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Abstract

To determine whether health ministers engage in regional favoritism, we hand-collect geocoded data on the birth regions of cabinet members in 45 African countries between 2001 and 2014. We combine this data with information on World Bank health aid projects and retrospective data on neonatal and infant mortality from Demographic and Health Surveys. We provide two pieces of evidence suggesting health ministers engage in favoritism. First, using administrative region and country-year fixed effects, we show that administrative regions receive more health aid when a region-born health minister is in office. Second, comparing siblings, we find that neonates (and possibly infants) born in the same region as the health minister are less likely to die. These two results imply that not only do country leaders exercise their power to influence the allocation of funds (as shown in previous literature), but so do cabinet members. We do not find any descriptive evidence that the lower neonatal (and possibly infant) mortality in health ministers' birth regions can be explained by the additional health aid allocated to these regions.

Keywords

Foreign aid, favoritism, political capture, patronage, clientelism, corruption, aid allocation, Africa, World Bank, infant mortality, child health, georeferenced data, spatial analysis

JEL Classification

D73, F35, I10, J13, I18 , R11

1 Introduction

A widely held view on African politics is the "big man theory," according to which country leaders are relatively unconstrained in exercising their power. This view is supported by previous work showing that country leaders in Africa and elsewhere distort the allocation of public funds to favor their own birth regions and ethnic groups, which are therefore temporarily better off (e.g., Bommer, Dreher and Perez-Alvarez, 2018; Burgess, Jedwab, Miguel, Morjaria and Padró i Miquel, 2015; De Luca, Hodler, Raschky and Valsecchi 2018; Dickens, 2018; Dreher et al., 2019; Franck and Rainer, 2012; Hodler and Raschky, 2014; Kramon and Posner, 2016). At the same time, Francois, Rainer and Trebbi (2015) provide evidence that ethnic groups are represented in the cabinet according to their population share, suggesting that power is more widely distributed than often assumed. We contribute to this debate by looking at whether cabinet positions are only of a representative nature, or if they translate into actual power. We do so by testing if cabinet members can engage in favoritism targeted at their birth region. To our knowledge, so far only Kramon and Posner (2016) have investigated demonstrations of favoritism by cabinet members. They find that co-ethnics of the current education minister in Kenya acquire more schooling. We go beyond the study of one particular country and look at whether cabinet members from almost all African countries engage in favoritism.

We focus on favoritism related to health. First, we study the subnational allocation of World Bank health aid and show that more health aid is allocated to health ministers' birth regions.[1] Second, we investigate the effect on neonatal and infant mortality, i.e., the risk of a child dying before reaching the age of one month/year (World Health Organization, 2019a; World Health Organization, 2019b). We provide evidence that neonatal (and possibly also infant) mortality is lower in regions where current health ministers were born. Although recent work documents that development aid can reduce infant mortality (Kotsadam, Østby, Rustad, Tollefsen and Urdal, 2018), we do not find any descriptive evidence that more health aid being disbursed to ministerial birth regions is associated with a decrease in neonatal (and infant) mortality.

Our focus on health comes with several advantages. Health-related aid flows constitute a sizeable share of World Bank aid projects (around 30%), which leaves us with a suitable number of projects for meaningful statistical analysis. Additionally, because there is a limited number of cabinet members whose designation is closely linked to health, it is straightforward to assign health projects to ministers who might be in charge. Hence, we can investigate whether being in charge of the relevant portfolio (in this case health) increases the likelihood that a cabinet member is able to influence the allocation of funds. Moreover, subnational health data is available for various African countries in different years (provided by Demographic and Health Surveys). Hence, we do not only study the allocation of health-related funds, but also directly investigate health outcomes. We focus on neonatal and infant mortality, which are often used as a proxy for population health outcomes in settings where health data is scarce. The availability of health outcome data also allows us to shed some light on the descriptive association between health aid allocated to ministerial birth regions and health outcomes.

To investigate favoritism by ministers, we compile a new data set on cabinet members in 45 African

[1] In defining a politician's constituency in terms of their birth region, we follow Hodler and Raschky (2014).

countries between 2001 and 2014. We cover all African countries, except for those with less than 1 million inhabitants and those that did not receive any World Bank aid during the sample period. We extract a list of all cabinet members and their designations (e.g., health minister, finance minister) from the CIA World Factbook. Then, we hand-collect birthplace information for all cabinet members, relying mostly on online sources such as newspaper articles. We find birthplace information for 74% of all cabinet members and for 76% of health ministers. To our knowledge, we are the first to offer data on the birthplaces of African cabinet members with almost continent-wide coverage. We match the collected birthplace information to administrative boundaries on the first subnational level (ADM1) according to the GADM database of Global Administrative Areas.[2] Based on this data, we build a panel data set of ADM1 regions, indicating which area is the birth region of which cabinet member in a given year. We combine our novel data with geocoded data on health-related flows from the World Bank, which is provided by AidData. The flows captured in this data set come from the International Development Association (IDA) and International Bank for Reconstruction and Development (IBRD) lending lines. AidData provides the amounts committed in current USD and identifies the targeted sector (health, education, infrastructure, etc.). We can thus determine whether and how much health-related aid flows to an ADM1 area in a given year.[3]

In our main specification, we use this panel data set with ADM1 regions as the units of observation. We look at whether birth regions of health ministers receive more health aid. To control for region-specific time-invariant characteristics, such as a region's size, historical legacy, or natural resource endowment, we include ADM1 fixed effects. We also include country-year fixed effects to account for shocks and trends affecting the whole country (such as economic downturns). As many regions do not receive any health aid in a given year, the dependent variable takes many zeroes. We thus rely on Poisson Pseudo-Maximum Likelihood (PPML) estimation to model the relationship between health-related aid flows and regional representation in the cabinet. Our estimates suggest that regions receive around twice as much health aid (but do not receive more non-health aid) when the current health minister is from that region, compared to when they are not. We find limited evidence that health ministers can influence whether any health aid is allocated to their region (using a linear probability model with the same fixed effects). That is, health ministers seem to be able to influence the amount of health aid disbursed to their region, but have a limited effect on the extensive margin. Our estimates for health ministers remain similar when including indicators for regions where the country leader, a key minister (such as economics and finance ministers), or any other cabinet member was born. While we also find evidence that health aid increases in regions from which a key minister originates, the effect is much smaller than for health ministers. We do not find any evidence that country leaders are able to divert World Bank health aid to their birth region – in line with Dreher et al. (2019) – nor that cabinet members other than health and key ministers can divert health aid to their birth region. Hence, health aid allocation seems to favor ministers with health-related designations and does not seem to reflect the general political influence that may come with cabinet positions. Our results are consistent across various robustness tests.

[2]ADM1 regions correspond to provinces in many countries.

[3]For a brief overview of the allocation of World Bank aid and potential shortcomings, see Appendix A.

We believe that a causal interpretation of our findings is warranted. First, given our short observation period, there is likely little room for confounding characteristics of regions (such as the general propensity for it to be the home of cabinet members or population densities) to change fundamentally – lending credibility to our fixed effects approach. Second, we do not find any effects on the allocation of health aid in the two years before the region sends a health minister (which would be the case if receiving health aid increases a region's propensity to send a cabinet member).

In addition to the ADM1-level panel data set, we construct a similar panel data set where individual cabinet members are the units of observation. This data set allows us to observe a given individual in all the years they hold a cabinet position. Thus, we can compare the allocation of health aid to a cabinet member's birth region when they are the health minister to when they hold another designation. We find that the same cabinet member attracts more health aid to their birth region as a health minister than in other cabinet positions. This finding suggests the power health ministers yield over health aid allocation is tied to holding a health-related designation and not to particular kinds of individuals selecting into the health ministry.

To study the effect (health) ministers have on neonatal and infant mortality in their birth regions, we use data from the Demographic and Health Surveys (DHS). These surveys contain retrospective information on the health of the interviewed women and their children. Hence, we can construct a data set where a mother is the panel unit and each of her children is one unit of observation. We build an indicator capturing whether a child died within its first month (neonatal mortality) or first year of life (infant mortality). To account for time-invariant mother-specific characteristics, we include mother fixed effects, thus effectively comparing siblings (following Kotsadam et al., 2018 and Bruederle and Hodler, 2019). Our results indicate that a child born in the health minister's birth region is 0.64 percentage points less likely to die within its first month of life than a sibling born in a year when the health minister originates from another region. Similarly, the coefficients for infant mortality are negative, but statistically insignificant. In sum, it seems that health ministers can impact health outcomes.

To examine – descriptively – whether health ministers' birth regions experience lower neonatal mortality rates due to higher health aid, we add health aid as a control variable when regressing mortality on the health minister indicator. Hence, we effectively compare ministerial birth regions and other regions with similar amounts of health aid. The health minister indicator coefficients remain largely unchanged when including this additional control variable, suggesting that health aid may not be the channel through which neonatal and infant mortality is reduced in health ministers' birth regions. Another possible explanation is that health ministers might divert (health-related) public funds other than aid to their birth region. Our results remain similar for different functional forms of the relationship between mortality and health aid.

Taken together, we find evidence that health ministers are capable of engaging in health-related favoritism: health aid commitments in their constituencies are higher, while infant mortality is lower. However, we do not find any evidence the lower levels of infant mortality are driven by increased health aid. Given that we find higher aid disbursements and lower neonatal mortality in health ministers' birth regions, but no association between the two, our results may point to a distortionary allocation of funds to ministerial birth regions without regard for other, potentially more disadvantaged regions. However, our results may also imply that World Bank health aid does not reduce neonatal and infant mortality, and that the negative effect of development aid on infant mortality found by Kotsadam et al. (2018) in Nigeria does not extend to World Bank health aid. Hence, while our findings are consistent with distortionary behavior by ministers, we cannot exclude other explanations.

Our work contributes to various strands of literature. By showing that not only does the country leader engage in favoritism, but so do cabinet members, our findings support Francois et al. (2015): power may be shared more evenly in Africa than the "big man theory" predicts. Specifically, we add to this debate by highlighting that such power sharing is more than just representative but translates into policy outcomes.

Moreover, we contribute to the broader literature on ethnic and regional favoritism. Concerning aid allocation, Bommer et al. (2018) investigate the allocation of humanitarian aid from the US in the case of disasters. They find evidence that birth regions of the head of state receive more humanitarian aid, and regions populated by powerful ethnic groups are also more likely to receive aid. Dreher et al. (2019) show that more aid from China flows to the birth regions of the current country leader, but they do not find a similar effect for World Bank aid.

Regarding other policy outcomes, Hodler and Raschky (2014) uncover that nighttime light is more intense in regions when they are the birth region of the current country leader, providing evidence for regional favoritism. De Luca et al. (2018) find the same pattern when looking at the ethnic homelands of country leaders. Accounting for the linguistic similarity between ethnic groups and the current leader, Dickens (2018) finds that country leaders not only engage in favoritism towards their coethnics, but also to non-coethnic, but linguistically similar groups. Burgess et al. (2015) show that districts which are predominantly inhabited by the ethnic kin of the current president receive more expenditure on road building during periods of higher autocracy. Kramon and Posner (2016) reveal that co-ethnics of the current president and education minister in Kenya acquire more schooling. Franck and Rainer (2012) report higher primary school attendance and lower infant mortality among co-ethnics of the country leader in 18 African countries. We complement the broader literature on ethnic and regional favoritism by considering cabinet members with an almost continent-wide coverage (extending the study of infant mortality to 31 countries).

Lastly, we add to the literature on the determinants of aid allocation, focusing on cross-country allocation as well as on within-country allocation. In their prominent country-level contribution, Alesina and Dollar (2000) find that donors' (geo-)political considerations predict foreign aid flows. Similarly, Kuziemko and Werker (2006) report that US aid flows to recipients increase when they are holding a non-permanent seat in the UN Security Council. Dreher, Sturm and Vreeland (2009) find evidence that the same mechanism holds true for the World Bank: temporary members of the UN Security Council receive more World Bank projects. Faye and Niehaus (2012) present evidence that recipient administrations closely aligned with a donor receive more aid during election years, while the least aligned recipients receive less. Kilby (2009) goes in a similar direction, but focuses on US influence via the World Bank: his findings suggest that the conditionality of World Bank structural adjustment loan disbursements is less stringent for countries politically aligned with the US.

