

The impact of political governance on biomedical research performance: A study of 50 countries

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Abstract: This study tries to understand why certain countries have a stronger biomedical research than others. Our hypothesis is that the national political governance plays a major, yet under-recognized, role. Biomedical research performance was calculated as the number of publications from the country's research teams in the top 97 biomedical journals per annum per capita. Governance is the sum of the 6 country level governance indicators used by the World Bank. Relevant co-factors extracted from the literature were also included: GNI per capita, the percentage of GDP allocated to R&D, the economic value of international trade, immigrants per capita, English proficiency, the percentage of households connected to Internet and the population size. The sample includes the top 50 countries in terms of number of publications. They represent 99% of the World's publications, 70% of the World's population and 90% of the World's economic production. Data collected for all years between 1996 and 2008 was analyzed using cross sectional and longitudinal (panel data) methods. Our results challenge the perceived ranking order of country level biomedical research performance factors, previously based on the prominence of economic resources. Economic resources such as gross national income (GNI) per capita and the percentage of gross domestic product (GDP) allocated to R&D are still fundamental in the long run. However, compelled by the World's globalisation, a fast growth in population, international trade and immigration are today's drivers of biomedical research performance. Most importantly, governance appears to be the most important factor, having the ability to transform these resources into top biomedical research. One point of governance (ranging from -6.9 to 10.8) increases, depending on the model, from 11% to 16% the publications per capita ratio, the other variables held equal. The implications for public health leaders are fourfold. First, they must understand the true dynamics of innovation, based on diversity, volume and resilience. Second, they must appreciate the political importance of biomedical research and the impact governance has on innovation. Third, they must understand that good governance and good leadership have similarities. Finally, public health leaders should see in the World's globalisation an opportunity for innovative solutions.

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