalia	8·1	11·0	10·2	17·0	29·0	35·5	57·2	1·8	47·3	6·6	28·1	5·6	99·0	1·8
South Africa	16·2	13·5	28·1	26·6	24·7	74·1	30·9	367·6	16·0	361·2	46·7	347·9	47·7	352·7
South Sudan	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	51·7	16·1	144·6	17·8
Sudan	14·7	42·0	82·0	65·8	101·2	128·9	140·8	9·1	178·9	26·7	128·0	9·9	175·1	4·9
Swaziland	1·1	0·3	1·4	1·2	2·8	3·2	4·5	16·3	3·7	34·5	8·3	32·2	4·0	26·9
Tajikistan	8·6	8·8	7·5	9·9	10·3	15·9	15·3	1·5	23·1	5·4	12·6	3·1	18·2	7·4
Tanzania	64·9	79·4	159·7	148·0	143·2	195·2	189·3	156·7	232·4	216·4	231·8	205·3	284·7	206·8
Togo	3·9	7·4	7·8	4·6	10·9	17·4	16·3	11·3	12·9	7·3	29·2	6·2	6·3	4·3
Turkmenistan	1·3	1·6	1·9	1·9	2·7	1·4	0·9	0·4	1·3	0·2	1·4	0·4	0·9	0·4
Uganda	67·8	79·5	87·7	186·5	98·3	119·0	124·7	153·1	114·5	159·5	116·7	167·9	192·6	234·7
Uzbekistan	7·5	6·6	9·3	11·4	12·4	16·1	17·5	3·2	17·7	1·5	13·1	3·4	12·8	6·8
Vietnam	50·9	44·6	59·3	58·5	49·6	69·5	65·2	30·9	78·3	25·9	92·9	35·0	34·9	23·5
Yemen	14·9	28·7	52·0	33·0	38·3	40·4	34·4	3·6	45·0	8·1	43·7	1·5	86·0	15·3
Zambia	59·3	66·7	86·1	83·0	96·0	103·5	95·0	123·8	65·4	120·6	106·7	144·2	122·9	141·0
Zimbabwe	15·8	9·8	20·6	25·4	41·2	44·0	75·9	40·0	74·2	78·9	61·9	56·1	187·9	114·5
Grand total	2047·1	2223·7	2935·7	3626·7	3640·6	4367·1		5100·6	2614·6		5221·5	2827·8		5284·3

Disbursements are in constant 2012 US$ (millions). MNCH=maternal, child, and newborn health. R*=Reproductive health. ODA=official development assistance.

Table 5: **ODA to reproductive, maternal, newborn, and child health to the 75 Countdown priority countries from the 31 donors reporting consistently to the creditor reporting system of the Organisation for Economic Co-operation and Development, 2003–12**

with shares being similar to 2009 and 2010 (table 2; appendix p 2). The USA continued to be the largest source of funding for RMNCH, followed by the Global Fund (table 2). The President's Emergency Plan for AIDS Relief (PEPFAR) accounted for $1·6 billion in 2011 and 2012 of total US ODA to RMNCH (data not shown).

Funding from global health initiatives (Global Fund and GAVI) fell in 2011 to 17% of ODA+ to MNCH, from 21% in 2010, and increased again in 2012 to 21% (table 2; appendix p 4). MNCH funding from GAVI increased by 2·1% in 2011 relative to 2010 (from $697 million to $712 million), while funding from the Global Fund decreased by 34% in the same period (from $809 million to $537 million), due to reductions in funding for malaria (table 2).

More than 70% of ODA+ to R* comes from bilateral donors, with less than 20% coming from global health initiatives and less than 7% from multilaterals (table 2; appendix p 5). US contributions to R* exceeded $2·7 billion in 2011 and 2012, more than 3·5 times more than the next largest donor, and more than 1·9 times more than US contributions to MNCH.