More recent research has focused primarily on the subnational allocation of aid. Nunnenkamp, Oehler and Sosa Andrés (2017) analyze aid allocation in India and conclude that evidence for needs-based allocation is weak. Instead, they find that the World Bank targets districts where foreign direct investors may profit from infrastructure-related projects. Briggs (2014) and Jablonski (2014) observe strong political influence on the location of aid projects in Kenya. Francken, Minten and Swinnen (2012) show that political factors have more influence over government aid than they do over aid from agencies. The aforementioned studies by Bommer et al. (2018) and Dreher et al. (2019) provide evidence that at least some forms of foreign aid are more likely to flow to country leaders' birth regions. In line with these contributions, our results suggest that political motives might influence the allocation of (World Bank) aid.

The remainder of the paper is structured as follows. In the next section, we describe the data and the data collection process. In Section 3, we detail the estimation strategy, followed by a discussion of the results in Section 4. We conclude in Section 5.

2 Data and Data Processing

We build a data set on the birth places of cabinet members in 45 African countries between 2001 and 2014. All African countries with more than 1 million inhabitants which received World Bank aid at least once over the observation period are included.[4] We combine the birthplace data with georeferenced data on World Bank aid projects from AidData (2017) and construct two different data sets: a panel data set with ADM1 regions as units of observation and a panel data set with individual ministers as units of observation. Finally, we use the individual-level data provided by the Demographic and Health Surveys (ICF, 2001-2014) to create a panel data set with children as the units of observation.

In the following, we present our data in more detail. The beginning of our observation period is given by the CIA World Factbook (2018), which has been providing lists of all cabinet members and their designations since 2001, while it ends with the last available data on World Bank projects from 2014.

2.1 Birth places of cabinet members

Data on cabinet members at a given point in time is taken from the World Factbook. For almost all countries around the world, the World Factbook provides monthly lists in pdf format of all cabinet members, indicating their name and their designation, since 2001. Based on this data, we build a year-level panel of all cabinet members and their designations. For a given year, we only include cabinet members if they held office for six months or more. To construct the panel, we algorithmically parse the monthly World Factbook files. We then employ string-matching algorithms and do some manual cleaning to identify duplicate names.[5] We are left with 5,786 unique individuals. Next – given that the exact spelling of the designations varies across, and even within, countries over time – we apply a mix of automated keyword searches and manual checks

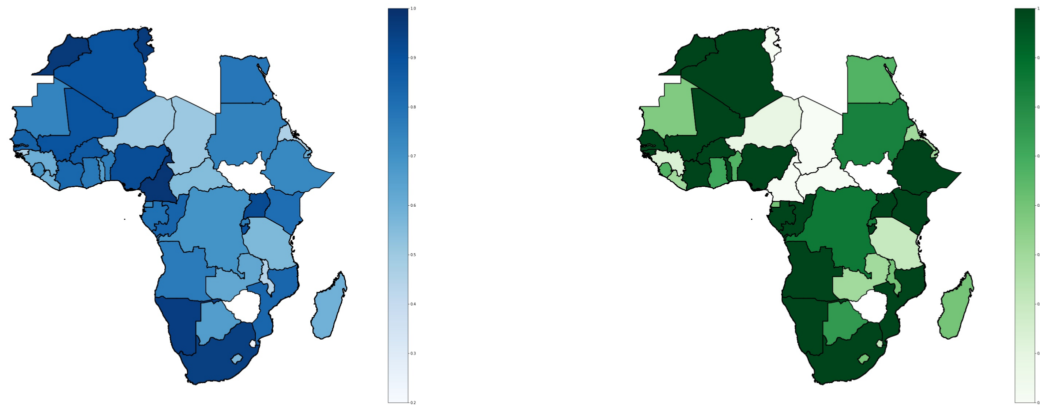
[4]Four countries with more than 1 million inhabitants never received any aid from the World Bank between 2001 and 2014, namely Libya, Somalia, South Sudan and Zimbabwe. Appendix B lists all countries in our sample.

[5]Inconsistencies in the spelling of an individual's name over time appear very often, to the extent that some individuals appear with a handful of different spellings.

to map the cabinet members' designation string variables from the World Factbook (which takes values like "minister of health", "min. of health", "health min.", "min for health", etc.) to a set of designation indicators (like *health*, *economics*, *trade*, etc.).[6] Often, cabinet members are mapped to more than one indicator in a given year (this applies to 35% of all cabinet member-years). The reasons for this "double-tagging" are twofold. First, as our set of designation indicators is rather detailed, comprising around 80 designation indicators, many usual designations (like *Minister of Economics and Development*) map to more than one indicator (in this case *economics* and *development*). Second, cabinet members sometimes hold more than one position at the same time. As an example, the Malawian cabinet member Khumbo Hastings Kachali is coded as both Vice-President and Health Minister in 2012-2013. When assigning the cabinet members to our set of indicators, we additionally classify their ministerial status, whereby we distinguish between ministers in the narrow sense (*minister*) and other cabinet members, like vice-ministers (*other*). To sum up, we tag each designation according to two dimensions: first, subject matter (*health*, *economics*, etc.) and, second, ministerial status (*minister* and *other*). Our example, Khumbo Hastings Kachali, is hence tagged as *health_minister* and *president_other* in 2012-2013. Note that the relationship between the *minister* and *other* extension is not necessarily ordinal: for instance, depending on the context, a minister of state may be more or less powerful than a minister. For this reason, we do not exploit the distinction between *minister* and *other* in our main analysis (but in robustness checks). Given that it is not obvious from the World Factbook which cabinet position reflects the head of state in a given country and year, we also use the Archigos database by Goemans, Gleditsch and Chiozza (2009) to introduce an indicator for the country's effective leader. For our sample, a country's president is its head of state in most cases: over 90% of the cabinet member-year observations which we tag as president based on the World Factbook are tagged as head of state based on Archigos.

We manually search for birthplace information for each cabinet member. To this end, we rely on a variety of (especially online) resources in various languages. A frequent source is newspaper articles. The vast majority of our sources are in English, French and Arabic. To assure the quality of the data collection process, the information gathered by one data collector is reviewed by at least one other collector. In the interest of coverage, we restrict our precision to the first subnational administrative level (ADM1) using the GADM database of Global Administrative Areas (2018). For many ministers, birthplace information is challenging to find. We are able to cover the birthplaces of 74% of all cabinet members (4,265 out of 5,786). Concerning health ministers, the coverage is 76% (159 out of 209). The coverage rates for all countries (both for cabinet members in general and for health ministers specifically) are shown in Figure 1.

[6] For example, to tag ministers as health ministers, we first filter out all designations containing the string "health" and then confirm for each match it is a health minister. Our procedure is designed such that each unique designation meets the human eye at least once. This is to ensure that designations which would not be filtered out by the exact keyword search could be assigned manually. For example, if "minister of health" was once misspelled as "minister of healt", this should not remain unnoticed.



(a) All cabinet members (b) Health ministers

Notes: Share of all cabinet members in Subfigure (a) and share of health ministers in Subfigure (b) of whom we have information on their birth region (ADM1 region). Darker shades indicate a higher share. Countries not in our sample are left white.

Figure 1: Share of birthplaces identified

2.2 World Bank health project data

To construct variables capturing the allocation of health aid on the ADM1 level, we use georeferenced data on World Bank projects from AidData. This data includes projects from the International Development Association (IDA) and International Bank for Reconstruction and Development (IBRD) product lines. Each World Bank aid project belongs to one or several sectors, such as health, education, agriculture, etc, which allows identifying health projects.[7] On average, a country receives USD 26 million of health-related flows per year.[8] For the period spanning 2001 to 2014, 396 health projects are allocated to the 45 countries we study. 231 (or 58%) of these projects come with geoinformation which is precise enough to match them to ADM1 regions. The 231 matched projects are dispersed over 2,496 project locations (importantly, one project can be assigned to different project locations). Apart from the geoinformation, AidData also provides the committed amount in current USD, the targeted sector and the year when the project was approved. For all the 231 matched projects (or 2,496 project locations), information on the amount committed to the project is available. As we do not know the amount committed to each project location, we assume that the amount is evenly distributed across project locations and divide the project amount by the number of project locations. Some projects extend over several years. We consider the year in which the project is approved as we suspect that this is when the cabinet members can exercise their power.

[7] AidData also provides geocoded data on Chinese aid. However, as there are too few health projects to conduct meaningful analyses (e.g., results are very sensitive to the addition of a lag), we restrict our analyses to World Bank aid.

[8] Considering all types of flows, the figure amounts to USD 145 million per year.

2.3 Region panel data set

Based on the information on the cabinet members' birth regions and the location of health aid projects, we build a panel data set with ADM1 regions as our unit of observation. Our sample comprises 727 (from 2001 to 2011) and 717 (from 2012 to 2014) ADM1 regions[9], resulting in a panel of 10,148 observations.[10]

Combining the information on the ministers' designations and their birthplaces, we build an indicator variable for whether a health minister in power in year t was born in region i in country c, $healthmin_{ict}$. Additionally, we construct similar indicator variables for the birthplaces of the head of state ($leader_{ict}$), key ministers ($keymin_{ict}$) and other cabinet members ($cabinet_{ict}$). Key ministers refer to top cabinet positions along the lines of Francois et al. (2015) and include the (vice-) president, the (vice-) prime minister as well as the ministers for economics, finance, development, industry/trade, agriculture, justice and foreign affairs. The detailed, two-dimensional tagging of the cabinet members' designations, as described in Section 2.1, allows us to easily vary the exact definitions of $healthmin_{ict}$, $keymin_{ict}$ and $cabinet_{ict}$. There are several designation indicators that are related to health: $health$, $public\ health$, $HIV/AIDS$, $sanitation$, $population$. In most analyses, $healthmin_{ict}$ refers only to cabinet members with the cabinet indicator $health$, excluding $public\ health$, $HIV/AIDS$, $sanitation$ and $population$. In robustness checks, we also include ministers with these latter cabinet indicators. Furthermore, we include all cabinet positions, also e.g., vice-ministers, in our main analyses. In robustness tests, we only include ministers in the strict sense, excluding vice-ministers, etc.

Based on AidData, we construct two variables: an indicator variable of whether a region i receives any health aid in a given year t ($healthaidD_{ict}$, with D for dummy), and the aggregated amount of all projects assigned to i in t ($healthaid_{ict}$). 201 out of 630 country-years in our sample receive some health-related aid. 420 out of 727 regions receive some health-related aid at least once in our sample period.

Table 1, Panel A, presents summary statistics for the regional panel data set. On average, a region is the birth region of the respective cabinet member in a given year with the following probability: 4% for health ministers, 5.5% for leaders, 33% for key ministers and 64% for any cabinet member. On average, a region receives around USD 2 millon of health aid in a given year and the likelihood of a region receiving any such flows is around 11%.

2.4 Minister panel data set

Additionally, we construct a panel data set where individuals (who are in the cabinet for at least two years) are the units of observation, to compare the same cabinet member in different positions. Here, the independent variable of interest is $healthmin_{mct}$, indicating whether a cabinet member m serves as a health minister at time t. $healthmin_{mct}$ retains a geography-related interpretation, though, given that we match health aid to the ministers based on their birth region (resulting in $healthaidD_{mct}$ and $healthaid_{mct}$). The minister panel data set is based on 3,119 individuals who are cabinet members for more than one year and for whom birthplace information is available. In total, it comprises 15,194 minister-years. The mode of the time in office is 2

[9] From 2001 to 2011, the ADM1 regions of what is now South Sudan are included as ADM1 regions of Sudan.

[10] (727 areas $\times$11 years) + (717 areas $\times$3 years) $= 10,148$ observations.

years (24% of all individuals). On average, an individual is in office for almost 5 years (4.9 years). 413 cabinet members are health ministers. They stay in this ministry for, on average, 4.3 years. 70% of ministers are in office for 5 years or less. There are 77 ministers (2%) who hold office for the entire observation period of 14 years.[11] 6% of health ministers are in the cabinet before becoming health minister and 7% stay in the cabinet after leaving the health ministry.

