

Supplementary data

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Appendix 1: Factor selection: in-depth interviews

I selected factors and data source through a review of the literature on factors associated with development assistance for mental health and health, complemented by 35 in-depth interviews with key informants working in international organisations that are prominent players in global health and experts in global mental health who provided meaning and context (Iemmi, 2021). Participants were sampled using purposeful sampling and snowballing. To account for heterogeneity of the population, they were stratified by their organisation group (Iemmi, 2019). In-depth semi-structured interviews were conducted face-to-face or via telephone/Skype between February and December 2018. Informed consent was obtained from participants in writing or orally ahead of the interview. Interviews focused on the role of external actors investing in mental health in low- and middle-income countries and comprehended a set of questions on factors in recipient countries driving allocation of resources, including development assistance for mental health. Interviews were digitally recorded (when permitted) and notes taken. Recordings were transcribed *verbatim* and relevant factors identified. Ethical approval was obtained from the London School of Economics and Political science Research Ethics Committee (Ref. 000589). Further details are available upon request from the author.

References

- Iemmi, V., 2019. Sustainable development for global mental health: a typology and systematic evidence mapping of external actors in low-income and middle-income countries. *BMJ Glob. Health* 4, 1826.
- Iemmi, V., 2021. Motivations and methods of external organisations investing in mental health in low- and middle-income countries: a qualitative study. *Lancet Psychiatry* 8, 630–638.

Appendix 2: Descriptive statistics

Table 2.1. Summary statistics

	All observations						Nonzero DAMH					
	Mean	SD	Min	Median	Max	N	Mean	SD	Min	Median	Max	N
DAMH selection	0.71	0.46	0.00	1.00	1.00	2143	1.00	0.00	1.00	1.00	1.00	1512
DAMH pc (2017 US\$)	0.03	0.39	0.00	0.0003	13.77	2143	0.05	0.46	0.00	0.00	13.77	1512
DALYs for Mental Health pc	0.04	0.01	0.03	0.03	0.09	2143	0.04	0.01	0.03	0.03	0.09	1512
DALYs for Other Health (%)	92.60	3.60	83.16	92.30	98.71	2143	92.70	3.78	83.16	92.46	98.71	1512
GDP pc (2017 US\$)	8604.21	7412.66	644.73	6520.07	50461.07	2110	7720.20	6305.38	644.73	6139.41	32496.34	1498
Trade (%GDP)	82.26	36.50	0.17	77.53	311.35	2050	77.80	35.11	0.17	71.68	311.35	1475
Government Effectiveness	-0.45	0.64	-2.27	-0.50	1.41	1990	-0.51	0.59	-2.16	-0.54	1.27	1444
GHE (%GDP)	2.54	1.69	0.19	2.22	13.19	2110	2.43	1.50	0.19	2.14	10.01	1498
Conflicts	0.07	0.26	0.00	0.00	1.00	2143	0.09	0.28	0.00	0.00	1.00	1512
Natural Disasters	0.02	0.14	0.00	0.00	1.00	2143	0.02	0.15	0.00	0.00	1.00	1512
Disease Outbreaks	0.53	0.50	0.00	1.00	1.00	2143	0.62	0.49	0.00	1.00	1.00	1512
Conflicts (MR per 100,000)	2.39	20.79	0.00	0.01	762.35	2143	2.79	23.27	0.00	0.03	762.35	1512
Natural Disasters (MR per 100,000)	1.66	47.51	0.00	0.02	2169.44	2143	1.92	56.04	0.00	0.03	2169.44	1512
Disease Outbreaks (MR per 100,000)	66.40	101.15	0.27	12.53	618.22	2143	73.86	105.19	0.27	15.60	572.54	1512
Year	2007.35	4.61	2000.00	2007.00	2015.00	2143	2008.22	4.28	2000.00	2008.00	2015.00	1512

Original dataset, variables before transformation. N, number of country-year observations. SD, standard deviation; DALYs, disability-adjusted life years; DAMH, development assistance for mental health; GDP, gross domestic product; GHE, government health expenditure; MR, mortality rate; pc, per capita; US\$, United States dollars.

Table 2.2. Correlation coefficients

	DAMH	Ln DAMH pc (2017 US\$)
L2 Ln DALYs for Mental Health pc	-0.030	-0.021
L2 DALYs for Other Health (%)	0.044**	-0.063***
L2 DALYs for Other Health (%) Squared	0.047**	-0.066***
L2 Ln GDP pc	-0.230***	-0.035
L2 Trade (%GDP)	-0.228***	0.097***
L2 Government Effectiveness	-0.148***	0.063**
L2 GHE (%GDP)	-0.141***	0.222***
L1 Conflicts	0.076***	
L2 Conflicts	0.092***	
L1 Natural Disasters	0.069***	
L2 Natural Disasters	0.051**	
L1 Disease Outbreaks	0.273***	
L2 Disease Outbreaks	0.276***	
L1 Conflicts (MR per 100,000)		0.037
L2 Conflicts (MR per 100,000)		0.030
L1 Natural Disasters (MR per 100,000)		0.020
L2 Natural Disasters (MR per 100,000)		0.021
L1 Disease Outbreaks (MR per 100,000)		-0.142***
L2 Disease Outbreaks (MR per 100,000)		-0.139***
L2 DAMH	0.640***	0.166***
Year	0.291***	0.161***
N	2143	1512

Original dataset, variables after transformation. Significance: *P<0.10, **P<0.05, ***P<0.01. DALYs, disability-adjusted life years; DAMH, development assistance for mental health; GDP, gross domestic product; GHE, government health expenditure; Ln, logarithm; MR, mortality rate; pc, per capita.

Appendix 3: Multiple imputation

Data were missing for four variables: GDP per capita (1.5% of country-year data points), trade as a share of GDP (4.3%), government effectiveness (7.1%), and government health expenditure as a percentage of GDP (1.5%) (Table 3.1).

Table 3.1. Missing data (2000–2015)

Variable	All observations (N=2143)		Nonzero DAMH (N=1512)	
	N	%	N	%
DAMH selection	0	0.0	0	0.0
DAMH pc (2017 US\$)	0	0.0	0	0.0
DALYs for Mental Health pc	0	0.0	0	0.0
DALYs for Other Health (%)	0	0.0	0	0.0
GDP pc (2017 US\$)	33	1.5	14	0.9
Trade (%GDP)	93	4.3	37	2.5
Government Effectiveness	153	7.1	68	4.5
GHE (%GDP)	33	1.5	14	0.9
Conflicts	0	0.0	0	0.0
Natural Disasters	0	0.0	0	0.0
Disease Outbreaks	0	0.0	0	0.0
Conflicts (MR per 100,000)	0	0.0	0	0.0
Natural Disasters (MR per 100,000)	0	0.0	0	0.0
Disease Outbreaks (MR per 100,000)	0	0.0	0	0.0
Year	0	0.0	0	0.0
Recipient country	0	0.0	0	0.0
World Bank income group	23	1.1	21	1.4
Population	0	0.0	0	0.0
Population under 30 (Proportion)	0	0.0	0	0.0
GHE (thousand, 2017 US\$)	0	0.0	0	0.0
TOTAL	335	15.6	154	10.2

Original dataset. DALYs, disability-adjusted life years; DAMH, development assistance for mental health; GDP, gross domestic product; GHE, government health expenditure; MR, mortality rate; pc, per capita; US\$, United States dollars.

