

Public health in Democratic People's Republic of Korea

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The knowledge about public health in the Democratic People's Republic of Korea (DRPK) has improved in recent years. Given the scale of the challenges, national and international entities have sought to highlight data, gaps and inequities to inform progress. These have highlighted key areas for public health investment, such as the 18 million people who are dependent on a public distribution system of food rations and the more than 10 million who are undernourished.¹

Public health improvements have been occurring. For example, coverage rates of diphtheria, tetanus and pertussis vaccination increased from 37% in 1997 to 96% in 2013.² Yet, challenges persist across an array of indicators. Under five mortality remains notable at 15 per 1000 live births. And, although faecal contamination of source water is 23.5%, more than 20% of parents do not seek care for children with diarrhoea from public health facilities—55% of those who do seek care do not receive oral rehydration salts and zinc.³ Health infrastructure is extensive, but capacity is low and the system is under-resourced.⁴

There are many unknowns on the state of public health in DPRK. Park *et al* in *BMJ Global Health* make a key contribution to the literature by systematically reviewing public health publications from both English and Korean language sources.⁵ The findings are both informative for current public health improvement efforts and for identifying gaps for directing future research.

The analysis shows an under-representation of research relative to disease burden for two major causes of morbidity: non-communicable diseases (NCD) and injuries. Conversely, research on maternal and child health and nutrition, and communicable diseases was over-represented. A narrative analysis outlines previous studies and further highlights evidence gaps in public health knowledge.

This is the first comprehensive study conducted in this way and represents a new

review of DPRK literature that is published and easily available for review. In using the 'Medium Term Strategic Plan (MTSP) for the Development of the Health Sector, 2016–2020' (which is essentially the Ministry of Public Health's Health Plan) and its eight strategic areas and 16 research priorities as a basis of making sense of the literature, the authors systematically identify gaps revealing missing or underexplored areas of research.⁶ The distribution of publications by DPRK national health priority category is also mapped.

Within the NCD subset, specific areas such as refugee health predominated rather than the knowledge base reflecting a spectrum of cardiovascular and respiratory disorders, diabetes and cancer. Of the papers on NCDs, 110 out of 138 were concerned with the mental health of North Koreans resident outside of DPRK. These findings signify a significant knowledge gap on NCDs. The same was also the case in injuries where only one paper was included in the study.

Many of the papers overall were studies of North Koreans living outside of DPRK. Of the 165 papers from inside DPRK, an analysis mapped to DPRK's health strategy revealed gaps in social and environmental determinants of health as well as communicable diseases and NCDs.

Park *et al*'s study is not without limitations. Being unable to include publications originating from DPRK in their results—and therefore with more DPRK authors—is unfortunate but understandable given they are very challenging to obtain. This represents an important future research priority. It is also important that available international data from WHO, Unicef and other agencies are widely available within DPRK to assist health officials to make evidence-based decisions about public health investments.

Identifying gaps in what we know about the public's health is a critical first step to planning a proportionate response. Niche interests can feature large in public health and



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there is an ongoing need to ensure systematic research to direct appropriate investment. This also has implications for equity. A disproportionate focus on the neediest population groups in both programmes and policy is hindered by a lack of data.

Recent changing geopolitics affecting DPRK could lead to a period of opportunity for further public health investment from national and international sources, paving the way for more comprehensive analysis and action. Future research should aim to establish baselines across the nation proportionately in each of the domains of public health to direct improvements and strengthen healthcare systems. Using data at subnational level and disaggregating by gender and age would enable policymakers to target resources accordingly.

DPRK currently faces sanctions that have challenged humanitarian work despite that not being the intention. Given the ongoing threats to public health, and the heightened risk of natural disasters in DPRK, studies that reveal the extent of knowledge gaps are increasingly needed. This also supports international cooperation agreements. The United Nations in DPRK in their 2017 Strategic Framework plan to further support primary healthcare and noting the issue of NCDs aim to focus more on this area.⁷

Using research such as that by Park *et al* is an important step in paving the way for future research and action.

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