Table 1, Panel B, provides summary statistics for the minister panel. On average, 2.7% of cabinet members are health ministers in a given year, 3.5% are the country leader and 28% a key minister. On average, cabinet members' birth regions are more likely to receive some health aid than the regions in the full sample (the region panel data set) in a given year.

2.5 Birth panel data set

Finally, we combine the region-level panel data set with individual-level data from the Demographic and Health Surveys (DHS), to build a panel data set with children as the units of observation. Due to the availability of the DHS, our sample for this analysis consists of 31 countries coming from 45 surveys.[12] The DHS provides information on an interviewed mother's children. For children that are no longer alive, the date of death is indicated. Hence, we can construct indicator variables for whether a child k of mother p in region i in year t died before it was one month old ($neonatal_{kpict}$) and whether it died before it was one year old ($infant_{kpict}$). To compare siblings who were born while the (health) minister originated from their region to those born in other years, we only keep mothers with at least two live births. Furthermore, because we know when a mother moved to her current place of residence, we only keep the children born after this date (to avoid potential selection of mothers to certain regions). There are 297,971 children from 122,939 mothers for which we have information on neonatal mortality and 252,138 children from 103,677 mothers for which we have information on infant mortality. For ease of interpretation, we scale the indicator variables for mortality by 100. Hence, $neonatal_{kpict}$ ($infant_{kpict}$) is interpreted as the child's probability of dying in the first month (year) in percent. Table 1, Panel C, shows that a child dies within its first month with a probability of 3.3% and within its first year with a probability of 6.5%.

Table 1, Panel C, also provides summary statistics for the same cabinet and health aid variables as Panel A for the birth panel data set. On average, the regions in this sample are somewhat more likely to be the birth region of cabinet members and to receive some health aid in a given year than in the full sample.

We include the following control variables in the specifications investigating mortality rates: the mother's age at birth and its square, the gender of the child and indicator variables for whether the birth was the mother's first, second, etc. Moreover, we use a multiple birth indicator (twins, triplets, etc.). In case of multiple births, all children are unique observations. Finally, we include indicator variables for whether the previous birth took place in the last 12 months, in the last 13 to 24 months, or in the last 25 to 36 months.

[11] The countries with the most long-term cabinet members are Namibia (10 ministers), Uganda (9), Cameroon (9), Republic of Congo (6) and Eritrea (5).

[12] See Appendix B for a list of countries with information provided by the DHS.

Table 1: Summary statistics

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
Panel A: Region panel data set					
$healthmin_{ict}$	10,148	0.042	0.201	0	1
$leader_{ict}$	10,148	0.055	0.227	0	1
$keymin_{ict}$	10,148	0.331	0.470	0	1
$cabinet_{ict}$	10,148	0.642	0.480	0	1
$healthaidD_{ict}$	10,148	0.108	0.310	0	1
$healthaid_{ict}$ (in billion USD)	10,148	0.002	0.012	0.000	0.420
Panel B: Minister panel data set					
$healthmin_{mct}$	15,194	0.027	0.163	0	1
$leader_{mct}$	15,194	0.036	0.187	0	1
$keymin_{mct}$	15,194	0.284	0.451	0	1
$healthaidD_{mct}$	15,194	0.133	0.340	0	1
$healthaid_{mct}$ (in billion USD)	15,194	0.002	0.013	0.000	0.420
Panel C: Birth panel data set					
$healthmin_{ict}$	297,971	0.052	0.221	0	1
$leader_{ict}$	297,971	0.066	0.248	0	1
$keymin_{ict}$	297,971	0.353	0.478	0	1
$cabinet_{ict}$	297,971	0.685	0.464	0	1
$healthaidD_{ict}$	297,971	0.164	0.371	0	1
$healthaid_{ict}$ (in billion USD)	297,971	0.002	0.013	0.000	0.297
$neonatal_{kpict}$ (in percent)	297,971	3.296	17.853	0	100
$infant_{kpict}$ (in percent)	252,138	6.508	24.667	0	100

Notes: Panels A, B and C include information on the following panel data sets: Region panel data set with ADM1 regions as unit of observation; minister panel data set with ministers as unit of observation; birth panel data set with children as unit of observations. $healthmin_{ict}$, $leader_{ict}$, $keymin_{ict}$, $cabinet_{ict}$ are indicator variables whether the health minister, the country leader, a key minister, and a cabinet member were born in region i. $healthmin_{mct}$, $leader_{mct}$, $keymin_{mct}$ are indicator variables whether minister m is the health minister, leader or a key minister. Health minister includes only health ministers in a narrow sense, excluding public health ministers and other health-related positions. Leader includes the effective head of state. Key minister includes key ministers in the sense of Francois et al. (2015), excluding the head of state. All ministers in the broad sense are included, e.g., also vice ministers. $healthaidD_{ict}$ ($healthaidD_{mct}$) is an indicator variable whether any health aid is allocated to region i (to the birth region of minister m). $healthaid_{ict}$ ($healthaid_{mct}$) is the amount of health aid allocated to region i (to the birth region of minister m) in billion USD. $neonatal_{kpict}$ ($infant_{kpict}$) is the probability that a child dies before reaching the age of one month (one year) in percent.

3 Econometric Framework

3.1 Aid allocation to health ministers' birth regions - ADM1-level analysis

We suppose a log-linear relationship between the amount of health aid allocated to an ADM1 region, $healthaid_{ict}$, and the indicator for a health minister's birth region, $healthmin_{ict}$:

$$ln(healthaid_{ict}) = \alpha_i + \beta_{ct} + \gamma\, healthmin_{ict} + \vartheta_{ict}$$

where α_i represents region fixed effects and β_{ct} country-year fixed effects. The coefficient of interest is γ, the effect of a region i being the health minister's birth region. In our main specification, we control for whether the head of state, $leader_{ict}$, a key minister (excluding the head of state), $keymin_{ict}$, or any other cabinet member (excluding the head of state, key ministers and health ministers), $cabinet_{ict}$, also originates from region i:

$$ln(healthaid_{ict}) = \alpha_i + \beta_{ct} + \gamma\, healthmin_{ict} + \delta\ leader_{ict} + \eta\ keymin_{ict} + \psi\ cabinet_{ict} + \vartheta_{ict} \quad (1)$$

Given that many regions do not get aid in a given year, $healthaid_{ict}$ often takes the value zero. We therefore do not estimate the log-linear relationship in equation 1 directly, but rely on its exponential form by running a Poisson Pseudo Maximum Likelihood (PPML) regression:[13]

$$healthaid_{ict} = exp[\alpha_i + \beta_{ct} + \gamma\, healthmin_{ict} + \delta\ leader_{ict} + \eta\ keymin_{ict} + \psi\ cabinet_{ict}] + \varepsilon_{ict} \quad (2)$$

Santos Silva and Tenreyro (2006) show that PPML is superior to simple OLS and Tobit approaches with heteroskedasticity and many zero observations in the data.[14] In applying PPML to study aid allocation, we follow Acht, Mahmoud and Thiele (2015), Davies and Klasen (2019), Dreher et al. (2019) and Fuchs and Vadlamannati (2013). We interpret the coefficients from equation (2) as semi-elasticities. We use robust standard errors clustered on the country level. To analyze the extensive margin, we use a linear probability model in the spirit of equation (1), but with $healthaidD_{ict}$ instead of $ln(healthaid_{ict})$ as the outcome.

There may be some concerns regarding a causal interpretation of γ. The amount of (health) aid allocated to a region and the likelihood it will be the birth region of a cabinet member might be co-determined; e.g., by local economic development and population density, inter-regional differences in capabilities to coordinate political action and the size of the region. This concern motivates the region fixed effects: arguably, most of these confounders are time-invariant or at least do not change considerably over our 14-year observation period. General trends affecting a country as a whole will be absorbed by the country-year fixed effects.

[13]To estimate equation (2), we rely on the Stata package *ppmlhdfe*, which implements PPML estimation with multiple, high-dimensional fixed effects and allows for multiway-clustering (Correia, Guimarães and Zylkin, 2019a).

[14]As Gourieroux, Monfort and Trognon (1984) show, for the Poisson regression estimator to be consistent, we only need to assume that the conditional mean of the dependent variable is correctly specified. Under these circumstances, Poisson regression becomes Poisson pseudo maximum likelihood (PPML) regression. Given that no distributional assumption is required for the dependent variable, the application of PPML regression is not restricted to count data, but can be applied to any dependent variable with nonnegative values (Santos Silva and Tenreyro, 2006; Correia et al., 2019a).

Time-varying variables such as the discovery of natural resources or resource price shocks affecting subnational areas to highly varying degrees are not accounted for. In addition, region-specific economic trends could distort the effects: even if donors allocated aid based on need only, a positive (negative) effect of being the ministerial birth region is observed if areas send ministers when they are relatively poor (rich). However, we deem it unlikely that such differential, time-varying influences are sufficiently large and widespread to introduce any meaningful bias. Another concern could be that aid-induced development progress causes a subnational area to become a ministerial birth region. We address these concerns with a Placebo test, focusing on the two years before a region sends a health minister. In sum, we believe that a causal interpretation of our allocation effects is justified.

A priori, the sign of γ in equation (2) could go in any direction. A zero effect (conditional on the controls) would be consistent with donors allocating aid on a needs-oriented basis. Obviously, a zero effect would also occur if donors allocated projects entirely randomly. A negative effect could point to donors which deliberately punish ministerial birth regions, which could be the case if donors distrust corrupt elites and aim at circumventing them (see Knack, 2014). It could point to ministers discriminating against their birth regions, as it might be easier for them to control their base at home than in other regions, providing an incentive to extract more resources from their home region, whose support they can more easily garner (see, e.g., Kasara, 2007, or Padró i Miquel, 2007). A positive effect could either be interpreted as favoritism or as an information advantage of ministers (they know where, in their home region, a project might have the greatest impact, or they feel more confident to monitor projects in their birth region).

3.2 Aid allocation to health ministers' birth regions - minister-level analysis

We also estimate the effect that being in the health ministry has for a given cabinet member. That is, we switch to ministers as the unit of observation and introduce person fixed effects λ_m instead of region fixed effects α_i. We therefore compare the same minister in different cabinet positions. We estimate the following equation (note the change of index from region *i* to minister *m*):

$$aid_{mct} = exp[\lambda_m + \beta_{ct} + \gamma\ healthmin_{mct} + \delta\ leader_{mct} + \eta\ keymin_{mct} + \psi\ cabinet_{mct}] + \varepsilon_{mct} \qquad (3)$$

As suggested by Correia, Guimarães and Zylkin (2019b), we try to avoid a lack of convergence by dropping observations which are separated by a fixed effect. More specifically, we drop regions that never receive any health aid and country-years that do not receive any health aid. In the single specification where dropping these observations does not lead to convergence, we use year fixed effects instead of country-year fixed effects.

This approach can shed light on whether health ministers' birth regions receive more health aid because health ministers have different personal characteristics than other cabinet members, or because the position of health minister differs from other cabinet positions.

3.3 Effects on mortality rates

In the last part of our paper, we investigate whether neonates and infants are less likely to die when they are born in the same region as last year's health minister.

For the child k of mother p who is born in region i, country c and year t, we estimate the following equation:

$$mortality_{kpict} = \phi_p + \beta_{ct} + \gamma\ healthmin_{ic,t-1} + \Omega control_{kpict} + \vartheta_{kpict}$$

$mortality_{kpict}$ is either $neonatal_{kpict}$ or $infant_{kpict}$. ϕ_p are mother fixed effects that control for everything that should remain roughly constant over time for the same mother, such as the mother's education, religion and whether they live in a rural or urban place. By including mother fixed effects, we follow Kotsadam et al. (2018) and Bruederle and Hodler (2019). As child level controls, $control_{kpict}$, we include fertility and birth-related variables associated with neonatal and infant mortality, as discussed in Section 2.5.