The share of project-based funding to MNCH was at the highest level in 2012 (96·7%) since resource-tracking commenced (tables 3 and 4). The value of projects to strengthen health systems assumed to benefit RMNCH continued to increase in 2011 and 2012. Funding for immunisation and nutrition reached the highest levels since 2003, although ODA to immunisation represents a constant share of total MNCH funding since 2010. Two-thirds of nutrition funding was provided by Canada, the European Union, and Australia. Within ODA to R*, ODA to sexual health and sexually transmitted diseases has reduced, whereas ODA to HIV projects has continued to increase, accounting for more than 80% of all ODA to R* in 2011 and 2012. Funding to family planning increased seven-fold between 2009 and 2012, from $63·4 million in 2009 to $462·3 million before the London Summit on Family Planning in 2012. This difference is partly

	Total			Bilateral			Multilateral			Global health initiatives			Private donors		
	Coefficient (95% CI)	p value	R^2	Coefficient (95% CI)	p value	R^2	Coefficient (95% CI)	p value	R^2	Coefficient (95% CI)	p value	R^2	Coefficient (95% CI)	p value	R^2
Child health model															
ln (ODA+ to CH per child, 2005)	0·014 (0·008 to 0·019)	<0·001	0·12	0·010 (0·004 to 0·016)	0·001	0·06	0·013 (0·006 to 0·018)	<0·001	0·10	0·018 (0·013 to 0·024)	<0·001	0·26	..	..	..
ln (ODA+ to CH per child, 2010)	0·015 (0·001 to 0·021)	<0·001	0·16	0·016 (0·001 to 0·022)	<0·001	0·13	0·018 (0·011 to 0·025)	<0·001	0·14	0·016 (0·009 to 0·023)	<0·001	0·19	0·003 (–0·023 to 0·030)	0·794	0·01
ln (ODA+ to CH per child, 2012)	0·016 (0·009 to 0·022)	<0·001	0·12	0·015 (0·007 to 0·021)	<0·001	0·10	0·018 (0·009 to 0·026)	<0·001	0·11	0·024 (0·017 to 0·032)	<0·001	0·27	0·004 (–0·005 to 0·014)	0·390	0·01
Maternal and newborn health model															
ln (ODA+ to MNH per livebirth, 2005)	0·001 (0·001 to 0·002)	0·011	0·03	0·001 (–0·001 to 0·001)	0·171	0·01	0·001 (0·001 to 0·001)	0·026	0·03	0·001 (–0·001 to 0·002)	0·139	0·04	..	..	..
ln (ODA+ to MNH per livebirth, 2010)	0·002 (0·001 to 0·003)	<0·001	0·07	0·001 (0·001 to 0·003)	<0·001	0·06	0·002 (0·001 to 0·002)	<0·001	0·07	0·001 (–0·001 to 0·002)	0·102	0·03	0·001 (–0·001 to 0·004)	0·326	0·07
ln (ODA+ to MNH per livebirth, 2012)	0·002 (0·001 to 0·003)	0·001	0·06	0·002 (0·001 to 0·003)	0·001	0·06	0·002 (0·001 to 0·002)	0·001	0·05	0·001 (0·001 to 0·002)	0·002	0·11	–0·002 (–0·006 to 0·001)	0·211	0·07
Reproductive health model (HIV prevalence)															
ln (ODA+ to R* per WRA, 2010)	0·157 (0·177 to 0·192)	<0·001	0·27	0·181 (0·135 to 0·227)	<0·001	0·22	0·074 (0·031 to 0·117)	0·001	0·01	0·153 (0·110 to 0·197)	<0·001	0·25	–0·026 (–0·144 to 0·091)	0·634	0·02
ln (ODA+ to R* per WRA, 2012)	0·160 (0·122 to 0·199)	<0·001	0·27	0·204 (0·155 to 0·252)	<0·001	0·23	0·084 (0·046 to 0·122)	<0·001	0·10	0·168 (0·110 to 0·225)	<0·001	0·26	0·102 (0·002 to 0·202)	0·045	0·13
Reproductive health model (female life expectancy at birth)															
ln (ODA+ to R* per WRA, 2010)	–0·095 (–0·114 to –0·075)	<0·001	0·34	–0·113 (–0·139 to –0·086)	<0·001	0·29	–0·080 (–0·097 to –0·062)	<0·001	0·32	–0·065 (–0·089 to –0·041)	<0·001	0·20	–0·109 (–0·204 to 0·154)	0·026	0·37
ln (ODA+ to R* per WRA, 2012)	–0·093 (–0·113 to –0·074)	<0·001	0·35	–0·122 (–0·149 to –0·095)	<0·001	0·34	–0·072 (–0·091 to –0·055)	<0·001	0·27	–0·077 (–0·998 to –0·055)	<0·001	0·30	–0·022 (–0·075 to 0·029)	0·389	0·02

CH=child health. MNH=maternal and newborn health. R*=reproductive health. ln=natural logarithm. WRA=woman of reproductive age. ODA=official development assistance.