Seventeen regressors were used in the imputation model:

$$\begin{aligned}
 Y_{it} &= \alpha_0 + \beta_1 Year_t + \beta_2 Recipient\ Country_i + \beta_3 DAMH_{it} \\
 &+ \beta_4 Ln\ DALYs\ for\ Mental\ Health\ per\ capita_{it} + \beta_5 Percentage\ of\ DALYs\ for\ Other\ Health_{it} \\
 &+ \beta_6 (Percentage\ of\ DALYs\ for\ Other\ Health_{it} \\
 &* Percentage\ of\ DALYs\ for\ Other\ Health_{it}) \\
 &+ \beta_7 Ln\ of\ GDP\ per\ capita_{it} + \beta_8 Trade\ (%GDP)_{it} \\
 &+ \beta_9 Government\ Effectiveness_{it} + \beta_{10} Government\ Health\ Spending\ (%GDP)_{it} \\
 &+ \beta_{11} Conflicts_t + \beta_{12} Natural\ Disasters_{it} + \beta_{13} Disease\ Outbreaks_{it} \\
 &+ \beta_{14} World\ Bank\ Income\ Group_{it} + \beta_{15} Ln\ Population_{it} \\
 &+ \beta_{16} Proportion\ of\ Population\ Under\ 30_{it} \\
 &+ \beta_{17} Government\ Health\ Spending_{it} + u_{it}
 \end{aligned}$$

where y represents the four imputed variables; i recipient country; t year; α intercept; β regression coefficients for each independent variable; u error term. The imputation model

includes all variables from the final analytical model, two variables reflecting time series cross-sectional data structure (year, recipient country), and four auxiliary variables highly correlated with imputed variables (World Bank income group, population, proportion of the population under 30, government health spending). World Bank income groups came from the World Bank country classification using the World Bank Atlas Method (World Bank, 2018). The variable representing the proportion of the population under 30 years old was sourced from the Global Burden of Disease Study 2017 Population Estimates 1950–2017 dataset published by the Institute for Health Metrics and Evaluation (Global Burden of Disease Collaborative Network, 2018). Logarithmic values of three variables were used to normalise their distribution (Population) or to facilitate interpretation (DALYs for mental health per capita, GDP per capita). No additional variables predicting missingness were added. Logarithmic values were used during the imputation process.

Missing data were treated using multiple imputation by chained equations (MICE) with predictive mean matching, 20 imputations and kernel 1 (White et al., 2011). The number of imputations (20) was chosen to reflect the percentage of missing data (16%), in line with the rule of thumb proposed by White et al. (2011), which builds on Bodner (2008). The number of closest observations (nearest neighbours) to draw from was reduced to 1 in order to increase the probability of using during the imputation process values resulting in valid statistical inference. Post imputation diagnostics were performed on both imputation and analytical models (Nguyen et al., 2017).

One auxiliary variable (World Bank income group) had missed data (1.1%). For this variable only, missing data were imputed using the ‘first observation carried backward’ before performing multiple imputation. This method was chosen as data were not missing at random but reflected disbursements to recipient countries created during the period of study (i.e. Montenegro, Serbia, South Sudan). Extreme changes in income group country classification were unlikely due to the relatively short time period (i.e. 16 years).

References

- Bodner, T.E., 2008. What improves with increased missing data imputations? *Struct. Equ. Modeling*, 15, 651–675.
- Global Burden of Disease Collaborative Network, 2018. Global Burden of Disease Study 2017 (GBD 2017) Population Estimates 1950–2017. Institute for Health Metrics and Evaluation, Seattle (dataset)
- Nguyen, C.D., Carlin, J.B., Lee, K.J., 2017. Model checking in multiple imputation: an overview and case study. *Emerg. Themes in Epidemiol.*, 14, 8.
- White, I.R., Royston, P., Wood, A.M., 2011. Multiple imputation using chained equations: issues and guidance for practice. *Stat. Med.*, 30, 377–399.
- World Bank, 2018. World Bank country and lending groups. World Bank, Washington DC.

Appendix 4: Model specification

I used the following base specification of the two-part model:

Selection equation:

$$\begin{aligned} & \Pr(\text{DAMH selection}_{it} = 1)_{it} \\ & = F(\alpha_0 + \phi_1 \text{DAMH Selection}_{it-2} \\ & + \alpha_1 \text{Ln DALYs for Mental Health per capita}_{it-2} + \alpha_2 \text{Percentage of DALYs for Other Health}_{it-2} \\ & + \alpha_3 (\text{Percentage of DALYs for Other Health}_{it-2} \\ & * \text{Percentage DALYs for Other Health}_{it-2}) \\ & + \alpha_4 \text{Ln of GDP per capita}_{it-2} + \alpha_5 \text{Trade (\%GDP)}_{it-2} \\ & + \alpha_6 \text{Government Effectiveness}_{it-2} + \alpha_7 \text{Government Health Spending (\%GDP)}_{it-2} \\ & + \alpha_8 \text{Conflicts}_{it-1} + \alpha_9 \text{Conflicts}_{it-2} + \alpha_{10} \text{Natural Disasters}_{it-1} \\ & + \alpha_{11} \text{Natural Disasters}_{it-2} + \alpha_{12} \text{Disease Outbreaks}_{it-1} + \alpha_{13} \text{Year}_t) \end{aligned}$$

Allocation equation:

$$\begin{aligned} & \text{Ln of DAMH per capita}_{it} \\ & = \beta_0 \\ & + \beta_1 \text{Ln DALYs for Mental Health per capita}_{it-2} + \beta_2 \text{Percentage of DALYs for Other Health}_{it-2} \\ & + \beta_3 (\text{Percentage of DALYs for Other Health}_{it-2} \\ & * \text{Percentage of DALYs for Other Health}_{it-2}) \\ & + \beta_4 \text{Ln of GDP per capita}_{it-2} + \beta_5 \text{Trade (\%GDP)}_{it-2} \\ & + \beta_6 \text{Government Effectiveness}_{it-2} + \beta_7 \text{Government Health Spending (\%GDP)}_{it-2} \\ & + \beta_8 \text{Conflicts (Mortality rate)}_{it-1} + \beta_9 \text{Conflicts (Mortality rate)}_{it-2} \\ & + \beta_{10} \text{Natural Disasters (Mortality rate)}_{it-1} \\ & + \beta_{11} \text{Natural Disasters (Mortality rate)}_{it-2} \\ & + \beta_{12} \text{Disease Outbreaks (Mortality rate)}_{it-1} + \beta_{13} \text{DAMH Selection}_{it-2} \\ & + \beta_{14} \text{Year}_t + u_{it} \end{aligned}$$

where i is the recipient country; t year; s lags; F cumulative distribution function; α_0 and β_0 intercepts; ϕ regression coefficient for the autoregressive term; α and β regression coefficients for each independent variable; u error term.

Appendix 5: Estimation approach

I used a two-part model (Cragg, 1971) to reflect the two stages of the resource allocation process (Stubbs et al., 2016). This model has the advantage of relaxing assumptions in single-step estimation techniques (e.g. Tobit) that the drivers of any DAMH receipt are the same as the drivers of the *amount* of such assistance (Clist, 2011). However, a potential problem with two-part models is the assumption that error terms are uncorrelated between the two parts, implying that the two decisions are taken independently. While Heckman's two-step estimator allows for error terms to be correlated (Heckman, 1979), it works better with an exclusionary variable which determines the first but not the second stage. Without this exclusionary variable, which is the case here, estimates depend on stricter distributional assumptions and are more sensitive to non-normality and heteroskedasticity (Harrigan & Wang, 2011). Previous studies find little correlation between error terms in both equations, suggesting the two decisions are made independently (Hoeffler & Outram, 2011).

