

Chapter 4

Infectious Disease Control Policies and the Role of Governmental and Intergovernmental Organisations

G rard Krause

Today, in an interdependent world, bacteria and viruses travel almost as fast as e-mail and financial flows. Gro Harlem Brundtland, Former Director General of the WHO (Brundtland 2003).

4.1 Introduction

Public health is generally regarded as the typical domain of national if not local governments, which takes into account local necessities arising from the epidemiologic situation, the health-care system and the government structures. Therefore in theory, public health policy is in the sovereignty of countries. However, the spread of infectious diseases has never been restricted to national borders; thus the principle of national sovereignty is largely theoretical. This is especially true in a world with unprecedented international mobility of goods and persons. Moreover, particularly public health actions in the field of infectious diseases within one country may well affect public health issues in other countries. One of the best recent examples is the Chinese management of the initial phase of the SARS epidemic, which was characterised by failing surveillance structures, insufficient control measures and restricted public information policy. Abba Ebban has described it as a paradox that in order for countries to effectively execute their public health sovereignty, they would consequently have to give up some of their sovereignty to intergovernmental organisations (Ebban 1995).

This chapter discusses the basic principles of public health sovereignty and what they mean in the context of the new International Health Regulations (IHR). This leads to a description of three very different organisations: The World Health Organisation, the US Centers for Disease Control and Prevention and the European

G. Krause (✉)

Department for Infectious Diseases Epidemiology, Robert Koch Institute, Nordufer 20, 13353 Berlin, Germany
e-mail: krauseg@rki.de

Centre for Disease Prevention and Control. The examples indicate that national governments have already ceded their sovereignty in public health policy to a considerable extent to intergovernmental organisations.

4.2 The International Health Regulations

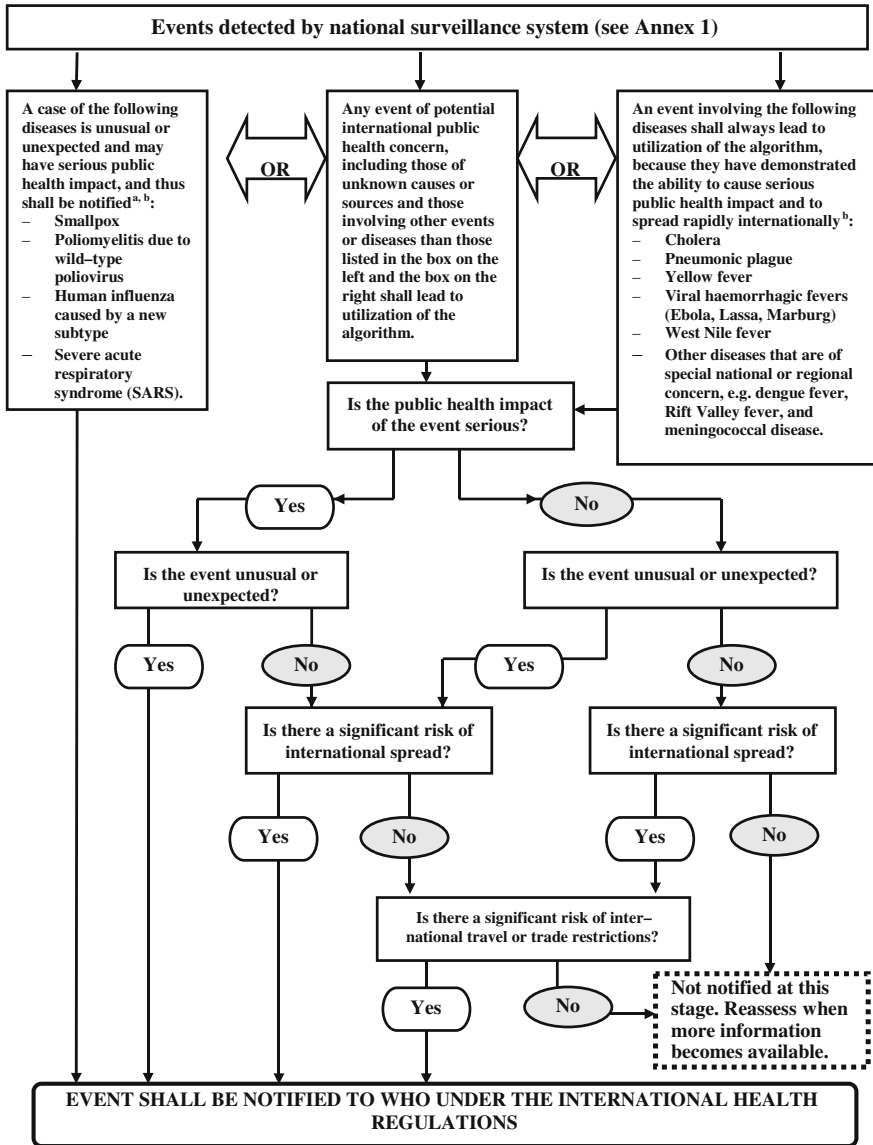
The most prominent and recent process in which public health sovereignty has been ceded from countries to an international body is the adoption of the new International Health Regulations (IHR) by the 58th World Health Assembly (WHA) in May 2005, which entered into force in June 2007 (WHO 2005). The purpose of the IHR is to “prevent, protect against, control and provide a public health response to international spread of disease in ways . . . which avoid unnecessary interference with international traffic and trade” (WHO 2005). Compared to the previous IHR which were in place from 1969 to 2007, these new IHR have an expanded scope not only concerning the diseases and health hazards to be covered but also concerning the mandate of the World Health Organisation (WHO).