Potentially, lower neonatal and infant mortality rates in health ministers' birth regions might be explained by these regions receiving more health aid. To investigate this possible channel, we control for $healthaid_{ict}$ in billion USD in Equation 3.3 as follows:

$$mortality_{kpict} = \phi_p + \beta_{ct} + \gamma\ healthmin_{ic,t-1} + \kappa\ healthaid_{ic,t-1} + \Omega control_{kpict} + \vartheta_{kpict}$$

If – upon including health aid as a control – the coefficient of $healthmin_{ic,t-1}$, γ, remains unchanged, there may be other factors at play, such as resources other than health aid being allocated to health ministers' birth regions. As health aid is endogenous, κ cannot be interpreted causally. The purpose of this exercise is to provide a descriptive test of whether γ changes when introducing $healthaid_{ic,t-1}$.

4 Results

4.1 The allocation of health aid to birth regions

Table 2 presents the effect of a region being the health minister's birth region on the allocation of health aid to this region in the next year. Columns (1) and (2) show that health ministers' birth regions are not more likely to receive health aid in the next year when the region-born health minister is in the cabinet than when he is not, i.e., we do not find an effect on the extensive margin. The coefficient is positive and the size remains similar when including the country leader, key minister and cabinet member controls, but it is not statistically significant. However, turning to the *amount* of health aid a region receives in column (3), we find that a region receives 80% more health aid when last year's health minister originated from there, with a p-value lower than 0.10.[15] The size of the coefficient slightly increases when introducing the country leader, key minister and cabinet member controls in column (4), suggesting that the birth region of a health minister receives around 100% more health aid in the next year. These results suggest that health ministers do not have any influence over the allocation of health aid on the extensive margin. However, when at least one health aid project goes to their birth region, they can influence the amount of the allocated funds, for

[15] The quantitative interpretation of the coefficients is given by the following formula: $(exp(\gamma)-1)*100\%$.

instance by attracting more highly funded projects to their birth regions or increasing the funds of projects that flow at least partly to their birth regions.

When examining the role of cabinet members other than health ministers, we do not find an effect for the country leader (Table 2, columns 2 and 4). This result is consistent with Dreher et al. (2019), who find that country leaders do not affect the allocation of World Bank aid. Similarly, other cabinet members do not seem to exert influence, neither, except for key ministers: Column (4) suggests that a region receives around 40% more health aid if it is a key minister's birth region.

Table 2: Health ministers and allocation of health aid in the next year

	(1)	(2)	(3)	(4)
	$healthaidD_{ict}$	$healthaidD_{ict}$	$healthaid_{ict}$	$healthaid_{ict}$
$healthmin_{ic,t-1}$	0.010	0.012	0.592*	0.697**
	(0.494)	(0.439)	(0.064)	(0.046)
$leader_{ic,t-1}$		-0.012		-0.253
		(0.466)		(0.609)
$keymin_{ic,t-1}$		0.005		0.354***
		(0.401)		(0.003)
$cabinet_{ic,t-1}$		-0.010		-0.216
		(0.205)		(0.231)
Obs.	9,421	9,421	9,421	9,421

Notes: Panel with ADM1 regions as unit of observation. Estimates based on OLS in columns (1) and (2) and on PPML in columns (3) and (4). Dependent variables are an indicator whether a region receives any health aid in a given year ($healthaidD_{ict}$) in columns (1) and (2), and the amount of health aid in billion USD the region receives ($healthaid_{ict}$) in columns (3) and (4). The independent variables are indicators whether last year's health minister ($healthmin_{ic,t-1}$), country leader ($leader_{ic,t-1}$), key minister ($keymin_{ic,t-1}$) or other cabinet member ($cabinet_{ic,t-1}$) was born in the region. $healthmin_{ic,t-1}$ includes only health ministers in a narrow sense, excluding public health ministers and other health-related positions. $leader_{ic,t-1}$ includes the effective head of state. $keymin_{ic,t-1}$ includes key ministers in the sense of Francois et al. (2015), excluding the head of state. $cabinet_{ic,t-1}$ includes all ministers except health minister, leaders and key ministers. All ministers in the broad sense are included, e.g., also vice ministers and ministers of state. All specifications include ADM1 and country-year fixed effects. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

Placebo test In Table 3, we test if a region gets more health aid *before* sending a health minister. A positive coefficient of $healthmin_{ic,t+2}$, an indicator equal to one in the two years before a region sends a health minister, would invalidate a causal interpretation of our findings. The coefficients of $healthmin_{ic,t+2}$ are not significant at conventional levels and even negative in columns (1) and (3), strengthening our causal interpretation of health ministers' effect on the allocation of health aid.

Robustness We present several robustness checks in Appendix C. In Table 6, we find a qualitatively

Table 3: Health ministers and allocation of health aid - Placebo test

	(1)	(2)	(3)	(4)
	$healthaidD_{ict}$	$healthaidD_{ict}$	$healthaid_{ict}$	$healthaid_{ict}$
$healthmin_{ic,t+2}$	-0.005	0.003	-0.087	0.207
	(0.847)	(0.925)	(0.905)	(0.780)
$leader_{ic,t-1}$		-0.010		0.197
		(0.646)		(0.800)
$keymin_{ic,t-1}$		-0.001		0.240
		(0.864)		(0.183)
$cabinet_{ic,t-1}$		-0.007		-0.206
		(0.416)		(0.351)
Obs.	8,694	7,967	8,694	7,967

Notes: Panel with ADM1 regions as unit of observation. Estimates based on OLS in columns (1) and (2) and on PPML in columns (3) and (4). Dependent variables are an indicator whether a region receives any health aid in a given year ($healthaidD_{ict}$) in columns (1) and (2), and the amount of health aid in billion USD the region receives ($healthaid_{ict}$) in columns (3) and (4). $healthmin_{ic,t+2}$ is an indicator equal to 1 in the two years before the region becomes the birth region of the health minister. The other independent variables are indicators whether last year's country leader ($leader_{ic,t-1}$), key minister ($keymin_{ic,t-1}$) or other cabinet member ($cabinet_{ic,t-1}$) was born in the region. $healthmin_{ic,t+2}$ includes only health ministers in a narrow sense, excluding public health ministers and other health-related positions. $leader_{ic,t-1}$ includes the effective head of state. $keymin_{ic,t-1}$ includes key ministers in the sense of Francois et al. (2015), excluding the head of state. $cabinet_{ic,t-1}$ includes all ministers except health ministers, leaders and key ministers. All ministers in the broad sense are included, e.g., also vice ministers and ministers of state. All specifications include ADM1 and country-year fixed effects. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

similar result for the effect of a health ministers birth region on the allocation of health aid in the same year in columns (3) and (4). However, the size of the coefficient as well as the estimation precision decrease. In columns (1) and (2), the coefficient of the indicator variable is (almost) significant. This result suggests that the health minister has some impact on whether any health aid is distributed to his region, limited to the allocation in the same year. Investigating the effect of a health minister's birth region on health aid allocation in two years in Table 7, we find similar results as for the effect in one year. The effect size increases and the coefficients are more precisely estimated. The main results are largely unchanged when we include public health, HIV/AIDS, sanitation and population ministers in our health minister definition in Table 8. The coefficients are somewhat smaller than in Table 2. When we only consider health ministers, key ministers and other cabinet members if they are ministers strictly speaking (excluding vice ministers, etc.) in Table 9, the coefficients are somewhat larger. Finally, our result remains qualitatively similar when we resort to a non-parametric approach. We explain the method used and the results in Appendix D.

Non-health aid Additionally, we investigate whether the health minister can influence the allocation of non-health aid. This is the sum of aid that flows to a region in a given year that does not belong to the health category. The coefficients are positive but much smaller than for health aid and not statistically significant (Table 10 in Appendix C).

4.2 Do cabinet members attract more health aid in the position of health minister?

We now investigate whether the same cabinet member attracts more health-related flows when acting as the health minister. Similar to the main analysis, the positive effect on the extensive margin is not significant: a cabinet member is not more likely to yield influence over whether any health aid goes to their birth region in the next year when in the position of health minister (Table 4, columns 1 and 2). However, looking at amounts in column (3), we find that a cabinet member's birth region receives more health aid while the cabinet member holds the position of health minister. This result is robust when controlling for $leader_{mc,t-1}$ and $keymin_{mc,t-1}$ in column (4). The size of the coefficient suggests the same individual can attract around 200% more health aid when in the health ministry than in another ministerial office. This additional piece of evidence suggests that it is the position of the health minister, rather than particular individuals being selecting into health-related cabinet positions, that explains the surge in health aid. In line with the main results, we find a positive effect for the key minister. Interestingly, the coefficient of $leader_{mc,t-1}$ is negative and significant in column (4), suggesting that cabinet members might attract less health aid when in the position of the country leader than when in other positions. This result provides further support for the finding that country leaders do not seem to attract World Bank aid to their birth regions (see also Dreher et al., 2018).

Placebo test We conduct a similar Placebo test as for the main analysis. Here, the coefficient of interest, $healthmin_{mc,t+2}$, takes the value one in the two years before a cabinet member becomes a health minister. Looking at the effect on the extensive margin in Table 11, column (1), in Appendix C, we see that the coefficient of $healthmin_{mc,t+2}$ is positive and significant. However, the coefficient is smaller and not significant when controlling for $leader_{mc,t-1}$ and $keymin_{mc,t-1}$ in our preferred specification in column (2). Additionally, if we estimate column (1) using the same sample as in column (2), the coefficient becomes smaller (0.037) and insignificant with a p-value equal to 0.569. Moreover, the coefficient is negative and not significant when looking the amount of health aid committed in columns (3) and (4), suggesting that a causal interpretation of the coefficient of $healthmin_{mc,t-1}$ in Table 4 might be warranted. Note that it was not possible to achieve convergence while including country-year fixed effects in column (3). Hence, we had to include year fixed effects in this specification. Reassuringly, the result remains very similar in our preferred specification in column (4), where we include country-year fixed effects and control for $leader_{mc,t-1}$ and $keymin_{mc,t-1}$.

Robustness The coefficient of the health minister is of similar size and statistical significance when looking at the effect in the same year (Table 12) and in two years (Table 13). Note that contrary to the ADM1-analysis, the contemporary effect on the extensive margin is not significant (Table 12, columns 1 and 2). We find a contemporary effect of the key minister, but not of the country leader. Neither the key minister nor the country leader seem to have an effect on health aid allocation in two years. Using the broader definition of health minister in Table 14, the coefficient is still positive but less precisely estimated (as is the coefficient for the key minister). The coefficients of $healthmin_{mc,t-1}$ (as well as $leader_{mc,t-1}$ and $keymin_{mc,t-1}$) remain robust to employing a more narrow definition of ministers (Table 15; all tables in Appendix C).

Non-health aid Again supporting the main results, we find no evidence that cabinet members attract more non-health aid when in the position of health minister (Table 16 in Appendix C). In fact, the coefficient of $healthmin_{mc,t-1}$ in columns (3) and (4) is negative (but only in column 3 with a p-value near 0.1), which might suggest that cabinet members attract less non-health aid when in the position of health minister. The coefficient of $leader_{mc,t-1}$ is negative and significant in column (2), suggesting that cabinet members might attract less non-health aid when they are country leader. However, the coefficient is only significant on the extensive margin – switching to the amount of non-health aid in column (4), the coefficient turns insignificant.

4.3 Effects on mortality rates

Table 5 shows the effect of health ministers on neonatal and infant mortality in their birth region. Column (1) suggests that children born in the same region as the health minister from the previous year are 0.64 percentage points less likely to die within their first month. Given that on average, children die with a likelihood of 3.39% before their first month of life, a decrease of 0.64 percentage points is non-negligible. This finding provides further evidence for favoritism: health ministers do not only impact the allocation of health related funds but they seem to ameliorate actual health outcomes.

