

# Association between Primary Care Investment and Life Expectancy in 193 Countries: A Retrospective Longitudinal Study

Miao Cai<sup>a</sup>, Asabe Garba<sup>a</sup>, Xin Li<sup>c</sup>, Xiaojun Lin<sup>\*,b</sup>

<sup>a</sup>*Saint Louis University, Saint Louis, MO, 63108*

<sup>b</sup>*Sichuan University, Chengdu, Sichuan, China*

<sup>c</sup>*Wuhan University, Wuhan, Hubei, China*

## Abstract

This is the abstract.

It consists of two paragraphs.

## 1. Introduction

government health expenditure and life expectancy.

[1].

## 2. Special issue information

Universal health coverage (UHC) is one of the key approaches in achieving the 2030 Agenda for Sustainable Development Goals (SDGs). On October 25-26, 2018, the Global Conference on Primary Health Care was held in Kazakhstan, and the Declaration of Astana was signed by 197 Member States under the leadership of the World Health Organization (WHO). In this Declaration, strengthening primary health care system has been considered as an essential step towards achieving Universal Health Coverage.

This thematic series of articles is being launched by the Global Health Research and Policy (GHRP) to serve as a platform to disseminate current research findings, insights, new perspectives, and policy recommendations in promoting UHC worldwide. This will serve to create better knowledge transfer from researches to policy-making and practices and for information and experience sharing. GHRP is encouraging submissions of commentaries, reviews, research articles, and short report of policies on the key elements of UHC. Elements that can be covered in the submissions may include, but not limited to the following:

---

\*Corresponding Author

Email addresses: miao.cai@slu.edu (Miao Cai), asabe.garba@slu.edu (Asabe Garba), x160@iu.edu (Xin Li), xjlin@hust.edu.cn (Xiaojun Lin)

- Health financing system strengthening, with special focus on the development of health financial protection schemes for the disadvantaged population, as well as the integration of different insurance programs.
- Primary healthcare system strengthening, with special focus on health workforce and delivery network of primary health care services, equity and quality of primary health care, information systems construction, etc.
- People-centered health care system, with special focus on the integration of specialist healthcare services and primary health care, and the provision of continuous services to improve patient experience, etc.
- Essential medicines and health products, with special focus on strategic purchasing, relevant mechanism designs and market entry for insurance benefit package.
- Medical assistance programs for poverty alleviation as an approach to increase UHC.

This thematic series will be guest edited by Dr. Beibei Yuan (beibei yuan@bjmu.edu.cn), Associate Professor from Peking University and Dr. Lanting Lu (lanting.lu@ruc.edu.cn), Associate Professor from Renmin University of China.

Submissions from anywhere in the world are welcome. Authors are advised to select the Thematic Series option “Universal Health Coverage” during their submission. The deadline of submission is on **April 14, 2019**.

### 3. Methods

#### 3.1. Data source

- Data/AllData.xlsx: [WHO country level variables](#)
- Data/life-expectancy-who/Life Expectancy Data.csv: [Life expectancy and mortality](#)

In an effort to promote reproducible research, we have created a public GitHub repository to store all the data and R code we use to write this paper. Interested readers can find them at <https://github.com/caimiao0714/GHRP-UHC>.

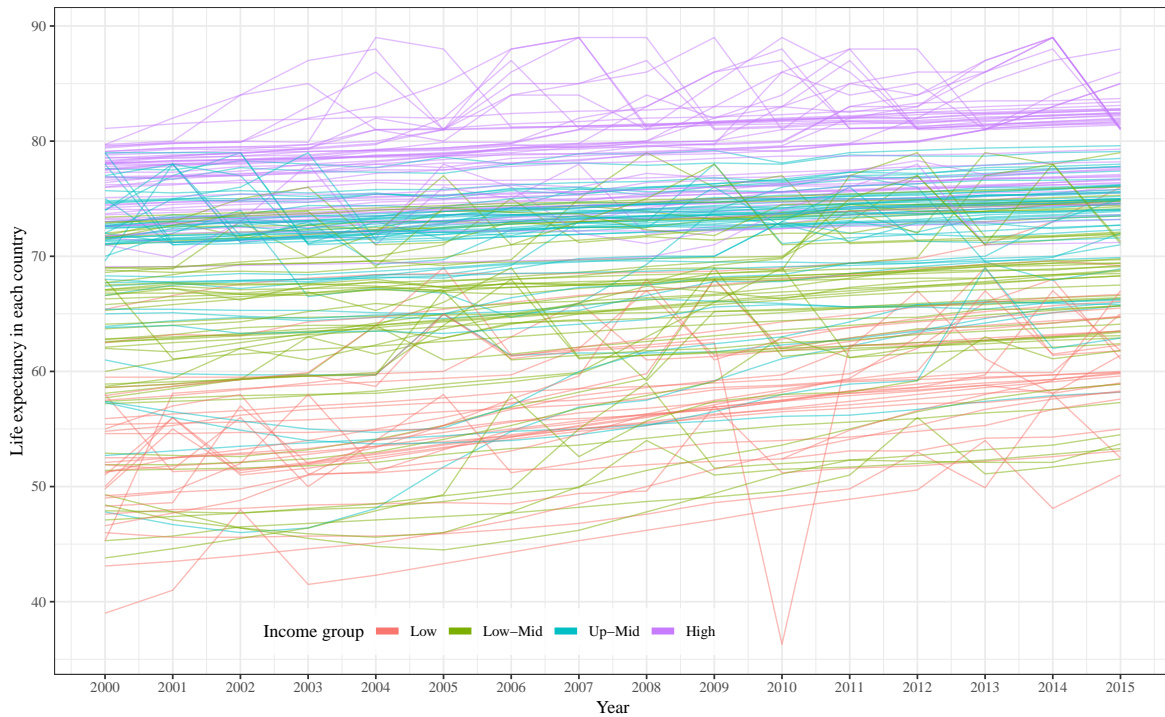


Figure 1: Life expectancy in different countries from 2000 to 2015

### 3.2. Variable selection

Outcome: life expectancy

Independent variables:

Country level:

- CountryName (random intercept)
- Current Health Expenditure (CHE) as % Gross Domestic Product (GDP): CHEGDP\_SHA2011
- 

Continent level

### 3.3. Statistical Analyses

## 4. Results

There are various bibliography styles available. You can select the style of your choice in the preamble of this document. These styles are Elsevier styles based on standard styles like Harvard and Vancouver. Please use BibTeX to generate your bibliography and include DOIs whenever available.

Here are two sample references:

## **5. Discussion**

### **References**

1. Wagstaff A, Flores G, Smitz M-F, Hsu J, Chepynoga K, Eozenou P. Progress on impoverishing health spending in 122 countries: A retrospective observational study. *The Lancet Global Health*. 2018;6:e180–92.