Table 6: **Results of ordinary least squares regression models for worldwide ODA+ to all recipients**

explained by a more than six-fold increase in funding from the USA between 2009 and 2012 from $42·3 million to $272·1 million (data not shown).

In 2011, ODA to MNCH reduced for 60% of the 75 priority countries relative to 2010, with an increase in MNCH noted for only 40% of countries. Half of the countries that had a reduction in ODA to MNCH in 2011 had a further reduction in 2012. Of the 75 priority countries, Ethiopia received the largest level of ODA to MNCH in 2011 and Nigeria received the largest level in 2012 (table 5). Turkmenistan received the lowest level of ODA to MNCH in both years. For R*, South Africa and Kenya received the highest levels of ODA in 2011 and 2012. North Korea and Iraq received the lowest levels of ODA to R* in 2011, replaced by Equatorial Guinea and the Solomon Islands in 2012.

Across the 75 Countdown priority countries, in 2011 median ODA to child health per child reduced relative to 2010 to $14·8 (IQR 7·2–22·7) with a minor increase in 2012 to $15·4 (5·4–25·9; appendix pp 6, 7). Similarly, median ODA to MNH per livebirth reduced relative to 2010 to $22·1 per livebirth (IQR 14·1–42·1) in 2011 increasing to $26·6 (11·8–51·3) in 2012. Median ODA to R* per woman of reproductive age also reduced relative to 2010 to $7·3 per woman of reproductive age in 2011 (IQR 2·9–17·5), increasing to $8·1 in 2012 (3·9–20·3).

Mexico, China, and Brazil—all middle-income countries—received the least ODA to child health per child, to MNH per livebirth and to R* per woman of reproductive age in 2011 and 2012. The Solomon Islands received the most for child health per child and for MNH per livebirth in both years. Swaziland, Lesotho, Zambia, and Botswana were among the top five recipients of reproductive health funding per woman of reproductive age in both years.

Results from the regression analyses show that ODA+ to RMNCH continues to be targeted to countries with increased levels of need (the signs on the coefficients of

the independent variables were as expected and statistically significant; table 6). However, we did not note evidence of an improvement in targeting to need for ODA+ to MNH, to child health, or to reproductive health between 2005, 2010, and 2012, because there was no significant increase in the R^2 values. When considering targeting to child health by type of donor, bilateral, multilateral, and global health initiatives showed evidence of targeting to need between 2005 and 2012. Private donors to child health do not show evidence of targeting according to need. When considering targeting to MNH by type of donor, bilateral donors were targeting to need in 2010 and 2012, but not in 2005; global health initiatives were targeting to need in 2012 but not in earlier years; multilateral donors were targeting to need in each year, whereas private donors show no evidence of targeting related to need. For the reproductive health model, bilateral, multilateral, and global health initiatives were targeting to need in each year. Private donors were targeting to need in the 2012 HIV model and in 2010 in the life expectancy model. There was greater evidence of targeting for child and reproductive health compared with maternal and newborn health. The analysis of the R^2 values does not indicate any significant increase in targeting over time for any of the donors in any of the models.

Discussion

This paper has increased the scope of previous Countdown tracking work by integrating funding for reproductive health and looking more closely at newborn health, thereby more fully reflecting the continuum of care for RMNCH (panel). Overall ODA+ decreased in 2011 and increased marginally in 2012, yet ODA+ to RMNCH increased consistently during the same time period. Funding to R* increased during the period, although the rate of increase slowed between 2011 and 2012 (and declined when considering all donors to all countries). R* remains heavily dominated by funding earmarked to HIV/AIDS, but there has been a surge in funding for family planning since 2011. The London Family Planning summit which took place in 2012 and the launch of the FP2020 are expected to further increase funding in this area.