A possible explanation for this negative effect is that health ministers' birth regions receive more health aid. To determine whether this might be the case, we control for the amount of health aid to a region in the previous year in column (2), effectively comparing regions with similar amounts of health aid. The size and the significance of $healthmin_{ic,t-1}$ stay virtually unchanged, providing suggestive evidence that the effect of health ministers on neonatal mortality is not driven by the amount of health aid allocated to health ministers' birth regions. If this effect depended on health aid, it should be smaller in the specification where we control

Table 4: Person FE: Health ministers and allocation of health aid in the next year

	(1)	(2)	(3)	(4)
	$healthaidD_{mct}$	$healthaidD_{mct}$	$healthaid_{mct}$	$healthaid_{mct}$
$healthmin_{mc,t-1}$	0.021	0.022	0.898***	1.216***
	(0.276)	(0.254)	(0.004)	(0.002)
$leader_{mc,t-1}$		-0.063		-1.841**
		(0.117)		(0.047)
$keymin_{mc,t-1}$		0.003		0.294*
		(0.578)		(0.063)
Obs.	14,156	14,156	2,479	2,479

Notes: Panel with ministers as unit of observation. Estimates based on OLS in columns (1) and (2) and on PPML in columns (3) and (4). Dependent variables are an indicator whether a minister's birth region receives any health aid in a given year ($healthaidD_{mct}$) in columns (1) and (2), and the amount of health aid the region receives ($healthaid_{mct}$) in columns (3) and (4). The independent variables are indicators whether the minister was a health minister ($healthmin_{mc,t-1}$), country leader ($leader_{mc,t-1}$), or key minister ($keymin_{mc,t-1}$) in the previous year. $healthmin_{mc,t-1}$ includes only health ministers in a narrow sense, excluding public health ministers and other health-related positions. $leader_{mc,t-1}$ includes the effective head of state. $keymin_{mc,t-1}$ includes key ministers in the sense of Francois et al. (2015), excluding the head of state. All ministers in the broad sense are included, e.g., also vice ministers and ministers of state. All specifications include person and country-year fixed effects. To achieve convergence, we drop separated observations. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

for health aid. One interpretation of this result is that the additional health aid flowing to health ministers' birth regions might not be effective in reducing child mortality. If health ministers allocated more health aid to their birth regions because of an information advantage (e.g., if they knew where a project would have the highest impact or if they could better monitor projects in their home region) rather than favoritism, we would expect to see a change in the $healthmin_{ic,t-1}$ coefficient upon including a control for health aid. In sum, the unchanged coefficient is consistent with favoritism. We cannot, however, exclude the alternative explanation that World Bank health aid in general is not effective in reducing child mortality, and that the effect of development aid on infant mortality in Nigeria found by Kotsadam et al. (2018) does not apply to World Bank health aid.

In column (3), we control for $leader_{ic,t-1}$, $keymin_{ic,t-1}$ and $cabinet_{ic,t-1}$. The coefficient of $healthmin_{ict}$ stays similar, and we do not find the leader, key ministers, or other cabinet members have any effect.

If we look at infant instead of neonatal mortality in columns (4) and (5), we also encounter negative coefficients. However, the $healthmin_{ict}$ coefficients are now smaller and not precisely estimated.

Placebo test In the spirit of conducting the Placebo test on aid allocation, we examine if neonates or infants are less likely to die in the two years before the region-born health minister comes into power. A negative coefficient of $healthmin_{ic,t+2}$, the indicator variable equal to one in the two years before the region-born health minister comes into power, would invalidate a causal interpretation of the aforementioned results. In Table 17 in Appendix C, we see that $healthmin_{ic,t+2}$ does not decrease the likelihood of the child dying in the first month or year. The coefficients are positive and not significant at conventional levels in all four columns.

Robustness Results are similar when using the broader definition of health ministers in Table 18 and only ministers in the narrow sense in Table 19 (both in Appendix C). We also explore whether the effect the health minister has on mortality is sensitive to using different functional forms of health aid. We replicate columns (2) and (5) in Table 5 and use (i) health aid per capita, (ii) the logarithm of health aid plus 0.01, (iii) the cubic root of health aid, (iv) the inverse hyperbolic sine of health aid and (v) health aid in billion USD and its square. Results are presented in Table 20 in Appendix C. The coefficient of interest remains very similar in all five regressions, for both neonatal and infant mortality. Finally, to more closely follow the approach applied in our aid allocation regressions, we also provide results for the average neonatal and infant mortality on the ADM1 level in Table 21 in Appendix C. We find a pattern similar to the regressions with mother fixed effects, but coefficients are smaller and less precisely estimated.

5 Conclusion

To determine whether cabinet members engage in regional favoritism, we build a novel data set on the birthplaces of cabinet members in 45 African countries from 2001 to 2014. We combine this hand-collected data with geocoded data on the location of World Bank aid projects (from AidData) and geocoded data on neonatal and infant mortality (from the Demographic and Health Surveys). We build different panel data sets, with ADM1 regions, individual cabinet members, or individual children as the units of observation.

Table 5: Health ministers and mortality in the next year

	(1)	(2)	(3)	(4)	(5)	(6)
	$neonatal_{kpict}$	$neonatal_{kpict}$	$neonatal_{kpict}$	$infant_{kpict}$	$infant_{kpict}$	$infant_{kpict}$
$healthmin_{ic,t-1}$	-0.640***	-0.644***	-0.614**	-0.384	-0.401	-0.357
	(0.007)	(0.005)	(0.011)	(0.200)	(0.156)	(0.244)
$healtaid_{ic,t-1}$		0.712			3.014	
		(0.864)			(0.614)	
$leader_{ic,t-1}$			0.090			0.224
			(0.803)			(0.449)
$keymin_{ic,t-1}$			0.005			-0.268
			(0.980)			(0.281)
$cabinet_{ic,t-1}$			-0.160			0.031
			(0.294)			(0.887)
Obs.	280,690	280,690	280,690	236,626	236,626	236,626
Mean dep. var.	3.391	3.391	3.391	6.637	6.637	6.637
SD dep. var.	18.101	18.101	18.101	24.893	24.893	24.893

Notes: Panel with children as unit of observation. Estimates based on OLS in all columns. Dependent variables are a child's probability to die before reaching the age of one month ($neonatal_{kpict}$; columns 1 to 3) or one year ($infant_{kpict}$; columns 4 to 6) in percent. The independent variables are indicators whether the child was born in the same region as last year's health minister ($healthmin_{ic,t-1}$), country leader ($leader_{ic,t-1}$), key minister ($keymin_{ic,t-1}$) or other cabinet member ($cabinet_{ic,t-1}$). $healthmin_{ic,t-1}$ includes only health ministers in a narrow sense, excluding public health ministers and other health-related positions. $leader_{ic,t-1}$ includes the effective head of state. $keymin_{ic,t-1}$ includes key ministers in the sense of Francois et al. (2015), excluding the head of state. $cabinet_{ic,t-1}$ includes all ministers except health ministers, leaders and key ministers. All ministers in the broad sense are included, e.g., also vice ministers and ministers of state. Columns (2) and (5) control for the amount of health aid in billion USD a region received in the previous year ($healthaid_{ic,t-1}$). Child-level controls are the mother's age at birth (squared), gender, indicator variables for birth order, for whether the last birth was 12, 13–24, 25–36 months ago, and for multiple births. All specifications include mother and country-year fixed effects. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

In sum, we provide two pieces of evidence suggesting that health ministers favor their birth regions. First, including region and country-year fixed effects, we show that regions receive more health aid when the current health minister originates from there. We find this pattern as well when looking at the same individual over time: more aid is allocated to a cabinet member's birth region when they are holding office as a health minister compared to other (non health-related) positions. This finding suggests that it is the position of health minister, and not the personal characteristics of health ministers, that is responsible for the effect.

Second, we find that children are less likely to die before reaching the age of one month (and maybe the age of one year) when born in the same region as the health minister. These results are based on regressions with mother fixed effects: essentially, we compare siblings born while a health minister from this region was in power to siblings born in other years. With our rigorous use of fixed effects and Placebo tests, we believe that a causal interpretation of our findings is justified.

With these two pieces of evidence in mind, we conclude that not only can country leaders (as shown in previous literature) exert influence over the allocation of funds, but so can cabinet members. Hence, broad representation within cabinets (see Francois et al., 2015) seems to translate into actual power, implying that there is more to African politics than the "big man theory" suggests.

Lastly, in a descriptive analysis, we find no evidence suggesting that the decrease in neonatal (and infant) mortality in health ministers' birth regions is associated with additional health aid. This finding is consistent with the interpretation that more health aid flowing to health ministers' birth regions is a form of favoritism and not a consequence of any information advantage that is held by a minister.

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Appendices

A How World Bank Aid is Allocated

The World Bank provides financial and technical assistance for low- and middle-income countries by lending money to these governments. The two main funds are the International Bank for Reconstruction and Developmet (IBRD) and the International Development Association (IDA). Low-interest loans and grants are allocated to projects in various sectors (Ottenhoff, 2011). Although the World Bank has some rules to guide the allocation of projects, the enforcement of these rules is not always ensured (Warner, 2010). The Bank should conduct cost-benefit analyses whenever possible, but Warner (2010, p. 8) finds that the number of projects where economic rates of return are reported has been declining since the 1970es (by 37 points). Furthermore, Warner (2010) reports that, if a cost-benefit analysis is conducted, the alternatives considered tend to focus on minor changes, such as alternative funding mechanisms, instead of different locations, beneficiaries or the alternative of not conducting the project at all. Moreover, cost-benefit analyses are often conducted after the decision to implement the project (which may set adverse incentives). Hence, although the World Bank has the policy of making sure that its projects promote the development goals of the recipient country, the (pre-approval) evaluation of the projects could be improved. This suggests that the allocation of projects could be influenced by political incentives, and the governments of recipient countries might have some margin to influence the allocation decision.

B Countries in our Sample

Number of Demographic and Health Surveys (DHS) rounds in parentheses

1. Algeria (0)
2. Angola (1)
3. Benin (1)
4. Botswana (0)
5. Burkina Faso (1)
6. Burundi (1)
7. Chad (0)
8. Cameroon (1)
9. Central African Republic (0)
10. Congo, Democratic Republic of (1)
11. Congo, Republic of (1)
12. Djibouti (0)
13. Egypt (2)
14. Equatorial Guinea (0)
15. Eritrea (0)
16. Ethiopia (1)
17. Gabon (0)
18. Gambia (0)
19. Ghana (2)
20. Guinea (1)
21. Guinea-Bissau (0)
22. Ivory Coast (1)
23. Kenya (2)
24. Liberia (1)
25. Lesotho (2)
26. Madagascar (2)
27. Malawi (3)
28. Mali (1)
29. Mauritania (0)
30. Morocco (1)
31. Mozambique (1)
32. Namibia (1)
33. Niger (1)
34. Nigeria (2)
35. Rwanda (1)
36. Senegal (2)
37. Sierra Leone (1)
38. South Africa (1)
39. Sudan (0)
40. Swaziland (1)
41. Tanzania (3)
42. Togo (0)
43. Tunisia (0)
44. Uganda (2)
45. Zambia (3)

C Additional Results

Table 6: Health ministers and contemporary allocation of health aid

	(1)	(2)	(3)	(4)
	$healthaidD_{ict}$	$healthaidD_{ict}$	$healthaid_{ict}$	$healthaid_{ict}$
$healthmin_{ict}$	0.019	0.020*	0.483	0.543*
	(0.105)	(0.078)	(0.113)	(0.074)
$leader_{ict}$		-0.008		-0.106
		(0.697)		(0.789)
$keymin_{ict}$		0.006		0.164
		(0.474)		(0.228)
$cabinet_{ict}$		-0.010		-0.220
		(0.209)		(0.288)
Obs.	10,148	10,148	10,148	10,148

Notes: Panel with ADM1 regions as unit of observation. Estimates based on OLS in columns (1) and (2) and on PPML in columns (3) and (4). Dependent variables are an indicator whether a region receives any health aid in a given year ($healthaidD_{ict}$) in columns (1) and (2), and the amount of health aid in billion USD the region receives ($healthaid_{ict}$) in columns (3) and (4). The independent variables are indicators whether this year's health minister ($healthmin_{ict}$), country leader ($leader_{ict}$), key minister ($keymin_{ict}$) or other cabinet member ($cabinet_{ict}$) was born in the region. $healthmin_{ict}$ includes only health ministers in a narrow sense, excluding public health ministers and other health-related positions. $leader_{ict}$ includes the effective head of state. $keymin_{ict}$ includes key ministers in the sense of Francois et al. (2015), excluding the head of state. $cabinet_{ict}$ includes all ministers except health ministers, leaders and key ministers. All ministers in the broad sense are included, e.g., also vice ministers and ministers of state. All specifications include ADM1 and country-year fixed effects. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