For various reasons, the old IHR did not motivate member states to inform the WHO about possible health threats of international concern: firstly, the scope of diseases covered by reporting regulation in the old IHR was limited to a few diseases such as cholera, plague and yellow fever. Secondly, there was virtually no standardization on how to define such threats and how to report them to the WHO, and there were hardly any internationally defined standards to assure that such threats come to the attention of national governments in the first place. Thirdly, a member state could expect little benefit for reporting a critical event. And fourthly, member states reporting such events ran the risk of suffering exaggerated control measures from other countries which might have additional adverse effects on the economy of the affected country or on the liberty and integrity of people travelling from or to such countries. The IHR 2005 aim to address these issues by radically expanding their scope not only to potentially any infectious disease but also to chemical and physical health hazards. In addition, IHR 2005 have a number of provisions to prevent other countries from taking exaggerated control precautions that could lead to the unjustified disadvantage of the reporting country or of free trade and travel in general.

In the literature, most attention is directed towards the fact that the IHR 2005 no longer limit themselves to infectious diseases and to the fact that a decision algorithm defines the notifiable entity of a public health emergency of international concern. The first may have strong organisational implications at the national level. The second is a tribute to the necessity of being able to detect unexpected threats such as SARS. Both issues however are more technical in nature and do not fundamentally touch the principle of member state sovereignty over national health policy issues (Fig. 4.1)

By ratifying the IHR 2005, member states have in fact ceded a considerable part of their respective sovereignty in national public health policy to the international

ANNEX 2
DECISION INSTRUMENT FOR THE ASSESSMENT AND NOTIFICATION OF EVENTS THAT MAY
CONSTITUTE A PUBLIC HEALTH EMERGENCY OF INTERNATIONAL CONCERN



^a As per WHO case definitions.

^b The disease list shall be used only for the purposes of these Regulations.

Fig. 4.1 Annex 2 of the International Health Regulations (http://www.who.int/csr/ihr/IHR_2005_en.pdf)

community. For this reason, Fidler has described this process as the step towards post-Westphalian public health (Fidler 2003), because the peace of Westphalia in 1648 after the Thirty Years' War had established an international political structure in which states gave up the full sovereignty of their territories to a systematic and binding supreme authority. Post-Westphalian public health, therefore, refers to the fact that international public health policy is no longer dominated by individual states' policies but rather that supranational structures and institutions do interfere in national health policy (Krause 2009). The following three examples will exemplify how aspects of the IHR 2005 may have considerable impact on national and international public health policy.

Core capacity requirements of the International Health Regulations: Annex 1 of the IHR 2005 defines a minimal set of core capacities which not only national but also intermediate and local public health services must provide in order to assure effective surveillance. It may be argued that member states of the World Health Assembly who have ratified the IHR would also naturally have the mandate to assure the implementation of these minimal standards. However, for federal governments whereby certain public health responsibilities and mandates are in the hands of local rather than national governments, this may not be the case. This so-called federalism dilemma is of significant importance as countries with federal governments make up about 40% of the world's population (Wilson et al. 2006). Wilson et al. have expressed concern that even if federal governments do have constitutional authorities to override jurisdiction of regional governments, in order to implement Annex 1, they may choose not to do so because of political reasons. The latter is of course true for any country (especially large ones) and not only for federations (Wilson et al. 2006) (Table 4.1).