For more on **Family Planning 2020** see http://www.familyplanning2020.org/

Worldwide ODA+ to MNCH increased in 2011 by 5·9% relative to 2010 driven by increased funding to child health, which outweighed a reduction in funds for MNH. ODA to MNCH from the 31 consistent set of donors to the 75 priority countries increased by only 1·2% in 2011 relative to 2010, but increased substantially between 2011 and 2012. The period 2011 and 2012 saw an increase in funding for immunisation and MNH and a steady increase of funding to nutrition. Immunisation funding levels are likely to continue to increase as a result of donor pledges made during the Global Vaccine Summit in Abu Dhabi in April 24–25, 2013.

We noted an increase in the total funding to newborn health, with a much larger growth in projects that include newborns than those that exclusively target them. We believe this reflects a growing recognition of the linkage between MNH and the importance of newborn survival in reducing child mortality, with 44% of under-5 deaths being neonatal, and preterm birth now the leading cause of child deaths.[25]

Bilateral aid remains the dominant source of funding for RMNCH, with the USA remaining the biggest funder of RMNCH. Reliance on bilateral aid can result in greater volatility in aid disbursements in view of their sensitivity to macroeconomic conditions and domestic politics. For example, the countries most severely hit by the financial crisis decreased their ODA disbursements, with Spain reducing disbursements from $140 million in 2010 to $33 million in 2012; virtually no ODA was given by Greece in 2012, and Italy's ODA flows declined in 2012 to the same level as in 2003. Volatility of budgetary contributions has been shown to affect recipient governments' ability to plan,[26] undertake long-term investment in health systems,[27] and might result in governments reducing financing of the health sector (fungibility) to prepare for future shocks.[28] Fluctuations in bilateral ODA might also have repercussions on multilateral funding; however, there is no evidence of this so far, and some bilateral organisations, including the UK and French Governments, have a clear policy to invest in multilateral agencies.[29,30]

This study showed evidence of a continued trend towards project-level funding relative to general budget and sector support. Research in Tanzania has shown that, despite budget support being preferred by recipient governments and being less subject to volatility, increased pressure to show results has led to development partners favouring project-based modalities.[31]

We report evidence that overall ODA+ remains targeted to countries with increased need, although we did not note evidence of improvement in targeting over time. There was greater evidence of targeting for child and reproductive health compared with maternal and newborn health. Clearly need is only one element in the decision to allocate funds and a range of political and economic and other factors also affect these decisions.

Several resource-tracking exercises have been recently undertaken.[6,9,32] The IHME recently reported that development assistance to health for MNCH grew by nearly 18% between 2010 and 2011, amounting to $6·1 billion in 2011,[9] whereas we estimated that ODA+ to MNCH was $7·6 billion in 2011, an increase of 5·9% relative to 2010 (appendix p 8). The IHME has not yet reported data for 2012. The PMNCH report estimates that funding to RMNCH remained almost constant in 2011 relative to 2010 at $9·6 billion (growing at 0·5% between 2010 and 2011; converted to 2012 prices from 2005 prices).[6] This value compares to our estimate of $8·3 billion in 2011, an increase of 3·2% relative to 2010. Like us, the PMNCH report estimates a surge in RMNCH funding in 2012 (growing to $10·4 billion, an increase of

Panel: Research in context

Systematic review

We reviewed previous resource tracking exercises including that of the Countdown,[12–16] and reports by the Institute of Health Metrics and Evaluation[9] and the Partnership for Maternal, Newborn and Child Health.[6] Previous Countdown analyses were limited to maternal, newborn, and child health for the period 2003–12, or reproductive, maternal, and newborn health for the period 2009–12. Our study updates previous resource tracking done by Countdown for 2013 and considers the full continuum of care for reproductive, maternal, newborn, and child health.

Interpretation

This study contributes to the annual resource tracking of ODA+ disbursements to reproductive, maternal, newborn, and child health (RMNCH). Overall ODA+ decreased in 2011 relative to 2010 and increased marginally in 2012, yet ODA+ to RMNCH increased consistently during the same time period. Funding to family planning and nutrition increased substantially, and ODA+ mentioning newborns continues to grow. ODA+ remains targeted to RMNCH need in terms of mortality and illness prevalence. This increase in funds to RMNCH is encouraging but continued improvements are needed to accelerate progress towards MDGs 4 and 5.