Table 7: Health ministers and allocation of health aid in two years

	(1)	(2)	(3)	(4)
	$healthaidD_{ict}$	$healthaidD_{ict}$	$healthaid_{ict}$	$healthaid_{ict}$
$healthmin_{ic,t-2}$	0.020	0.021	0.701**	0.776***
	(0.146)	(0.144)	(0.023)	(0.006)
$leader_{ic,t-2}$		-0.013		-0.785
		(0.505)		(0.110)
$keymin_{ic,t-2}$		0.001		0.094
		(0.939)		(0.648)
$cabinet_{ic,t-2}$		-0.002		-0.161
		(0.779)		(0.359)
Obs.	8,694	8,694	8,694	8,694

Notes: Panel with ADM1 regions as unit of observation. Estimates based on OLS in columns (1) and (2) and on PPML in columns (3) and (4). Dependent variables are an indicator whether a region receives any health aid in a given year ($healthaidD_{ict}$) in columns (1) and (2), and the amount of health aid in billion USD the region receives ($healthaid_{ict}$) in columns (3) and (4). The independent variables are indicators whether the health minister ($healthmin_{ic,t-2}$), the country leader ($leader_{ic,t-2}$), a key minister ($keymin_{ic,t-2}$) or any other cabinet member ($cabinet_{ic,t-2}$) two years ago was born in the region. $healthmin_{ic,t-2}$ includes only health ministers in a narrow sense, excluding public health ministers and other health-related positions. $leader_{ic,t-2}$ includes the effective head of state. $keymin_{ic,t-2}$ includes key ministers in the sense of Francois et al. (2015), excluding the head of state. $cabinet_{ic,t-2}$ includes all ministers except health ministers, leaders and key ministers. All ministers in the broad sense are included, e.g., also vice ministers and ministers of state. All specifications include ADM1 and country-year fixed effects. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

Table 8: (Public) health ministers and allocation of health aid in the next year

	(1)	(2)	(3)	(4)
	$healthaidD_{ict}$	$healthaidD_{ict}$	$healthaid_{ict}$	$healthaid_{ict}$
$healthmin_{ic,t-1}$	0.002	0.004	0.496*	0.589*
	(0.872)	(0.772)	(0.082)	(0.063)
$leader_{ic,t-1}$		-0.012		-0.251
		(0.472)		(0.618)
$keymin_{ic,t-1}$		0.005		0.339***
		(0.412)		(0.005)
$cabinet_{ic,t-1}$		-0.010		-0.205
		(0.218)		(0.263)
Obs.	9,421	9,421	9,421	9,421

Notes: Panel with ADM1 regions as unit of observation. Estimates based on OLS in columns (1) and (2) and on PPML in columns (3) and (4). Dependent variables are an indicator whether a region receives any health aid in a given year ($healthaidD_{ict}$) in columns (1) and (2), and the amount of health the region receives ($healthaid_{ict}$) in columns (3) and (4). The independent variables are indicators whether last year's health minister ($healthmin_{ic,t-1}$), country leader ($leader_{ic,t-1}$), key minister ($keymin_{ic,t-1}$) or other cabinet member ($cabinet_{ic,t-1}$) was born in the region. $healthmin_{ic,t-1}$ includes all health-related ministries: health, public health, HIV/AIDS, population, sanitation. $leader_{ic,t-1}$ includes the effective head of state. $keymin_{ic,t-1}$ includes key ministers in the sense of Francois et al. (2015), excluding the head of state. $cabinet_{ic,t-1}$ includes all ministers except health minister, leaders and key ministers. All ministers in the broad sense are included, e.g., also vice ministers and ministers of state. All specifications include ADM1 and country-year fixed effects. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

Table 9: Health ministers (narrow) and allocation of health aid in the next year

	(1)	(2)	(3)	(4)
	$healthaidD_{ict}$	$healthaidD_{ict}$	$healthaid_{ict}$	$healthaid_{ict}$
$healthmin_{ic,t-1}$	0.008	0.009	0.619*	0.724**
	(0.620)	(0.575)	(0.062)	(0.035)
$leader_{ic,t-1}$		-0.012		-0.267
		(0.469)		(0.583)
$keymin_{ic,t-1}$		0.005		0.354***
		(0.420)		(0.007)
$cabinet_{ic,t-1}$		-0.007		-0.143
		(0.424)		(0.433)
Obs.	9,421	9,421	9,421	9,421

Notes: Panel with ADM1 regions as unit of observation. Estimates based on OLS in columns (1) and (2) and on PPML in columns (3) and (4). Dependent variables are an indicator whether a region receives any health aid in a given year ($healthaidD_{ict}$) in columns (1) and (2), and the amount of health the region receives ($healthaid_{ict}$) in columns (3) and (4). The independent variables are indicators whether last year's health minister ($healthmin_{ic,t-1}$), country leader ($leader_{ic,t-1}$), key minister ($keymin_{ic,t-1}$) or other cabinet member ($cabinet_{ic,t-1}$) was born in the region. $healthmin_{ic,t-1}$ includes only health ministers in a narrow sense, excluding public health ministers and other health-related positions. $leader_{ic,t-1}$ includes the effective head of state. $keymin_{ic,t-1}$ includes key ministers in the sense of Francois et al. (2015), excluding the head of state. $cabinet_{ic,t-1}$ includes all ministers except health minister, leaders and key ministers. Only ministers in the narrow sense are included, excluding e.g., vice ministers and ministers of state. All specifications include ADM1 and country-year fixed effects. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

Table 10: Health ministers and allocation of non-health aid

	(1)	(2)	(3)	(4)
	$otheraidD_{ict}$	$otheraidD_{ict}$	$otheraid_{ict}$	$otheraid_{ict}$
$healthmin_{ic,t-1}$	0.003	0.004	0.114	0.117
	(0.827)	(0.787)	(0.615)	(0.630)
$leader_{ic,t-1}$		-0.009		-0.035
		(0.755)		(0.777)
$keymin_{ic,t-1}$		0.013		0.098
		(0.326)		(0.503)
$cabinet_{ic,t-1}$		-0.005		0.103
		(0.697)		(0.466)
Obs.	9,421	9,421	9,421	9,421

Notes: Panel with ADM1 regions as unit of observation. Estimates based on OLS in columns (1) and (2) and on PPML in columns (3) and (4). Dependent variables are an indicator whether a region receives any non-health aid in a given year ($otheraidD_{ict}$) in columns (1) and (2), and the amount of non-health aid in billion USD the region receives ($otheraid_{ict}$) in columns (3) and (4). The independent variables are indicators whether last year's health minister ($healthmin_{ic,t-1}$), country leader ($leader_{ic,t-1}$), key minister ($keymin_{ic,t-1}$) or other cabinet member ($cabinet_{ic,t-1}$) was born in the region. $healthmin_{ic,t-1}$ includes only health ministers in a narrow sense, excluding public health ministers and other health-related positions. $leader_{ic,t-1}$ includes the effective head of state. $keymin_{ic,t-1}$ includes key ministers in the sense of Francois et al. (2015), excluding the head of state. $cabinet_{ic,t-1}$ includes all ministers except health minister, leaders and key ministers. All ministers in the broad sense are included, e.g., also vice ministers and ministers of state. All specifications include ADM1 and country-year fixed effects. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

Table 11: Person FE: Health ministers and allocation of health aid - Placebo test

	(1)	(2)	(3)	(4)
	$healthaidD_{mct}$	$healthaidD_{mct}$	$healthaid_{mct}$	$healthaid_{mct}$
$healthmin_{mc,t+2}$	0.063*	0.038	-0.349	-0.367
	(0.062)	(0.567)	(0.595)	(0.859)
$leader_{mc,t-1}$		-0.091		1.387
		(0.483)		(0.346)
$keymin_{mc,t-1}$		-0.001		1.162
		(0.954)		(0.144)
Obs.	7,933	5,595	3,324	666
Country-year FE	Yes	Yes	No	Yes
Year FE	No	No	Yes	No
Person FE	Yes	Yes	Yes	Yes

Notes: Panel with ministers as unit of observation. Estimates based on OLS in columns (1) and (2) and on PPML in columns (3) and (4). Dependent variables are an indicator whether a minister's birth region receives any health aid in a given year ($healthaidD_{mct}$) in columns (1) and (2), and the amount of health aid the region receives ($healthaid_{mct}$) in columns (3) and (4). $healthmin_{mc,t+2}$ is an indicator equal to 1 in the two years before the minister becomes a health minister. The other independent variables are indicators whether the minister was a country leader ($leader_{mc,t-1}$) or key minister ($keymin_{mc,t-1}$) in the previous year. $healthmin_{mc,t+2}$ includes only health ministers in a narrow sense, excluding public health ministers and other health-related positions. $leader_{mc,t-1}$ includes the effective head of state. $keymin_{mc,t-1}$ includes key ministers in the sense of Francois et al. (2015), excluding the head of state. All ministers in the broad sense are included, e.g., also vice ministers and ministers of state. All specifications include person and country-year (or year) fixed effects. To achieve convergence, we drop separated observations. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

Table 12: Person FE: Health ministers and contemporary allocation of health aid

	(1)	(2)	(3)	(4)
	$healthaidD_{mct}$	$healthaidD_{mct}$	$healthaid_{mct}$	$healthaid_{mct}$
$healthmin_{mct}$	0.015	0.018	1.055	1.211*
	(0.385)	(0.271)	(0.112)	(0.065)
$leader_{mct}$		-0.045		1.739
		(0.220)		(0.117)
$keymin_{mct}$		0.011		0.290***
		(0.135)		(0.001)
Obs.	15,194	15,194	2,786	2,786

Notes: Panel with ministers as unit of observation. Estimates based on OLS in columns (1) and (2) and on PPML in columns (3) and (4). Dependent variables are an indicator whether a minister's birth region receives any health aid in a given year ($healthaidD_{mct}$) in columns (1) and (2), and the amount of health aid the region receives ($healthaid_{mct}$) in columns (3) and (4). The independent variables are indicators whether the minister is a health minister ($healthmin_{mct}$), country leader ($leader_{mct}$) or key minister ($keymin_{mct}$) this year. $healthmin_{mct}$ includes only health ministers in a narrow sense, excluding public health ministers and other health-related positions. $leader_{mct}$ includes the effective head of state. $keymin_{mct}$ includes key ministers in the sense of Francois et al. (2015), excluding the head of state. All ministers in the broad sense are included, e.g., also vice ministers and ministers of state. All specifications include person and country-year fixed effects. To achieve convergence, we drop separated observations. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

Table 13: Person FE: Health ministers and allocation of health aid in two years

	(1)	(2)	(3)	(4)
	$healthaidD_{mct}$	$healthaidD_{mct}$	$healthaid_{mct}$	$healthaid_{mct}$
$healthmin_{mc,t-2}$	0.006	0.007	0.985***	1.061***
	(0.783)	(0.729)	(0.001)	(0.000)
$leader_{mc,t-2}$		-0.043		0.191
		(0.142)		(0.836)
$keymin_{mc,t-2}$		0.005		0.105
		(0.576)		(0.644)
Obs.	13,062	13,062	2,207	2,207