Table 4.1 Annex 1 of the International Health Regulations (http://www.who.int/csr/ihr/IHR_2005_en.pdf)

Core capacity requirements for surveillance and response

1. States Parties shall utilise existing national structures and resources to meet their core capacity requirements under these Regulations, including with regard to
 - (a) their surveillance, reporting, notification, verification, response and collaboration activities and
 - (b) their activities concerning designated airports, ports and ground crossings.
2. Each State Party shall assess, within 2 years following the entry into force of these Regulations for that State Party, the ability of existing national structures and resources to meet the minimum requirements described in this Annex. As a result of such assessment, States Parties shall develop and implement plans of action to ensure that these core capacities are present and functioning throughout their territories as set out in paragraph 1 of Article 5 and paragraph 1 of Article 13.
3. States Parties and the WHO shall support assessments, planning and implementation processes under this Annex.
4. At the local community level and/or primary public health response level

The capacities

- (a) to detect events involving disease or death above expected levels for the particular time and place in all areas within the territory of the State Party and
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Table 4.1 (continued)

 Core capacity requirements for surveillance and response

(b) to report all available essential information immediately to the appropriate level of health-care response. At the community level, reporting shall be to local community health-care institutions or the appropriate health personnel. At the primary public health response level, reporting shall be to the intermediate or national response level, depending on organisational structures. For the purposes of this Annex, essential information includes the following: clinical descriptions, laboratory results, sources and type of risk, number of human cases and deaths, conditions affecting the spread of the disease and the health measures employed and

(c) to implement preliminary control measures immediately.

5. At the intermediate public health response levels

The capacities

(a) to confirm the status of reported events and to support or implement additional control measures and

(b) to assess reported events immediately and, if found urgent, to report all essential information to the national level. For the purposes of this Annex, the criteria for urgent events include serious public health impact and/or unusual or unexpected nature with high potential for spread.

6. At the national level

Assessment and notification. The capacities

(a) to assess all reports of urgent events within 48 hours and

(b) to notify the WHO immediately through the National IHR Focal Point when the assessment indicates the event is notifiable pursuant to paragraph 1 of Article 6 and Annex 2 and to inform the WHO as required pursuant to Article 7 and paragraph 2 of Article 9.

Public health response. The capacities

(a) to rapidly determine the control measures required to prevent domestic and international spread;

(b) to provide support through specialised staff, laboratory analysis of samples (domestically or through collaborating centres) and logistical assistance (e.g. equipment, supplies and transport);

(c) to provide on-site assistance as required to supplement local investigations;

(d) to provide a direct operational link with senior health and other officials to rapidly approve and implement containment and control measures;

(e) to provide direct liaison with other relevant government ministries;

(f) to provide, by the most efficient means of communication available, links with hospitals, clinics, airports, ports, ground crossings, laboratories and other key operational areas for the dissemination of information and recommendations received from the WHO regarding events in the State Party's own territory and in the territories of other States Parties;

(g) to establish, operate and maintain a national public health emergency response plan, including the creation of multidisciplinary/multisectoral teams to respond to events that may constitute a public health emergency of international concern and

(h) to provide the foregoing on a 24-hour basis.

Many federal governments may already have local public health services in place strong enough to comply with the required core capacities. However, a great number of countries with notoriously poor public health infrastructure may simply not have the economic resources to implement and assure the provision of core capacities – regardless of how much political mandate the national government has over the local

public health structure (Calain 2007). The IHR 2005 require the full compliance of the described public health infrastructure by June 2016 at the latest. While the rich countries with a strong infrastructure of private health services may in some ways compensate for deficiencies in public health infrastructure, those countries where this is not the case are most likely to be least capable of complying with the IHR requirements.

Particularly the Annex 1 of the IHR may thus be almost as utopian in nature as the WHO slogan “Health for all by the year 2000”. In addition to the frustration of international milestones not being met by many countries, which would be most in need of reaching them, these IHR standards may additionally result in adverse effects. Setting up a system capable of complying with the core capacity requirements for surveillance and response in a country with non-existent or poor communication and transportation infrastructure may prove to be extremely costly. Furthermore, the realisation of these core capacities may divert already scarce funds away from essential public health services such as health education, vaccination and other primary health-care functions. On the other hand, it might be argued that these countries would continue to have insufficient public health services anyway regardless of whether Annex 1 of IHR existed or not. In this sense the IHR are also establishing a system capable of identifying the needs for assistance to member states in case of public health emergencies of international importance. By initiating and coordinating assistance, the WHO could prevent such events from spreading within the country and to others with equally limited resources to control them.