8·8% relative to 2011, with our estimate at $9·3 million, an increase of 11·8%). The UNFPA and NIDI estimate international population assistance totalled $12·0 billion in 2011 and $12·4 billion in 2012.[32] Their definition of population activities includes the components of RMNH we analysed and support for demographic-related and programme-related data collection and analysis, research, policy development, and training and reporting, and excludes child health activities. In 2013, the OECD proposed a set of policy markers be introduced for 2014 reporting on 2013 aid flows in recognition of activities, which support the achievement of certain MDGs across multiple sectors. The RMNCH policy marker will facilitate tracking aid that is targeted to RMNCH and will be evaluated after a 2-year trial period.

Differences in estimates reflect differences in methods used by the various resource-tracking initiatives. First, there is variation in the sources of data used to track resources. IHME estimates development assistance to health, which includes all financial and in-kind contributions from global health channels which aim to improve health; 66% of the data analysed came from sources other than the creditor reporting system, whereas our analysis relies only on the creditor reporting system of the OECD and the donors who report to it. Donors such as China were not included in our assessment, yet their contributions to ODA have been estimated at slightly less than $4 billion per year.[33] PMNCH and UNFPA also draw on the creditor reporting system data, but also held interviews and obtained financing data from additional organisations. Second, there is variation in the coding methods used. The IHME conducts an automated keyword search and allocates certain donors' funding fully to MNCH, such as UNICEF, whereas our method is manual, coding projects with direct relevance to MNCH and including other non-purpose-specific funding modalities, general health systems strengthening support, and general budget support that can be attributed to MNCH. PMNCH used the Muskoka method, which relies on the creditor reporting systems' own coding system and assumes a fixed share of certain codes is allocated to RMNCH. Finally, there are differences in the classification of RMNCH categories, which, do not affect total RMNCH, but would affect the breakdown by component—for example, IHME considers family planning to fall within MNCH, whereas we include it in R*.[9] IHME excludes malaria, tuberculosis, and HIV/AIDS programmes from its estimates of aid for MNCH, whereas we include elements of each that are relevant to MNCH. Undoubtedly, an enhanced dialogue across these tracking initiatives is needed to reflect on the comparative advantages of the methods that have been used and lessons learnt to facilitate eventual future harmonisation of approaches. Agreement is needed as to which agency should take the lead.

The results shown in this paper are subject to the same limitations with regard to the methods that have been acknowledged previously.[12–15] The first challenge relates to separating funding to R*, maternal and newborn health, and child health, as well as the programme components therein. Every record is assigned based on the project title and descriptions, which in some cases are complex, vague, or without information about beneficiaries. Moreover, 37% of our estimate of funding for MNCH was based on assumptions regarding the share of funding for the wider health sector, systems, or policy, which would benefit mothers and children. Literature informing these assumptions remains scarce and in-depth country-level analyses are needed to understand who benefits from health financing and how this might vary between countries. Although the estimates of funding to MNCH include health systems or pooled funding resource allocation, the estimate of R* is based only on direct project-level support and is thus likely to be an underestimate. Our models to assess targeting are simple and are not intended to unpack the full range of aid determinants, which would be an important area for future research. Finally, funding to R* is only estimated from 2009 to 2012 and does not include the period 2003–08.

The continued increase in ODA+ to RMNCH at a time of falling overall aid contributions is encouraging, but additional improvements are needed to accelerate progress towards MDGs 4 and 5. Further research is needed to improve the accuracy of resource tracking for RMNCH, along with consensus on the way forward for harmonised and sustainable resource tracking post-2015.

Contributors
FD and LA coded the 2011 and 2012 data. LA analysed the data. All authors had input into the interpretation of the data. AM, JB, CP, and JH contributed to the development of the study methods. JB, FD, LA, GG, and MM-A wrote the first draft of the report. All authors reviewed and provided input into the final version of the paper and gave their approval for publication.

Declaration of interests
We declare no competing interests.

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