

WHY A BURDEN OF DISEASE STUDY?

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From the time I was appointed as Director of the European Centre for Disease Prevention and Control (ECDC) in 2005, I and the ECDC Governing and Advisory Bodies faced the task of tackling the 46 diseases under mandatory notification in the European Union (EU), as well as severe acute respiratory syndrome (SARS), avian influenza and West Nile virus. The evidence for deciding on relative priorities was limited, especially as the ECDC's first Annual Epidemiological Report (AER) for 2005 describing the Communicable Disease (CD) situation in the EU was in preparation stage.

Furthermore, it was clear that although the public health community "knows" that CD have in general decreased substantially in Europe over the last century, it was also clear that new CDs have started to emerge and old ones re-emerge. However, "evidence" is lacking, both for when the century-old historical decreasing curve started to rise again and for the rate of the current increase. The success in tackling CDs, and hence their burden, has also changed the balance between Communicable and Non-Communicable Diseases (NCDs). CDs are currently estimated to present 9% of the total burden of disease in Europe [1]. This has also had an impact on the direction of priorities between these two broad areas of public health. However, the traditional boundaries between CDs and NCDs are also clearly changing, as present research indicates that many traditional NCDs have infections in their aetiology and should perhaps now be classified as CDs rather than NCDs. Examples are the role of human papillomavirus in cervical cancer [2] and the role of *Helicobacter pylori* with regards to stomach cancer [3]. In addition, "success" in controlling SARS has in some quarters, especially the mass media, raised questions of "waving shrouds" and the necessity of the considerable expense that was involved. Such doubts may migrate to current avian influenza and pandemic preparedness. These perceptions also need to be rectified with the help of "evidence".

Without the "evidence", it is more than likely that experts in each CD (and NCD) will quite rightly present figures to argue for funds and support that in total would exceed the recorded mortality and morbidity. To some extent, this was one of the rationales for the Global Burden of Disease study initiated by the World Health Organization (WHO) in the 1990s and the attempts to develop a composite measure that incorporated morbidity, mortality, sequelae and severity with the ultimate possibility to include direct and indirect costs of the burden of each disease.

The development of composite measures is not new – life expectancy being perhaps the oldest in the health area – and improvements in the underlying data used to develop them are required. Such measures are also most useful when they are designed to be used to identify areas for public health action rather than simple league tables (be they of diseases and/or of countries). The experience of the Global Burden of Disease study

has shown that the development and use of such measures can help to bring about significant improvement and attention to the quality and completeness of the underlying data, which have historically perhaps not had the attention and resources required (even given EU Member States' strong historical civil registration systems).

Therefore, in the autumn of 2006 the ECDC decided to explore the potential of the use of composite measures as one element to help guide public health policy and actions in the area of CDs. This was done through the launch of a three-month pilot study together with the Dutch National Institute for Public Health and the Environment (RIVM), which was supported and funded by the Ministry of Health and Welfare of the Netherlands. Given the very short time available (due to the deadlines for the AER), it was clear that this would only be possible by using existing composite measures and generally available data and covering a limited number of CDs. Seven diseases were chosen for inclusion in the pilot, some because work had already been done for these diseases (albeit in specific countries). Other diseases, such as influenza and measles, were selected to ensure that specific difficulties, such as reported data being the "tip of the iceberg" and prevention issues, were considered in the pilot.

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The results of this pilot study were welcomed by the technical experts of the ECDC's Advisory Forum in May 2007, who suggested that they be published in an article in a peer-reviewed journal. The Advisory Forum also endorsed the recommendation to launch a full EU-wide burden of communicable disease study covering the full range of CDs with the involvement of all relevant institutions in the EU, researchers with interest in burden of disease, the European Commission and the WHO. Steps are in hand to start such a study in 2008 through a call for tender.

I am personally also very impressed by the initial results of the pilot study, which show both the potential and the difficulties of this issue. However, I believe that the EU public health community will meet the challenge and develop the specific methodologies needed to overcome the identified and yet to be identified challenges. This is because we need to continue to invest in all aspects of the fight against CD.

Forty years ago, the United States' Surgeon General, Dr William Stewart proposed that, with the advent of antibiotics and the broad use of vaccines, the war against infectious diseases had been essentially won, and that we now needed to pay attention to other important health issues, such as chronic diseases. However, it is clear today that we have only won a "battle": the "war" will surely continue. Turning to less aggressive vocabulary, perhaps it is a "never-ending dance" [4] in which the human race needs to constantly find new technologies and tools to keep "in step" with changing and new microbes!

References

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