Notes: Panel with ministers as unit of observation. Estimates based on OLS in columns (1) and (2) and on PPML in columns (3) and (4). Dependent variables are an indicator whether a minister's birth region receives any health aid in a given year ($healthaidD_{mct}$) in columns (1) and (2), and the amount of health aid the region receives ($healthaid_{mct}$) in columns (3) and (4). The independent variables are indicators whether the minister was a health minister ($healthmin_{mc,t-2}$), country leader ($leader_{mc,t-2}$) or key minister ($keymin_{mc,t-2}$) two years ago. $healthmin_{mc,t-2}$ includes only health ministers in a narrow sense, excluding public health ministers and other health-related positions. $leader_{mc,t-2}$ includes the effective head of state. $keymin_{mc,t-2}$ includes key ministers in the sense of Francois et al. (2015), excluding the head of state. All ministers in the broad sense are included, e.g., also vice ministers and ministers of state. All specifications include person and country-year fixed effects. To achieve convergence, we drop separated observations. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

Table 14: Person FE: (Public) health ministers and allocation of health aid in the next year

	(1)	(2)	(3)	(4)
	$healthaidD_{mct}$	$healthaidD_{mct}$	$healthaid_{mct}$	$healthaid_{mct}$
$healthmin_{mc,t-1}$	0.001	0.003	0.426	0.707
	(0.925)	(0.827)	(0.344)	(0.198)
$leader_{mc,t-1}$		-0.063		-1.791*
		(0.117)		(0.053)
$keymin_{mc,t-1}$		0.003		0.254
		(0.660)		(0.127)
Obs.	14,156	14,156	2,479	2,479

Notes: Panel with ministers as unit of observation. Estimates based on OLS in columns (1) and (2) and on PPML in columns (3) and (4). Dependent variables are an indicator whether a minister's birth region receives any health aid in a given year ($healthaidD_{mct}$) in columns (1) and (2), and the amount of health aid the region receives ($healthaid_{mct}$) in columns (3) and (4). The independent variables are indicators whether the minister was a health minister ($healthmin_{mc,t-1}$), country leader ($leader_{mc,t-1}$), or key minister ($keymin_{mc,t-1}$) in the previous year. $healthmin_{mc,t-1}$ includes all health-related ministries: health, public health, HIV/AIDS, population, sanitation. $leader_{mc,t-1}$ includes the effective head of state. $keymin_{mc,t-1}$ includes key ministers in the sense of Francois et al. (2015), excluding the head of state. All ministers in the broad sense are included, e.g., also vice ministers and ministers of state. All specifications include person and country-year fixed effects. To achieve convergence, we drop separated observations. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

Table 15: Person FE: Health ministers (narrow) and allocation of health aid in the next year

	(1)	(2)	(3)	(4)
	$healthaidD_{mct}$	$healthaidD_{mct}$	$healthaid_{mct}$	$healthaid_{mct}$
$healthmin_{mc,t-1}$	0.030	0.032	1.083***	1.514***
	(0.129)	(0.101)	(0.000)	(0.000)
$leader_{mc,t-1}$		-0.062		-1.808**
		(0.122)		(0.032)
$keymin_{mc,t-1}$		0.008		0.408**
		(0.134)		(0.036)
Obs.	14,156	14,156	2,479	2,479

Notes: Panel with ministers as unit of observation. Estimates based on OLS in columns (1) and (2) and on PPML in columns (3) and (4). Dependent variables are an indicator whether a minister's birth region receives any health aid in a given year ($healthaidD_{mct}$) in columns (1) and (2), and the amount of health aid the region receives ($healthaid_{mct}$) in columns (3) and (4). The independent variables are indicators whether the minister was a health minister ($healthmin_{mc,t-1}$), country leader ($leader_{mc,t-1}$) or key minister ($keymin_{mc,t-1}$) in the previous year. $healthmin_{mc,t-1}$ includes only health ministers in a narrow sense, excluding public health ministers and other health-related positions. $leader_{mc,t-1}$ includes the effective head of state. $keymin_{mc,t-1}$ includes key ministers in the sense of Francois et al. (2015), excluding the head of state. Only ministers in the narrow sense are included, excluding e.g., vice ministers and ministers of state. All specifications include person and country-year fixed effects. To achieve convergence, we drop separated observations. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

Table 16: Person FE: Health ministers and allocation of non-health aid

	(1)	(2)	(3)	(4)
	$otheraidD_{mct}$	$otheraidD_{mct}$	$otheraid_{mct}$	$otheraid_{mct}$
$healthmin_{mc,t-1}$	0.033	0.034	-0.377	-0.339
	(0.355)	(0.343)	(0.103)	(0.151)
$leader_{mc,t-1}$		-0.163**		-0.278
		(0.013)		(0.338)
$keymin_{mc,t-1}$		0.005		0.084
		(0.641)		(0.408)
Obs.	14,156	14,156	8,535	8,535

Notes: Panel with ministers as unit of observation. Estimates based on OLS in columns (1) and (2) and on PPML in columns (3) and (4). Dependent variables are an indicator whether a minister's birth region receives any non-health aid in a given year ($otheraidD_{mct}$) in columns (1) and (2), and the amount of non-health aid the region receives ($otheraid_{mct}$) in columns (3) and (4). The independent variables are indicators whether the minister was a health minister ($healthmin_{mc,t-1}$), country leader ($leader_{mc,t-1}$) or key minister ($keymin_{mc,t-1}$) in the previous year. $healthmin_{mc,t-1}$ includes only health ministers in a narrow sense, excluding public health ministers and other health-related positions. $leader_{mc,t-1}$ includes the effective head of state. $keymin_{mc,t-1}$ includes key ministers in the sense of Francois et al. (2015), excluding the head of state. All ministers in the broad sense are included, e.g., also vice ministers and ministers of state. All specifications include person and country-year (or year) fixed effects. To achieve convergence, we drop separated observations. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

Table 17: Health ministers and mortality - Placebo test

	(1)	(2)	(3)	(4)
	$neonatal_{kpict}$	$neonatal_{kpict}$	$infant_{kpict}$	$infant_{kpict}$
$healthmin_{ic,t+2}$	0.343	0.358	0.177	0.167
	(0.133)	(0.138)	(0.538)	(0.585)
$leader_{ic,t-1}$		0.226		0.348
		(0.513)		(0.197)
$keymin_{ic,t-1}$		0.070		-0.266
		(0.726)		(0.347)
$cabinet_{ic,t-1}$		-0.231*		-0.060
		(0.099)		(0.800)
Obs.	258,647	258,647	216,410	216,410
Mean dep. var.	3.460	3.460	6.839	6.839
SD dep. var.	18.276	18.276	25.241	25.241

Notes: Panel with children as unit of observation. Estimates based on OLS in all columns. Dependent variables are a child's probability to die before reaching the age of one month ($neonatal_{kpict}$; columns 1 to 3) or one year ($infant_{kpict}$; columns 4 to 6) in percent. $healthmin_{ic,t+2}$ is equal to one in the two years before a health minister originates from the same region as the child. The other independent variables are indicators whether the child was born in the same region as last year's country leader ($leader_{ic,t-1}$), key minister ($keymin_{ic,t-1}$) or other cabinet member ($cabinet_{ic,t-1}$). $healthmin_{ic,t+2}$ includes only health ministers in a narrow sense, excluding public health ministers and other health-related positions. $leader_{ic,t-1}$ includes the effective head of state. $keymin_{ic,t-1}$ includes key ministers in the sense of Francois et al. (2015), excluding the head of state. $cabinet_{ic,t-1}$ includes all ministers except health ministers, leaders and key ministers. All ministers in the broad sense are included, e.g., also vice ministers and ministers of state. Child-level controls are the mother's age at birth (squared), gender, indicator variables for birth order, for whether the last birth was 12, 13–24, 25–36 months ago, and for multiple births. All specifications include mother and country-year fixed effects. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

Table 18: (Public) health ministers and mortality in the next year

	(1)	(2)	(3)	(4)	(5)	(6)
	$neonatal_{kpict}$	$neonatal_{kpict}$	$neonatal_{kpict}$	$infant_{kpict}$	$infant_{kpict}$	$infant_{kpict}$
$healthmin_{ic,t-1}$	-0.538***	-0.541***	-0.513**	-0.286	-0.299	-0.267
	(0.008)	(0.006)	(0.014)	(0.229)	(0.185)	(0.278)
$healthaid_{ic,t-1}$		0.550			2.860	
		(0.894)			(0.631)	
$leader_{ic,t-1}$			0.094			0.221
			(0.786)			(0.440)
$keymin_{ic,t-1}$			0.001			-0.272
			(0.998)			(0.275)
$cabinet_{ic,t-1}$			-0.158			0.032
			(0.309)			(0.884)
Obs.	280,690	280,690	280,690	236,626	236,626	236,626
Mean dep. var.	3.391	3.391	3.391	6.637	6.637	6.637
SD dep. var.	18.101	18.101	18.101	24.893	24.893	24.893

Notes: Panel with children as unit of observation. Estimates based on OLS in all columns. Dependent variables are a child's probability to die before reaching the age of one month ($neonatal_{kpict}$; columns 1 to 3) or one year ($infant_{kpict}$; columns 4 to 6) in percent. The independent variables are indicators whether the child was born in the same region as last year's health minister ($healthmin_{ic,t-1}$), country leader ($leader_{ic,t-1}$), key minister ($keymin_{ic,t-1}$) or other cabinet member ($cabinet_{ic,t-1}$). $healthmin_{ic,t-1}$ includes all health-related ministries: health, public health, HIV/AIDS, population, sanitation. $leader_{ic,t-1}$ includes the effective head of state. $keymin_{ic,t-1}$ includes key ministers in the sense of Francois et al. (2015), excluding the head of state. $cabinet_{ic,t-1}$ includes all ministers except health ministers, leaders and key ministers. All ministers in the broad sense are included, e.g., also vice ministers and ministers of state. Columns (2) and (5) control for the amount of health aid in billion USD a region received in the previous year ($healthaid_{ic,t-1}$). Child-level controls are the mother's age at birth (squared), gender, indicator variables for birth order, for whether the last birth was 12, 13–24, 25–36 months ago, and for multiple births. All specifications include mother and country-year fixed effects. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

Table 19: Health ministers (narrow) and mortality in the next year

	(1)	(2)	(3)	(4)	(5)	(6)
	$neonatal_{kpict}$	$neonatal_{kpict}$	$neonatal_{kpict}$	$infant_{kpict}$	$infant_{kpict}$	$infant_{kpict}$
$healthmin_{ic,t-1}$	-0.635**	-0.639***	-0.638**	-0.458	-0.477	-0.460
	(0.011)	(0.009)	(0.013)	(0.183)	(0.146)	(0.192)
$healthaid_{ic,t-1}$		0.630			3.084	
		(0.880)			(0.607)	
$leader_{ic,t-1}$			0.079			0.191
			(0.821)			(0.524)
$keymin_{ic,t-1}$			0.120			-0.114
			(0.501)			(0.654)
$cabinet_{ic,t-1}$			-0.139			0.154
			(0.361)			(0.402)
Obs.	280,690	280,690	280,690	236,626	236,626	236,626
Mean dep. var.	3.391	3.391	3.391	6.637	6.637	6.637
SD dep. var.	18.101	18.101	18.101	24.893	24.893	24.893

Notes: Panel with children as unit of observation. Estimates based on OLS in all columns. Dependent variables are a child's probability to die before reaching the age of one month ($neonatal_{kpict}$; columns 1 to 3) or one year ($infant_{kpict}$; columns 4 to 6) in percent. The independent variables are indicators whether the child was born in the same region as last year's health minister ($healthmin_{ic,t-1}$), country leader ($leader_{ic,t-1}$), key minister ($keymin_{ic,t-1}$) or other cabinet member ($cabinet_{ic,t-1}$). $healthmin_{ic,t-1}$ includes only health ministers in a narrow sense, excluding public health ministers and other health-related positions. $leader_{ic,t-1}$ includes the effective head of state. $keymin_{ic,t-1}$ includes key ministers in the sense of Francois et al. (2015), excluding the head of state. $cabinet_{ic,t-1}$ includes all ministers except health ministers, leaders and key ministers. Only ministers in the narrow sense are included, excluding e.g., vice ministers and ministers of state. Columns (2) and (5) control for the amount of health aid in billion USD a region received in the previous year ($healthaid_{ic,t-1}$). Child-level controls are the mother's age at birth (squared), gender, indicator variables for birth order, for whether the last birth was 12, 13–24, 25–36 months ago, and for multiple births. All specifications include mother and country-year fixed effects. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