In accordance with Stubbs et al. (2016), I did not use the system Generalized Method of Moments (GMM) estimator. For the selection model, the presence of a limited dependent variable did not allow for the use of the system GMM estimator. For the allocation model, while GMM techniques for panel data are increasingly used to study allocation of development assistance, caution is called when used with panel datasets with different characteristics from the ones they were originally designed for (i.e. few time periods and thousands of panels) (Wilson, 2011). This is due to loss of precision in standard errors and unreliable inferences in the presence of instrument proliferation (Roodman, 2009).

Informed by Neumayer (2003), I used pooled estimators instead of fixed effects models because the focus of this study was on factors associated with DAMH disbursement *between* countries (not within countries) and there was little within-country variation. Gravity models were not used in order to include *all* DAMH independently from the source. Analyses would have required three different two-part models to explore three different sources (bilateral governmental organisations, multilateral governmental organisations, and foundations) while the focus of this study was on *collective* action across donors.

Random effects models were not used due to misspecification revealed by the Hausman specification test, meaning that recipient country effects were not adequately modelled in random effects models when compared with fixed effects models (Hausman, 1978). The clustered standard errors estimator was used to correct for serial correlation within recipient countries. Adjusted standard errors using the cluster sandwich estimator allow relaxation of the assumption that observations are independent, i.e. allow for possible correlation of observations within recipient country.

A potential concern was endogeneity leading to under- or over-estimation of true associations. I addressed endogeneity due to omitted variables, simultaneity, and measurement errors. I used pre-estimation diagnostics (link test) to test for model misspecifications and possible variable omissions, and post-estimation diagnostics to test the validity of models both visually (residual plots) and numerically (Wald test). Lagging independent variables mitigated potential concerns of simultaneity with dependent

variables. Major systematic measurement errors in the variables were not found in the literature.

References

- Clist, P., 2011. 25 years of aid allocation practice: whither selectivity? *World Dev.*, 39, 1724–1734.
- Cragg, J.G., 1971. Some statistical models for limited dependent variables with application to the demand for durable goods. *Econometrica*, 39, 829–844.
- Harrigan, J., Wang, C., 2011. A new approach to the allocation of aid among developing countries: is the USA different from the rest? *World Dev.*, 39, 1281–1293.
- Hausman, J.A., 1978. Specification tests in Econometrics. *Econometrica*, 46, 1251–1271.
- Heckman, J.J., 1979. Sample selection bias as a specification error. *Econometrica*, 153–161.
- Hoeffler, A., Outram, V., 2011. Need, merit, or self-interest – what determines the allocation of aid? *Rev. Dev. Econ.*, 15, 237–250.
- Neumayer, E., 2003. Do human rights matter in bilateral aid allocation? A quantitative analysis of 21 donor countries. *Soc. Sci. Q.*, 84, 650–666.
- Roodman, D., 2009. A note on the theme of too many instruments*. *Oxford B. Econ. Stat.*, 71, 135–158.
- Stubbs, T.H., Kentikelenis, A.E., King, L.P., 2016. Catalyzing aid? The IMF and donor behavior in aid allocation. *World Dev.*, 78, 511–528.
- Wilson, S.E., 2011. Chasing success: health sector aid and mortality. *World Dev.*, 39, 2032–2043.

Appendix 6: Countries included in the analyses, by WHO region (N=142)

AFR (N=45)	Algeria Angola Benin Botswana [§] Burkina Faso Burundi Cameroon Cape Verde [§] Central African Republic Chad Comoros [§] Congo (Brazzaville) Cote d'Ivoire Equatorial Guinea [§] Eritrea	Ethiopia Gabon [§] Ghana Guinea Guinea-Bissau Kenya Lesotho Liberia Madagascar Malawi Mali Mauritania [§] Mauritius [§] Mozambique Namibia	Niger Nigeria Rwanda Senegal Seychelles [§] Sierra Leone South Africa South Sudan Swaziland Tanzania The Gambia Togo Uganda Zambia Zimbabwe
AMR (N=29)	Antigua and Barbuda Argentina Barbados [§] Belize Bolivia Brazil Chile Colombia Costa Rica Dominica [§]	Dominican Republic Ecuador El Salvador Grenada Guatemala Guyana Haiti Honduras Jamaica Mexico	Nicaragua Panama Paraguay Peru Saint Lucia Saint Vincent and the Grenadines Suriname Uruguay Venezuela
EMR (N=15)	Afghanistan Bahrain* [§] Djibouti [§] Egypt Iran	Iraq Jordan Lebanon Libya Morocco	Oman [§] Pakistan Saudi Arabia [§] Sudan Tunisia
EUR (N=27)	Albania Armenia Azerbaijan Belarus Bosnia and Herzegovina Bulgaria [§] Croatia Czech Republic [§] Estonia [§] Georgia	Hungary Kazakhstan Kyrgyzstan Latvia [§] Lithuania [§] Macedonia Moldova Montenegro Poland Russia	Serbia Slovakia Tajikistan Turkey Turkmenistan [§] Ukraine Uzbekistan
SEAR (N=9)	Bangladesh Bhutan India	Indonesia Maldives [§] Myanmar	Nepal Sri Lanka Thailand
WPR (N=17)	Cambodia China Federated States of Micronesia [§] Fiji Kiribati Laos	Malaysia Marshall Islands [§] Mongolia Papua New Guinea [§] Philippines Samoa [§]	Solomon Islands South Korea* [§] Tonga [§] Vanuatu [§] Vietnam

Twenty-six countries and territories were discarded due to lack of data on variables of interest: Anguilla, Cook Islands, Cuba, Democratic Republic of the Congo, Kosovo, Mayotte, Montserrat, Nauru, Niue, North Korea, Palau, Palestine, Romania, Saint Helena, Saint Martin, Sao Tome and Principe, Somalia, St Kitts and Nevis, Syria, Timor Leste, Tokelau, Trinidad and Tobago, Turks and Caicos Islands, Tuvalu, Wallis and Futuna Islands, Yemen. *Countries excluded from analyses of selection model. [§]Countries excluded from analyses of allocation model. AFR, African region; AMR, region of the Americas; EMR, Eastern Mediterranean region; EUR, European region; SEAR, South-East Asia region; WPR, Western Pacific region.

Appendix 7: Trends

Table 7.1. Total DAMH and DALYs for mental health across all countries within a single year between 2000 and 2015.

Year	N	DAMH (2017 US\$)	DALYs for Mental Health
2000	140	3,973,140	196,235,429
2001	139	3,942,973	195,235,268
2002	139	7,403,417	197,270,596
2003	140	6,102,656	199,317,621
2004	139	6,149,060	201,181,727
2005	138	4,935,648	203,996,638
2006	136	9,463,424	205,343,672
2007	133	11,609,356	206,352,382
2008	132	14,324,185	208,897,602
2009	130	22,060,892	209,327,889
2010	131	22,092,210	212,581,367
2011	131	21,812,688	215,189,627
2012	129	22,406,521	207,632,073
2013	129	25,238,001	210,405,038
2014	128	21,174,800	213,177,128
2015	129	21,659,018	226,277,184

Totals were computed by adding up values across all countries within a single year. DALYs, disability-adjusted life years; DAMH, development assistance for mental health; N, number of country-year observations; US\$, United States dollars.

Table 7.2. Total DAMH by country within a single year between 2000 and 2015 (2017 US\$).

