

right to health, and more than 60 years of US sanctions have not led to political change in North Korea. There are no indications that the political origins of health inequities will be solved at national level alone, but rather they may require global political solutions rooted in commitments to global solidarity and shared responsibility.<sup>2</sup>

The Commission recommended the creation of opportunities for dialogue and contact in science, exchange of information, and exposure of people to the outside world. For the sake of global solidarity and shared responsibility, we urge nations and universities to work together, creating space for research collaboration and capacity building in North Korea. Countries should set aside political differences and give universities academic freedom to collaborate independently of partner countries' political system, as long as the actual collaboration follows main principles, such as the Declaration of Helsinki. The University of Oslo, Norway, has made the institution available for academic cooperation with Kim Il Sung University, North Korea.

Health challenges in North Korea are plethora, and during a visit to North Korea in November, 2010, we noted that officials in the Ministry of Public Health and Kim Il Song University were open about the country's health challenges, ranging from chronic undernutrition and tuberculosis to non-communicable diseases (NCDs). They wanted advice on how to get the most health benefit out of resources available, cooperation in curriculum development, teaching, laboratory equipment, and medicines. Staff at Kim Il Song University wanted collaboration in publishing of research findings in international journals. North Korea has lots of interesting data and highly motivated researchers, but the dialogue with the outside world through publications is scarce.

Estimates of the burden of diseases in North Korea are mainly based on reports from international organisations, including WHO and

UNICEF. Under-5 mortality rates increased from 45 per 1000 livebirths in 1990 to 58 in 2000, and dropped to 33 in 2011.<sup>34</sup> The peak was probably due to the famines in the mid-1990s; and it is most likely an underestimation, as the famines killed between 600 000 and 1 000 000 people out of a total population of approximately 22 million. The collapse of the Soviet Union in 1991, an important ally of North Korea, contributed to the deterioration of health indicators in the 1990s. The political determinants arising from such changes in transnational interaction may participate in health inequities.<sup>2</sup> In 2009, the prevalence of stunting and underweight among North Korean children younger than 5 years was 32% and 19%, respectively, close to the worst-performing African countries.<sup>35</sup> There are also important regional differences; stunting and underweight are worst in the northeast of the country.<sup>3</sup>

NCDs are currently responsible for two-thirds of deaths in North Korea, with cardiovascular diseases being the most important disease group.<sup>34</sup> Tuberculosis has been an important health issue in North Korea for the past 20 years, with one of the highest incidence rates outside sub-Saharan Africa, and by contrast with other countries the occurrence of HIV/AIDS is low. On the basis of WHO estimates, from 1995 to 2011, the incidence of tuberculosis has been stable high at 344 per 100 000, while the prevalence dropped from 738 to 422 per 100 000 in the same period.<sup>37</sup> The mortality rate of tuberculosis is relatively low and has dropped from 20 to 6 per 100 000 during the same period. If these figures are correct, it may indicate that treatment success rate has increased. However, the spread of multidrug-resistant tuberculosis in North Korea is much more advanced than was previously assumed, which is a threat to North Korea's population and neighbouring countries—although very few people, at the moment, are allowed to cross the borders.



## North Korea: a challenge for global solidarity

On the basis of the Commission of Inquiry on human rights in the Democratic People's Republic of Korea, a recent Editorial (March 1, p 756)<sup>1</sup> presented evidence of gross violations of human rights in North Korea. The Commission did not call for economic sanctions, which is fortunate, as the side-effects could be violations of the

For the UN's Human Rights Council's Commission of Inquiry on human rights in the Democratic People's Republic of Korea see <http://www.ohchr.org/EN/HRBodies/HRC/ColDPRK/Pages/ReportoftheCommissionofInquiryDPRK.aspx>

Several international organisations have been engaged in North Korea for many years, and still there are grave, morally unacceptable, health inequities in the country. To ensure the right to health for all people of North Korea, increased academic collaboration could be a small step on the way to success. Reliable knowledge of a state's health challenges and health system could help planning of health services, interventions, and humanitarian aid programmes.

We declare that we have no competing interests.

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- 1 The Lancet. North Korea: evidence of intolerable human rights violations. *Lancet* 2014; **383**: 756.
- 2 Ottersen OP, Dasgupta J, Blouin C, et al. The political origins of health inequity: prospects for change. *Lancet* 2014; **383**: 630–67.
- 3 Yo Han Lee, Seok-Jun Yoon, Young Ae Kim, Ji Won Yeom, In-Hwan Oh. Overview of the burden of diseases in North Korea. *J Prev Med Public Health* 2013; **46**: 111–17.
- 4 United Nations Children's Fund. Levels and trends in child mortality: report 2012. [http://www.childinfo.org/files/Child\\_Mortality\\_Report\\_2012.pdf](http://www.childinfo.org/files/Child_Mortality_Report_2012.pdf) (accessed March 13, 2014).
- 5 WHO. Levels and trends in child malnutrition: UNICEF-WHO-The World Bank joint child malnutrition estimates. [http://www.who.int/nutgrowthdb/jme\\_unicef\\_who\\_wb.pdf](http://www.who.int/nutgrowthdb/jme_unicef_who_wb.pdf) (accessed March 13, 2014).
- 6 WHO. Noncommunicable disease country profiles: Democratic People's Republic of Korea. [http://www.who.int/nmh/countries/prk\\_en.pdf?ua=1](http://www.who.int/nmh/countries/prk_en.pdf?ua=1) (accessed March 13, 2014).
- 7 WHO. Tuberculosis country profiles: Democratic People's Republic of Korea. <http://www.who.int/tb/country/en/index.html> (accessed March 13, 2014).