Table 20: Health ministers and mortality in the next year

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	$neonatal_{kpict}$	$neonatal_{kpict}$	$neonatal_{kpict}$	$neonatal_{kpict}$	$neonatal_{kpict}$	$infant_{kpict}$	$infant_{kpict}$	$infant_{kpict}$	$infant_{kpict}$	$infant_{kpict}$
$healthmin_{ic,t-1}$	-0.622**	-0.640***	-0.640***	-0.640***	-0.657***	-0.365	-0.389	-0.395	-0.389	-0.402
	(0.011)	(0.007)	(0.007)	(0.007)	(0.005)	(0.240)	(0.190)	(0.180)	(0.190)	(0.160)
$healthaidPC_{ic,t-1}$	-0.00374					-0.00316				
	(0.110)					(0.288)				
$lnhealthaid_{ic,t-1}$		0.00254					0.0123			
		(0.741)					(0.451)			
$healthaid\_cubic_{ic,t-1}$			-0.0000112					0.000711		
			(0.988)					(0.576)		
$healthaid\_IHS_{ic,t-1}$				0.00153					0.00779	
				(0.757)					(0.459)	
$healthaid_{ic,t-1}$					-14.42					-9.088
					(0.130)					(0.420)
$healthaid2_{ic,t-1}$					80.01**					62.93
					(0.029)					(0.210)
Obs.	278,009	280,690	280,690	280,690	280,690	234,078	236,626	236,626	236,626	236,626
Mean dep. var.	3.392	3.391	3.391	3.391	3.391	6.643	6.637	6.637	6.637	6.637
SD dep. var.	18.103	18.101	18.101	18.101	18.101	24.903	24.893	24.893	24.893	24.893

Notes: Panel with children as unit of observation. Estimates based on OLS in all columns. Dependent variables are a child's probability to die before reaching the age of one month ($neonatal_{kpict}$; columns 1 to 5) or one year ($infant_{kpict}$; columns 6 to 10) in percent. The independent variables are indicators whether the child was born in the same region as last year's health minister ($healthmin_{ic,t-1}$) and variables capturing the allocation of health aid to the region in the last year: health aid per capita ($healthaidPC_{ic,t-1}$), log of health aid plus 0.01 ($lnhealthaid_{ic,t-1}$), the cubic root of health aid ($healthaid\_cubic_{ic,t-1}$), the inverse hyperbolic sine of health aid ($healthaid\_IHS_{ic,t-1}$), health aid in billion USD ($healthaid_{ic,t-1}$) and health aid squared ($healthaid2_{ic,t-1}$). $healthmin_{ic,t-1}$ includes only health ministers in a narrow sense, excluding public health ministers and other health-related positions. All ministers in the broad sense are included, e.g., also vice ministers and ministers of state. All specifications include region and country-year fixed effects. Robust standard errors adjusted for clustering on the country level. Child-level controls are the mother's age at birth (squared), gender, indicator variables for birth order, for whether the last birth was 12, 13–24, 25–36 months ago, and for multiple births. All specifications include mother and country-year fixed effects. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

Table 21: Health ministers and average regional mortality in the next year

	(1)	(2)	(3)	(4)	(5)	(6)
	$neonatal_{ict}$	$neonatal_{ict}$	$neonatal_{ict}$	$infant_{ict}$	$infant_{ict}$	$infant_{ict}$
$healthmin_{ic,t-1}$	-0.390*	-0.378*	-0.394*	-0.110	-0.103	-0.129
	(0.066)	(0.076)	(0.073)	(0.666)	(0.685)	(0.637)
$healthaid_{ic,t-1}$		-4.978**			-2.827	
		(0.037)			(0.244)	
$leader_{ic,t-1}$			0.210			-0.054
			(0.230)			(0.741)
$keymin_{ic,t-1}$			0.025			0.022
			(0.879)			(0.929)
$cabinet_{ic,t-1}$			0.065			0.081
			(0.679)			(0.732)
Obs.	3,871	3,871	3,871	3,525	3,525	3,525
Mean dep. var.	2.811	2.811	2.811	5.479	5.479	5.479
SD dep. var.	3.013	3.013	3.013	4.255	4.255	4.255

Notes: Panel with ADM1 regions as unit of observation. Estimates based on OLS in all columns. Dependent variables are the average probability of children to die before reaching the age of one month ($neonatal_{ict}$; columns 1 to 3) or one year ($infant_{ict}$; columns 4 to 6) in percent in the region. Dependent variables are a child's probability to die before reaching the age of one month ($neonatal_{kpict}$; columns 1 to 3) or one year ($infant_{kpict}$; columns 4 to 6) in percent. The independent variables are indicators whether last year's health minister ($healthmin_{ic,t-1}$), country leader ($leader_{ic,t-1}$), key minister ($keymin_{ic,t-1}$) or other cabinet member ($cabinet_{ic,t-1}$) was born in the region. $healthmin_{ic,t-1}$ includes only health ministers in a narrow sense, excluding public health ministers and other health-related positions. $leader_{ic,t-1}$ includes the effective head of state. $keymin_{ic,t-1}$ includes key ministers in the sense of Francois et al. (2015), excluding the head of state. $cabinet_{ic,t-1}$ includes all ministers except health ministers, leaders and key ministers. All ministers in the broad sense are included, e.g., also vice ministers and ministers of state. Columns (2) and (5) control for the amount of health aid in billion USD a region received in the previous year ($healthaid_{ic,t-1}$). All specifications include ADM1 and country-year fixed effects. Robust standard errors adjusted for clustering on the country level. p-values in parentheses. ***, **, * indicate significance at the 1, 5, and 10%-level, respectively.

D Non-parametric Approach

As we have a dichotomous treatment, we can apply a non-parametric approach to test the robustness of our results. We apply the matching methods proposed by Imai, Kim and Wang (2019) for time-series cross-sectional data.The advantage of using such a non-parametric approach is that we do not need to assume a certain functional form, making our results model-independent. Moreover, the approach by Imai et al. (2019) allows to clearly define a set of control observations that is used to estimate the counterfactual outcome. This is more difficult in models with two-way fixed effects. Lets consider the linear probability model with ADM1 region and country-year fixed effects to estimate the effect of the region being a health minister's birth region on the allocation of any health aid. Then, the two-way fixed effects estimator is the weighted average of the estimator only including ADM1 region fixed effects, the estimator only including country-year fixed effects and the pooled regression estimator. As the pooled regression estimator is biased, the combined estimator might be biased as well (Imai and Kim, 2019).

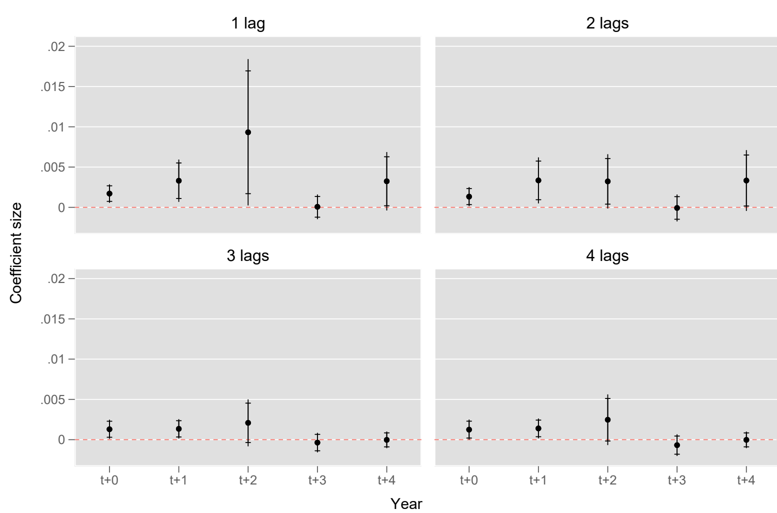
To alleviate this concern, we follow the approach proposed by Imai et al. (2019). We focus on the amount of health aid allocated to a region. The treatment is defined as *becoming* the birth region of a health minister in a given year. Hence, a region i is treated in year t if $healthmin_{ci,t-1} = 0$ and $healthmin_{ict} = 1$. For each treated observation, we construct a set of control observations, the matched set. The matched set consist of observations of control regions that experience the same treatment history as the treated region for a defined period of time. We further refine the matched set by adjusting for $leader_{ict}$, $keymin_{ict}$ and $cabinet_{ict}$ using propensity score weighting. Having constructed the refined matched set $\mathscr{M}_{it}$, we estimate the average treatment effect on the treated, $\hat{\rho}$, by applying the following difference-in-differences estimator:

$$\hat{\rho} = \frac{1}{\sum_{i=1}^{N} \sum_{t=L+1}^{T-F} D_{it}} \sum_{i=1}^{N} \sum_{t=L+1}^{T-F} D_{it} \times \left[(healthaid_{i,t+F} - healthaid_{i,t-1}) - \sum_{i' \in \mathscr{M}_{it}} w_{it}^{i'} (healthaid_{i',t+F} - healthaid_{i',t-1}) \right] \quad (4)$$

where $D_{it} = healthmin_{it}(1 - healthmin_{i,t-1}) \cdot \mathbf{1}\{|\mathscr{M}_{it}| > 0\}$. Hence, D_{it} is only equal to 1 in year t if region i changes from the control condition in $t-1$ to the treatment condition in t and if there is at least one control unit in the refined matched set. $w_{it}^{i'}$ is such that $w_{it}^{i'} \geq 0$ and $\mathscr{M}_{it} w_{it}^{i'} = 1$. $\sum_{i' \in \mathscr{M}_{it}} w_{it}^{i'} healthaid_{i',t+F}$ is the counterfactual outcome based on the weighted average of the control units in the refined matched set. L is the number of years for which the treatment history of the control units has to coincide with the one of the treated unit. Note that our sample gets smaller the higher L, as we only consider observations for which we observe the full treatment history up to $t-L$. Hence, we present results for different L, namely $L \in 1,4$. F is the number of years after the treatment: e.g., to investigate the effect on health aid in the next year, F equals 1. We present results investigating the effect in the same, the next, two, three and four years ($F \in 0,4$). To investigate the effects of a health minister while he is still in office, we do not allow for treatment reversal, i.e., we only include regions that stay the health minister's birth region up to at least $t+F$. The drawback of this approach is that we lose information. To minimize this loss, we use a different sample for each F.

This means, for example, that we drop the observations with a treatment reversal before $t = 4$ only if we investigate the effect in $t = 4$. If we are interested in the effect in $t = 3$, we only drop the observations with a treatment reversal before $t = 3$, etc. Standard errors are calculated by a block-bootstrap procedure.

Figure 2 shows the effects of becoming a health minister's birth region on the allocation of health aid (in levels) in the next four years. Each subfigure presents the results obtained by considering a different number of lags. Each dot represents the size of the coefficient coming from a separate estimation. The bars without the hooks (with the hooks) represent the corresponding 95%- (90%-) confidence intervals. Although the definition of treatment differs from the one used for our main regressions and we use a different sample, the broader picture remains the same: more health aid is allocated to health minister's birth regions. More precisely, focusing on the subfigures with 2 to 4 lags, a region becoming a health minister's birth region receives around 1 to 3 million USD more health aid per year for the next two years. Adding this up over these 3 years, this corresponds to about 7 million USD more health aid, which is slightly more than half of a standard deviation. The results remain qualitatively similar when considering the treatment history over the last one, three and four years in Figure 2.



Notes: Results of using non-parametric difference-in-differences approach. The dependent variable is the amount of health aid allocated to a region in a given year. The treatment is defined as switching from not being to being the birth region of a health minister. Subfigure: number of lags indicate number of years on which the treatment history was matched. Each coefficient comes from a different sample, only including the regions that are still a birth region in the year of interest. The matched set with the controls is further refined by whether the region was the birth region of the leader, a key minister or any other cabinet member. Standard errors are calculated by a block-bootstrap procedure. The bars without the hooks (with the hooks) represent the corresponding 95%- (90%-) confidence intervals.

Figure 2: The effects of health ministers on health aid over time