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total (2000–2015)
Afghanistan	0	0	0	137,277	21,518	102,398	145,026	204,851	1,598,248	1,992,076	1,345,551	3,364,338	4,682,741	7,034,151	1,963,765	2,086,069	24,678,010
Albania	28,407	600,835	373,794	774,800	25,963	14,118	320,418	311,025	514,300	230,584	323,578	183,893	34,216	36,000	53,810	48,302	3,874,044
Algeria	0	0	63,822	0	78	107,155	214,883	3,444	6,697	7,169	9,857	2,166	139	141	195,562	7,620	618,731
Angola	0	297,217	4,018	53	752	720	1,418	7,856	33,395	15,761	15,638	43,513	34,306	6,486	4,155	3,376	468,666
Antigua and Barbuda	0	1,194	1,373	1,216	752	9	137	0	925	30,664	31,077	118,798	1,751	1,436	815	890	191,036
Argentina	0	5,911	5,903	0	34,475	43	71,490	5,041	4,578	31,339	62,329	28,270	6,482	41,359	2,487	212,294	512,002
Armenia	0	0	0	193,236	124	143	241	69	16,731	30,851	136,449	232,673	32,083	874	102	0	643,577
Azerbaijan	0	0	0	0	100	116	195	56	0	11,976	99,447	188,029	102,177	92,671	17,214	9,575	521,555
Bahrain	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Bangladesh	0	0	0	5,476	131,032	101,980	187,210	188,862	0	206,118	196,710	60,289	41,629	65,047	65,717	154,614	1,404,682
Barbados	-	0	-	0	0	0	-	-	-	-	-	-	-	-	-	-	0
Belarus	401	140	649	628	366	14,890	603	753	24,229	442	118	3,691	27,602	0	2	0	74,514
Belize	0	14,059	16,163	14,312	8,857	102	1,614	0	10,888	0	9,219	843	20,614	16,906	9,591	10,475	133,642
Benin	0	0	1,740	23	326	312	614	860	198,594	3,053	1,531	2,322	1,355	3,633	1,799	1,462	217,622
Bhutan	0	0	0	55	9	10	17	5	0	18	16,878	40	42	40	81	0	17,194
Bolivia	0	27,570	45,963	0	0	285,293	81,258	10,843	574,905	682,883	930,588	487,916	37,503	429,986	206,373	180,018	3,981,101
Bosnia and Herzegovina	1,959,538	628,610	618,015	398,028	156,521	71,250	259,106	721,895	229,257	515,336	1,066,833	1,336,164	1,881,232	1,406,990	1,885,553	1,427,541	14,561,866
Botswana	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Brazil	0	63,758	63,666	1,877	13,763	465	21,990	74,634	59,031	82,000	2,099,651	270,195	353,935	1,857,847	142,514	270,633	5,375,959
Bulgaria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Burkina Faso	0	0	2,350	26,175	57,022	55,727	829	1,161	697	28,788	2,068	3,137	1,831	3,794	8,494	1,975	194,048
Burundi	0	0	34,214	455	6,402	6,130	487,665	689,865	635,962	786,261	373,104	348,336	89,413	190,831	194,264	100,101	3,943,003
Cambodia	0	305,709	376,730	291,662	696,220	4,694	702,217	334,738	631,591	581,648	357,432	853,701	44,932	147,474	44,760	10,711	5,384,221
Cameroon	166,205	4,333	147,815	27,817	1,133	1,261	2,338	2,992	1,796	53,804	113,409	86,419	13,832	40,054	9,113	5,087	677,409
Cape Verde	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Central African Republic	0	0	3,174	42	594	569	1,120	1,568	941	5,570	2,794	4,237	2,473	5,124	237,199	131,646	397,050
Chad	0	0	4,181	56	782	749	1,475	2,066	1,240	7,336	3,679	45,564	272,576	59,963	34,703	36,273	470,643
Chile	0	11,933	11,915	0	0	87	683	0	9,799	1,527,231	140,086	64,128	13,085	12,393	5,021	28	1,796,390
China	11,080	18,317	483,168	609,082	496,442	404,918	363,926	289,816	592,200	240,535	645,559	488,978	1,944,356	885,298	115,896	316,462	7,906,034
Colombia	0	9,077	9,064	0	0	66	519	152,003	87,340	207,427	61,556	127,244	164,283	279,671	222,243	89,184	1,409,679

Comoros	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Congo (Brazzaville)	0	0	562	7	105	101	198	278	167	987	495	751	438	908	581	473	6,051
Costa Rica	0	15,351	17,648	15,627	9,671	112	1,762	0	11,888	0	31,256	13,994	22,508	18,459	10,472	11,437	180,183
Cote d'Ivoire	0	0	25,017	58,551	112,995	109,909	108,347	119,908	57,530	46,272	22,018	196,928	266,609	409,208	276,081	39,886	1,849,258
Croatia	0	2,082	56,170	10,417	50,284	13,479	189,389	270,237	-	-	-	-	-	-	-	-	592,057
Czech Republic	-	-	0	0	0	-	-	-	-	-	-	-	-	-	-	-	0
Djibouti	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dominica	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dominican Republic	0	6,065	6,973	6,174	3,821	40,666	31,449	94,177	177,057	172,743	82,419	29,457	36,337	7,293	21,043	13,117	728,791
Ecuador	0	30,720	47,984	116,477	0	224	52,560	148,161	35,898	44,707	53,124	1,841	35,042	31,906	12,957	57,079	668,680
Egypt	0	0	176,094	0	134,102	0	316,293	271,005	34,660	29,059	183,906	582,538	452,495	462,220	917,024	141,426	3,700,822
El Salvador	0	5,834	6,707	283,606	3,675	480,205	670	7,916	54,108	24,016	8,608	5,099	8,554	7,015	18,600	4,346	918,958
Equatorial Guinea	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Eritrea	17,192	0	1,835	24	343	329	648	907	193,196	3,221	1,615	2,450	1,430	2,963	1,898	1,542	229,593
Estonia	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	0
Ethiopia	0	0	45,534	16,955	22,827	6,283	28,448	30,953	166,206	78,976	69,336	234,027	463,585	420,936	365,500	38,354	1,987,920
Federated States of Micronesia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fiji	0	0	0	0	0	1,778	1,212	0	2,512	808	140	54	438	0	0	0	6,942
Gabon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Georgia	0	0	0	0	665	766	1,291	371	299,154	144,125	762,765	1,373,192	264,880	308,232	162,573	66,037	3,384,051
Ghana	0	0	28,582	380	5,348	62,503	10,086	179,955	407,800	414,259	108,274	122,887	24,198	46,138	29,552	871,945	2,311,906
Grenada	0	1,482	1,704	1,508	934	11	46	0	1,148	0	972	89	1,728	1,782	624	224,055	236,080
Guatemala	0	31,347	4,466	2,502	1,548	18	282	12,459	1,903	135	1,612	9,104	15,793	77,528	1,677	2,691	163,066
Guinea	0	0	7	0	1	1	3	4	2	13	7	10	6	12	8	6	80
Guinea-Bissau	0	0	2,240	30	419	401	791	1,107	664	3,931	40,828	210,776	1,745	3,616	7,663	6,009	280,221
Guyana	0	2,051	2,048	0	0	15	117	0	220,936	0	1,345	123	2,249	2,130	863	5	231,880
Haiti	0	18,996	21,838	19,337	11,967	6,583	11,329	2,635	14,711	1,210	321,963	157,657	137,650	31,088	12,984	105,113	875,062
Honduras	0	23,576	27,104	24,000	14,853	277,439	819,117	988,490	653,490	506,113	46,593	20,861	46,588	37,105	21,151	17,565	3,524,046
Hungary	98,985	96,779	0	47,657	0	0	0	-	-	-	-	-	0	0	-	-	243,421
India	11,188	0	213,502	265,362	185,171	46,870	172,194	180,942	174,199	740,175	501,441	432,104	770,176	634,850	311,082	517,785	5,157,041
Indonesia	0	0	0	14,142	14,045	1,764	557,685	335,615	86,513	672,887	53,875	1,004	7,143	8,542	19,869	0	1,773,082
Iran	64	0	0	0	119	177,804	34,334	661	1,263	1,591	23,148	2,370	1,689	1,095	1,338	809	246,285
Iraq	94,621	0	31,187	0	394	454	538,884	30,424	45,132	17,974	12,591	7,879	5,615	5,382	4,448	2,691	797,676

Jamaica	0	7,360	8,462	7,492	4,637	54	845	0	5,700	0	4,826	441	10,792	8,850	5,021	5,484	69,963
Jordan	718	0	0	0	138,126	1,535	10,765	7,429	14,201	682,824	262,587	349,179	157,132	41,844	219,530	270,112	2,155,981
Kazakhstan	0	0	0	0	59	68	114	33	0	7,043	59,155	130,361	21,476	3,991	20,353	26,535	269,188
Kenya	0	0	42,442	420	50,189	310,576	78,351	229,259	413,838	348,834	365,294	331,771	347,410	524,306	353,739	334,556	3,730,986
Kiribati	0	0	0	0	0	416,903	284,184	0	588,758	189,412	32,921	12,572	268,943	80,449	9,342	174,638	2,058,120
Kyrgyzstan	0	0	0	0	44	50	85	24	0	5,202	53,501	130,235	18,010	15,355	36	0	222,543
Laos	0	0	28,934	0	157	180	304	0	0	323	99,449	103	88,515	873	75,674	14,418	308,931
Latvia	0	0	0	0	0	0	0	0	0	-	0	0	-	-	-	-	0
Lebanon	24,086	36,437	54,705	76,400	23,675	108,915	75,379	16,125	76,983	849,804	646,953	703,276	653,260	431,894	306,328	235,126	4,319,346
Lesotho	0	0	185	2	35	33	65	91	7,470	324	162	246	144	13,979	191	155	23,082
Liberia	0	0	49,111	26,908	17,180	18,463	19,292	87,170	260,373	314,927	256,632	344,898	241,955	79,277	50,778	97,008	1,863,972
Libya	0	0	22	0	56	0	1,715	2,500	4,862	5,205	7,157	353,379	192,723	34,284	141,998	5,533	749,435
Lithuania	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	0
Macedonia	428	2,231	56,864	11,088	50,675	13,691	644	805	779	472	126	62,850	11,403	0	2	0	212,059
Madagascar	0	0	15,686	208	2,935	2,810	5,535	7,750	147,053	163,437	141,735	248,717	12,218	318,790	408,505	486,675	1,962,054
Malawi	0	1,184	132,185	240,932	150,074	20,287	178,001	172,859	24,688	258,742	753,489	914,063	1,680,369	1,681,029	2,179,048	1,242,903	9,629,854
Malaysia	0	0	0	0	55,077	2,215	3,732	12,601	0	19,098	18,653	22,780	28,503	10,726	13,163	0	186,548
Maldives	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mali	30,608	14,445	5,985	80	1,120	1,072	170,887	2,957	1,775	314,750	5,268	7,989	4,662	9,661	6,188	33,058	610,504
Marshall Islands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mauritania	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mauritius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mexico	0	61,994	386,337	154,659	89,138	69,143	135,544	109,212	191,868	121,597	329,350	65,044	306,698	287,027	355,482	1,071,449	3,734,542
Moldova	46,837	16,340	75,941	73,425	42,807	118,149	194,309	882,346	307,207	559,160	614,007	376,868	291,938	261,642	1,770,845	1,877,980	7,509,802
Mongolia	0	0	0	51,873	676	777	1,310	56,793	171,186	203,536	246,476	308,870	263,248	12,489	4,621	10,731	1,332,585
Montenegro	1,290	2,532	58,262	12,439	51,463	14,120	1,942	2,425	2,346	1,424	381	798	5,049	130,615	7	26,510	311,602
Morocco	0	0	27	0	67	0	2,044	2,980	183,342	12,778	8,531	53,522	26,956	31,043	470,816	94,361	886,467
Mozambique	46,788	8,844	140,461	660	18,731	8,893	17,515	656,534	217,560	784,200	1,046,895	685,114	244,281	132,298	99,150	58,746	4,166,672
Myanmar	0	0	6,989	875	19,964	158	266	3,031	0	23,282	23,026	31,791	13,772	83,813	20,062	29,244	256,273
Namibia	0	0	1,415	2,409	15,114	254	499	699	420	50,502	34,990	54,584	1,102	2,284	1,463	1,196	166,931
Nepal	0	305,885	0	11,838	205,496	25,076	3,598	39,284	96,401	188,153	184,385	206,164	404,840	509,256	550,843	375,417	3,106,638
Nicaragua	6,536	15,742	59,303	109,632	73,926	4,935	79,703	6,476	35,085	61,028	52,784	17,742	88,256	85,924	22,502	22,002	741,577
Niger	0	0	8,954	119	1,676	1,604	3,160	4,424	2,656	15,712	7,881	11,952	6,975	14,454	295,224	512,202	886,993

Nigeria	0	0	15,048	23,769	145,742	22,698	91,555	7,435	4,463	26,404	709,102	252,657	26,258	71,786	92,659	259,598	1,749,173
Oman	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	0
Pakistan	0	21,667	0	218,852	18,011	1,213	92,602	63,595	0	111,930	52,213	28,243	27,452	127,796	137,231	407,025	1,307,830
Panama	0	771	887	785	486	6	89	2,698	597	0	5,288	4,795	1,131	928	15,146	575	34,183
Papua New Guinea	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paraguay	0	2,932	2,928	0	68,909	21	81,685	77,387	23,215	0	1,923	51,824	3,215	45,065	73,924	7	433,036
Peru	35,223	62,216	1,067,198	188,369	355,301	94,127	37,428	0	81,489	198,378	444,866	124,678	704,636	766,421	187,414	53,350	4,401,096
Philippines	11,420	35,563	143,618	141,417	1,378,600	2,621	4,417	201,622	411,534	438,840	209,433	192,126	272,178	274,613	203,796	506,187	4,427,985
Poland	0	0	228,376	0	0	0	0	0	0	-	-	-	-	-	-	-	228,376
Russia	0	24,960	86,542	0	0	9,601	18,543	28,353	4,738	6,814	9,398	77,064	-	-	-	70,613	336,627
Rwanda	253,991	161,402	344,483	363,486	401,281	294,406	775,894	893,000	748,125	1,684,156	1,481,167	1,038,740	309,650	398,906	819,873	777,478	10,746,037
Saint Lucia	0	3,294	3,787	3,354	2,075	24	102	0	2,551	0	2,160	197	3,841	75,048	231,243	178,791	506,468
Saint Vincent and the Grenadines	0	24,718	28,417	25,162	15,572	180	763	0	19,142	0	16,208	1,481	28,817	236,068	805,270	1,565,929	2,767,728
Samoa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Saudi Arabia	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	0
Senegal	0	0	5,883	78	1,101	76,800	2,076	2,907	24,983	437,641	5,178	7,853	4,583	9,497	107,842	4,943	691,364
Serbia	45,005	630,536	94,494	25,366	49,111	15,942	16,593	20,720	139,150	392,787	3,253	6,820	69,298	36,136	132,004	14,438	1,691,652
Seychelles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sierra Leone	0	0	22,552	300	4,220	4,041	7,958	11,142	6,688	174,556	287,492	535,166	295,906	545,816	501,751	289,158	2,686,748
Slovakia	0	0	43,271	0	0	0	0										43,271
Solomon Is.	0	0	0	0	0	177,220	120,803	0	250,273	80,517	13,994	5,344	43,652	0	58,104	54,385	804,292
South Africa	55,821	106,746	433,537	200,342	17,021	15,760	166,587	500,572	888,473	199,003	430,957	86,674	584,999	529,939	766,971	951,021	5,934,423
South Korea	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
South Sudan	0	0	97	1	18	17	34	48	29	170	85	129	76	157	100	81	1,044
Sri Lanka	39,127	38,802	105,801	457,727	72,733	57,023	332,782	638,343	371,487	960,408	1,159,271	672,313	802,017	408,029	442,000	313,414	6,871,279
Sudan	0	0	26,741	355	5,004	11,117	9,436	13,212	101,539	139,278	112,386	116,770	115,017	43,166	27,648	32,734	754,406
Suriname	0	344	344	23,537	0	3	20	0	267	0	226	21	378	358	145	1	25,642
Swaziland	0	0	128	2	24	23	45	63	14,695	225	113	171	100	207	133	108	16,036
Tajikistan	0	0	0	0	11	13	21	1,349	0	1,298	10,781	40,171	2,811	77	9	0	56,539
Tanzania	98,010	80,212	83,724	24,181	54,971	154,748	136,380	566,951	206,786	652,271	616,087	466,826	238,021	240,804	134,923	308,032	4,062,927
Thailand	0	0	0	0	20,224	456	769	14,768	41,001	210,015	52,049	43,970	82,928	136,541	62,301	26,778	691,799
The Gambia	0	0	122	2	23	22	43	60	36	214	107	163	95	4,465	126	103	5,582
Togo	0	0	7,863	104	1,471	1,409	2,775	3,885	2,332	319,912	6,920	10,495	6,125	118,787	257,857	213,152	953,088

Tonga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tunisia	0	0	30	0	76	0	2,326	3,391	6,595	7,060	9,706	95,381	19,290	6,822	209,674	7,503	367,854
Turkey	21,549	25,461	42,231	122,533	6,553	3,563	10,793	13,477	13,041	7,914	2,116	4,436	348,762	213,190	260,147	125,964	1,221,729
Turkmenistan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Uganda	35,370	21,870	82,024	48,810	82,237	357,194	313,351	121,112	66,792	88,235	158,538	195,327	119,556	132,341	224,124	226,068	2,272,950
Ukraine	3,666	1,279	5,945	5,748	3,351	9,749	57,248	49,999	108,603	31,448	3,008	23,639	10,211	35,300	19	51,602	400,814
Uruguay	0	3,158	3,154	0	0	23	181	0	2,446	25,140	384,761	17,653	3,463	3,280	1,329	7	444,597
Uzbekistan	0	0	0	0	19	21	36	10	0	2,209	18,343	34,682	40,736	130	15	0	96,201
Vanuatu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Venezuela	0	1,099	1,098	0	0	8	63	0	3,031	73,675	75,765	14,585	1,205	1,142	463	3	172,137
Vietnam	828,451	0	374,699	81,492	199,698	2,388	131,288	333,504	12,131	343,824	147,486	208,865	218,739	136,317	51,940	92,282	3,163,104
Zambia	536	0	24,355	307	4,319	4,135	32,411	11,403	99,451	52,238	25,713	76,408	78,945	507,573	361,406	825,404	2,104,604
Zimbabwe	0	0	6,850	91	1,282	78,194	2,417	43,936	40,470	30,491	6,029	201,630	180,320	188,566	7,083	69,537	856,897

(-) Excluded due to country graduation to high-income status. DAMH, development assistance for mental health; US\$, United States dollars.

Table 7.3. DAMH and DALYs for mental health across all countries within a single year between 2000 and 2015, medians and interquartile ranges.

Year	N	DAMH (2017 US\$)					DALYs for Mental Health				
		Median	Q1	Q3	Min	Max	Median	Q1	Q3	Min	Max
2000	140	0	0	0	0	1,959,538	231,027	82,066	761,010	1,934	47,765,807
2001	139	0	0	8,844	0	630,536	230,882	81,496	759,027	1,955	46,632,868
2002	139	3,154	0	42,442	0	1,067,199	235,687	87,971	784,501	1,990	46,002,571
2003	140	67	0	21,437	0	774,800	237,145	87,633	806,054	2,013	45,815,662
2004	139	752	0	20,224	0	1,378,600	238,428	85,106	831,390	2,031	46,148,249
2005	138	455	8	14,120	0	480,205	242,575	84,848	848,616	2,047	46,575,801
2006	136	1,544	54	73,435	0	819,117	251,161	89,883	862,122	2,065	47,225,320
2007	133	2,698	0	56,793	0	988,490	262,628	92,129	879,621	2,072	47,665,213
2008	132	7,083	1	105,071	0	1,598,248	277,115	90,626	908,943	2,079	48,375,335
2009	130	21,190	135	199,003	0	1,992,076	284,083	90,627	915,083	2,084	49,240,346
2010	131	18,343	972	158,538	0	2,099,651	284,506	92,747	917,328	2,089	50,287,219
2011	131	23,639	246	195,327	0	3,364,339	295,664	92,863	929,748	2,093	51,337,648
2012	129	19,290	1,205	157,132	0	4,682,742	324,007	93,394	923,038	2,098	51,726,906
2013	129	15,355	873	136,317	0	7,034,151	324,541	93,927	941,519	2,103	52,177,691
2014	128	16,180	129	194,913	0	2,179,048	332,550	86,792	980,590	2,109	52,817,848
2015	129	13,117	6	154,614	0	2,086,069	339,245	94,422	1,010,253	2,118	53,150,061

Values were computed on estimates across all countries within a single year. DALYs, disability-adjusted life years; DAMH, development assistance for mental health; Min, minimum; Max, maximum; N, number of country-year observations; Q1, first quartile; Q3, third quartile; US\$, United States dollars.

Table 7.4. DAMH and DALYs for mental health per capita across all countries within a single year between 2000 and 2015, medians and interquartile ranges.

Year	N	DAMH per capita (2017 US\$)					DALYs for Mental Health per capita				
		Median	Q1	Q3	Min	Max	Median	Q1	Q3	Min	Max
2000	140	0.000000	0.000000	0.000000	0.000000	0.479631	0.0344	0.0308	0.0399	0.0261	0.0830
2001	139	0.000000	0.000000	0.000781	0.000000	0.224290	0.0343	0.0305	0.0399	0.0260	0.0835
2002	139	0.000368	0.000000	0.003161	0.000000	0.257912	0.0345	0.0304	0.0402	0.0261	0.0841
2003	140	0.000008	0.000000	0.001810	0.000000	0.250830	0.0347	0.0306	0.0402	0.0259	0.0850
2004	139	0.000088	0.000000	0.001452	0.000000	0.141189	0.0347	0.0304	0.0403	0.0257	0.0848
2005	138	0.000048	0.000001	0.000922	0.000000	4.288752	0.0347	0.0305	0.0405	0.0256	0.0872
2006	136	0.000223	0.000014	0.001981	0.000000	2.862584	0.0348	0.0304	0.0405	0.0256	0.0824
2007	133	0.000195	0.000000	0.001439	0.000000	0.223280	0.0346	0.0303	0.0401	0.0256	0.0791
2008	132	0.000676	0.000000	0.007565	0.000000	5.693367	0.0348	0.0304	0.0400	0.0255	0.0781
2009	130	0.000762	0.000018	0.008798	0.000000	1.796879	0.0349	0.0304	0.0400	0.0254	0.0749
2010	131	0.001327	0.000118	0.010693	0.000000	0.359730	0.0350	0.0305	0.0402	0.0253	0.0743
2011	131	0.001264	0.000121	0.008920	0.000000	1.368440	0.0351	0.0305	0.0404	0.0253	0.0726
2012	129	0.001364	0.000136	0.009695	0.000000	2.431110	0.0351	0.0306	0.0403	0.0252	0.0684
2013	129	0.001178	0.000046	0.009092	0.000000	2.084676	0.0353	0.0306	0.0400	0.0253	0.0676
2014	128	0.000974	0.000046	0.011250	0.000000	7.094241	0.0353	0.0305	0.0403	0.0253	0.0666
2015	129	0.000960	0.000001	0.007255	0.000000	13.767438	0.0354	0.0307	0.0406	0.0254	0.0713

Values were computed on estimates across all countries within a single year. DALYs, disability-adjusted life years; DAMH, development assistance for mental health; Min, minimum; Max, maximum; N, number of country-year observations; Q1, first quartile; Q3, third quartile; US\$, United States dollars.

Appendix 8: Robustness checks

Robustness checks using different lags

Table 8.1. Factors associated with selection of DAMH recipients between 2000 and 2015, lags 1–3

	Pooled Probit		
	Lag 1	Lag 2	Lag 3
DAMH selection			
Ln DALYs for Mental Health pc			
L1	-0.003 (0.060)		
L2		-0.008 (0.071)	
L3			-0.007 (0.077)
DALYs for Other Health (%) ^a			
L1	-0.011** 0.005		
L2		-0.010* 0.005	
L3			-0.013** 0.006
Ln GDP pc			
L1	-0.043** (0.017)		
L2		-0.062*** (0.019)	
L3			-0.079*** (0.021)
Trade (%GDP)			
L1	-0.0006*** (0.0002)		
L2		-0.0005** (0.0002)	
L3			-0.0005* (0.0003)
Government Effectiveness			
L1	0.003 (0.015)		
L2		0.002 (0.018)	
L3			0.012 (0.019)
GHE (%GDP)			
L1	0.005 (0.007)		
L2		0.002 (0.007)	
L3			-0.001 (0.008)
Conflicts			
L1	-0.011 (0.028)		
L2		0.032 (0.045)	
L3			0.059 (0.042)
Natural Disasters			
L1	0.029 (0.074)		
L2		.	

	Pooled Probit		
	Lag 1	Lag 2	Lag 3
L3		.	0.039 (0.080)
Disease Outbreaks			
L1	0.110*** (0.029)		
L2		0.104*** (0.031)	
L3			0.115*** (0.034)
DAMH selection			
L1	0.578*** (0.046)		
L2		0.532*** -0.047	
L3			0.476*** (0.048)
Year Fixed Effects	Yes	Yes	Yes
Constant	91.23*** (32.85)	164.73*** (53.61)	160.96*** (53.99)
F statistic	127.62	52.41	26.59
p-value	0	2.42e-240	1.73e-114
N observations	1997	1820	1718
N countries	140	140	139

Average marginal effects with clustered standard errors in parentheses, imputed dataset (M=20). Significance: *P<0.10, **P<0.05, ***P<0.01. (.) Omitted due to collinearity. ^aCombined marginal effect for L2 DALYs for Other Health (%) and L2 DALYs for Other Health (%) Squared. DALYs, disability-adjusted life years; DAMH, development assistance for mental health; GDP, gross domestic product; GHE, government health expenditure; Ln, logarithm; pc, per capita.

Table 8.2. Factors associated with DAMH allocation between 2000 and 2015, lags 1–3

	Pooled OLS		
	Lag 1	Lag 2	Lag 3
Ln DAMH pc (2017 US\$)			
Ln DALYs for Mental Health pc			
L1	-1.999		
	(1.250)		
L2		-1.942	
		(1.258)	
L3			-1.869
			(1.262)
DALYs for Other Health (%) ^a			
L1	-0.153		
	0.114		
L2		-0.160	
		0.113	
L3			-0.167
			0.115
Ln GDP pc			
L1	-1.242***		
	(0.341)		
L2		-1.236***	
		(0.340)	
L3			-1.241***
			(0.352)
Trade (%GDP)			
L1	0.005		
	(0.005)		
L2		0.004	
		(0.005)	
L3			0.004
			(0.005)
Government Effectiveness			
L1	0.547		
	(0.427)		
L2		0.505	
		(0.435)	
L3			0.484
			(0.449)
GHE (%GDP)			
L1	0.474***		
	(0.148)		
L2		0.480***	
		(0.152)	
L3			0.472***
			(0.148)
Conflicts (MR per 100,000)			
L1	0.009***		
	(0.003)		
L2		0.007**	
		(0.003)	
L3			0.009***
			(0.003)
Natural Disasters (MR per 100,000)			
L1	0.0015***		
	(0.0005)		
L2		0.0017***	
		(0.0006)	
L3			0.0008
			(0.0006)
Disease Outbreaks (MR per 100,000)			
L1	-0.004		
	(0.003)		
L2		-0.004	

	Pooled OLS		
	Lag 1	Lag 2	Lag 3
		(0.003)	
L3			-0.004
			(0.003)
DAMH selection			
L1	0.852***		
	(0.306)		
L2		1.488***	
		(0.311)	
L3			0.934***
			(0.292)
Year Fixed Effects	Yes	Yes	Yes
Constant	-138.82	-129.44	-123.64
	(171.65)	(172.44)	(176.44)
F statistic	13.71	13.20	11.76
p-value	1.36e-23	1.39e-22	3.74e-20
N observations	1481	1426	1334
N countries	113	113	111

Regression coefficients with clustered standard errors in parentheses, imputed dataset (M=20). Significance: *P<0.10, **P<0.05, ***P<0.01. ^aCombined marginal effect for L2 DALYs for Other Health (%) and L2 DALYs for Other Health (%) Squared. DALYs, disability-adjusted life years; DAMH, development assistance for mental health; GDP, gross domestic product; GHE, government health expenditure; Ln, logarithm; MR, mortality rate; pc, per capita; US\$, United States dollars.

Robustness checks excluding outliers

Table 8.3. Factors associated with selection of DAMH recipients between 2000 and 2015, excluding outliers

	Pooled Probit	
	Trimmed ^b	Winsorised ^c
DAMH selection		
L2 Ln DALYs for Mental Health pc	-0.012 (0.070)	-0.007 (0.071)
L2 DALYs for Other Health (%) ^a	-0.009* 0.006	-0.009 0.006
L2 Ln GDP pc	-0.057*** (0.020)	-0.060*** (0.019)
L2 Trade (%GDP)	-0.0005** (0.0002)	-0.0005** (0.0002)
L2 Government Effectiveness	0.0007 (0.0181)	0.0016 (0.0181)
L2 GHE (%GDP)	-0.001 (0.008)	0.002 (0.007)
L1 Conflicts	-0.035 (0.058)	-0.034 (0.058)
L2 Conflicts	0.059 (0.055)	0.058 (0.055)
L1 Natural Disasters	0.048 (0.101)	0.049 (0.101)
L2 Natural Disasters	.	.
L1 Disease Outbreaks	0.097*** (0.033)	0.097*** (0.033)
L2 DAMH selection	0.535*** (0.047)	0.533*** (0.047)
Year Fixed Effects	Yes	Yes
Constant	170.42*** (54.25)	166.71*** (54.25)
F statistic	48.56	51.07
p-value	1.73e-240	8.23e-254
N observations	1798	1818
N countries	140	140

Average marginal effects with clustered standard errors in parentheses, imputed dataset (M=20). Significance:

*P<0.10, **P<0.05, ***P<0.01. (.) Omitted due to collinearity. ^aCombined marginal effect for L2 DALYs for Other Health (%) and L2 DALYs for Other Health (%) Squared. ^bFirst and 99th percentiles of the variable DAMH per capita were excluded. ^cExtreme values were replaced with extreme percentiles of the variable DAMH per capita, meaning values smaller than the first percentile were replaced with the first percentile value and values bigger than the 99th percentile with the 99th percentile value. DALYs, disability-adjusted life years; DAMH, development assistance for mental health; GDP, gross domestic product; GHE, government health expenditure; Ln, logarithm; pc, per capita.

Table 8.4. Factors associated with DAMH allocation between 2000 and 2015, excluding outliers

	Pooled OLS	
	Trimmed ^b	Winsorised ^c
Ln DAMH pc (2017 US\$)		
L2 Ln DALYs for Mental Health pc	-2.021*	-1.917
	(1.193)	(1.250)
L2 DALYs for Other Health (%) ^a	-0.153	-0.152
	0.110	0.112
L2 Ln GDP pc	-1.111***	-1.238***
	(0.326)	(0.338)
L2 Trade (%GDP)	0.004	0.004
	(0.004)	(0.005)
L2 Government Effectiveness	0.328	0.550
	(0.400)	(0.433)
L2 GHE (%GDP)	0.396***	0.485***
	(0.133)	(0.151)
L1 Conflicts (MR per 100,000)	0.008***	0.009***
	(0.002)	(0.003)
L2 Conflicts (MR per 100,000)	0.005***	0.005***
	(0.002)	(0.002)
L1 Natural Disasters (MR per 100,000)	0.0009***	0.0010***
	(0.0002)	(0.0003)
L2 Natural Disasters (MR per 100,000)	0.002***	0.002***
	(0.001)	(0.001)
L1 Disease Outbreaks (MR per 100,000)	-0.004	-0.004
	(0.003)	(0.003)
L2 DAMH selection	1.540***	1.491***
	(0.305)	(0.311)
Year Fixed Effects	Yes	Yes
Constant	-106.73	-141.25
	(158.27)	(168.19)
F statistic	16.70	15.45
p-value	1.94e-27	4.80e-26
N observations	1396	1426
N countries	113	113

Regression coefficients with clustered standard errors in parentheses, imputed dataset (M=20). Significance: *P<0.10, **P<0.05, ***P<0.01. ^aCombined marginal effect for L2 DALYs for Other Health (%) and L2 DALYs for Other Health (%) Squared. ^bFirst and 99th percentiles of the variable DAMH per capita were excluded. ^cExtreme values were replaced with extreme percentiles of the variable DAMH per capita, meaning values smaller than the first percentile were replaced with the first percentile value and values bigger than the 99th percentile with the 99th percentile value. DALYs, disability-adjusted life years; DAMH, development assistance for mental health; GDP, gross domestic product; GHE, government health expenditure; Ln, logarithm; MR, mortality rate; pc, per capita; US\$, United States dollars.

Robustness checks using original data

Table 8.5. Factors associated with selection of DAMH recipients between 2000 and 2015, original dataset

	Pooled Probit	
	Full data	Complete cases
DAMH selection		
L2 Ln DALYs for Mental Health pc	-0.014 (0.063)	-0.012 (0.063)
L2 DALYs for Other Health (%) ^a	-0.014*** 0.005	-0.014*** 0.005
L2 Ln GDP pc	-0.050*** (0.017)	-0.052*** (0.017)
L2 Trade (%GDP)	-0.0004* (0.0002)	-0.0004* (0.0002)
L2 Government Effectiveness	-0.014 (0.016)	-0.013 (0.017)
L2 GHE (%GDP)	0.002 (0.006)	0.002 (0.006)
L1 Conflicts	-0.066 (0.059)	-0.067 (0.059)
L2 Conflicts	0.103** -0.047	0.103** -0.047
L1 Natural Disasters	0.017 (0.098)	0.016 (0.098)
L2 Natural Disasters	.	.
L1 Disease Outbreaks	0.101*** (0.029)	0.103*** (0.028)
L2 DAMH selection	0.540*** -0.051	0.537*** (0.051)
Year Fixed Effects	Yes	Yes
Constant	132.61*** (49.57)	130.74*** (49.35)
Chi-Squared statistic	1104.74	1071.61
p-value	4.80e-218	5.36e-211
Pseudo R-Squared	0.525	0.525
N observations	1603	1595
N countries	139	139

Average marginal effects with clustered standard errors in parentheses, original dataset. Significance: *P<0.10, **P<0.05, ***P<0.01. (.) Omitted due to collinearity. ^aCombined marginal effect for L2 DALYs for Other Health (%) and L2 DALYs for Other Health (%) Squared. DALYs, disability-adjusted life years; DAMH, development assistance for mental health; GDP, gross domestic product; GHE, government health expenditure; Ln, logarithm; pc, per capita.

Table 8.6. Factors associated with DAMH allocation between 2000 and 2015, original dataset

	Pooled OLS	
	Full data	Complete cases
Ln DAMH pc (2017 US\$)		
L2 Ln DALYs for Mental Health pc	-1.807 (1.128)	-1.822 (1.128)
L2 DALYs for Other Health (%) ^a	-0.085 0.108	-0.087 0.108
L2 Ln GDP pc	-1.222*** (0.330)	-1.200*** (0.327)
L2 Trade (%GDP)	0.004 (0.004)	0.004 (0.004)
L2 Government Effectiveness	0.465 (0.404)	0.431 (0.400)
L2 GHE (%GDP)	0.504*** (0.150)	0.500*** (0.151)
L1 Conflicts (MR per 100,000)	0.009*** (0.003)	0.009*** (0.003)
L2 Conflicts (MR per 100,000)	0.006*** (0.002)	0.005*** (0.002)
L1 Natural Disasters (MR per 100,000)	0.0009*** (0.0003)	0.0009*** (0.0003)
L2 Natural Disasters (MR per 100,000)	0.001** (0.001)	0.001** (0.001)
L1 Disease Outbreaks (MR per 100,000)	-0.005 (0.003)	-0.005 (0.003)
L2 DAMH selection	0.932*** (0.345)	0.911*** (0.346)
Year Fixed Effects	Yes	Yes
Constant	-56.63 (163.40)	-61.71 (162.87)
F statistic	15.02	14.97
p-value	2.80e-25	3.18e-25
Adjusted R-Squared	0.204	0.203
N observations	1305	1300
N countries	113	113

Regression coefficients with clustered standard errors in parentheses, original dataset. Significance: *P< 0.10, **P<0.05, ***P<0.01. ^aCombined marginal effect for L2 DALYs for Other Health (%) and L2 DALYs for Other Health (%) Squared. DALYs, disability-adjusted life years; DAMH, development assistance for mental health; GDP, gross domestic product; GHE, government health expenditure; Ln, logarithm; MR, mortality rate; pc, per capita; US\$, United States dollars.