Impact of IHR on national public health surveillance and response infrastructure: In Article 9, the IHR now also give the WHO more flexibility in the use of medical intelligence in order to become fully aware of potential outbreaks before national governments choose to report these officially and voluntarily. In practice, the WHO had done so before the revision of the IHR. The Global Outbreak Alert and Response Network (GOARN), which has been functioning since 1997, has collected information on outbreaks worldwide using unofficial sources such as media reports also (Tucker 2005). However, the difference now is that the IHR 2005 authorise the WHO to request verification from a State Party with reference to such information. Under certain circumstances this may exert considerable pressure upon the national surveillance and response infrastructure.

Impact of IHR on travel restrictions: Another important aspect of international public health policy concerns the measures taken by member states to control or prevent an outbreak. On the one hand, WHO recommendations might be perceived as too stringent and costly by member states and thus impossible to comply with. On the other hand, too “liberal” recommendations might be perceived by some states as insufficient, and these states might insist on additional measures. Since the IHR are also meant to accomplish best possible health protection while at the same time assuring least possible travel and trade restriction; very restrictive public health measures in one country may well have negative effects on people in other countries. For example, during the cholera outbreak in Zimbabwe in December (2008) the issue came up whether or not requirements for cholera vaccination at border crossing may expose more people to the risk of adverse vaccine effects which may outweigh the

expected protective effect. The WHO recommended not to limit border crossing and also not to request cholera immunisations (WHO 2008). The IHR 2005 contain a clause that allows states to implement health measures other than those recommended by the WHO if they achieve the same or greater level of health protection and if they are neither more restrictive to international traffic nor more intrusive to persons (WHO 2005).

Core capacity requirements of the International Health Regulations, the authority of the WHO to request verifications on unofficial information and finally the influence of WHO recommendations are only examples to illustrate how the IHR have already taken away a substantial part of national sovereignty over public health policy. To what extent international public health policy is determined by national public health policy and vice versa also depends largely on the actors in this field. Three organisations, internationally active in infectious disease control, are portrayed briefly in order to illustrate their differences and also to display their interdependence.

4.3 The World Health Organisation

The WHO was founded in 1948 as a specialised agency of the United Nations. It has the mandate to direct and coordinate international health work (Aginam 2006). The World Health Assembly (WHA) is made up of representatives of over 190 member states and directs the policies of the WHO. The WHA can issue treaties and international regulations which may interfere directly with national, regional and even local public health policies. As discussed above, the WHA still functions very much in a Westphalian style of international governance, demonstrated by the fact that only representatives of member states can become members. However, the new IHR give the WHO the option of making use of informal, non-governmental information sources and thereby exerting considerable pressure upon member states to react to situations that may be of international public health importance.

Furthermore, the WHO Eleventh General Programme of Work entitled “Engaging for Health” also illustrates the role of the WHO in international public health policy. The Programme of Work covers the 10-year period from 2006 to 2015 and contains the following core functions:

- Providing leadership on matters critical to health and engaging in partnerships where joint action is needed;
- Shaping the research agenda and stimulating the generation, translation and dissemination of valuable knowledge;
- Setting norms as well as promoting and monitoring their implementation;
- Articulating ethical and evidence-based policy options;
- Providing technical support, catalysing change and building sustainable institutional capacity and
- Monitoring the health situation and assessing health trends.

Each of these functions has considerable impact on a country's public health policy. Particularly countries with a small or weak national public health infrastructure may on the one hand welcome such policy directions from the WHO, thus preventing them from having to reinvent the wheel. On the other hand, countries with an elaborate and detailed public health policy may feel pressured that public health policy coming from international organisations such as the WHO will stand in competition with their national concepts and might not be as well adapted to their national needs.

4.4 The Centers for Disease Control and Prevention, USA

The Centers for Disease Control and Prevention in Atlanta, USA, is primarily a national public health institute of the federal government. Many nations have similar national centres that use the acronym "CDC". This chapter therefore refers to the Atlanta-based CDC as the US-CDC. Like no other national public health institutions, the US-CDC is extremely productive in international public health activities. This is in full accordance with the organisation's mission which aims to promote health and quality of life by preventing and controlling disease, injury and disability by working with partners throughout the nation and the world ((CDC 2006). This mission leads to bilateral programmes that might only remotely affect public health issues within the United States. One of the numerous examples is the US-CDC Global Health Programme, which even includes projects with a very local focus such as a programme on intravenous drug users in Orel Oblast, Russia (Greenberg et al. 2005). It maintains various local offices mainly in Africa and Asia through which international public health programmes and research projects are coordinated. These bilateral projects are part of the global US-CDC strategy, which may contribute to public health in the United States by providing early and first hand information on emerging health threats and by establishing lines of communication and platforms for cooperations to facilitate US-CDC contribution to national control measures abroad. This is complemented by many other US-CDC activities that are not part of a global programme but may contribute perhaps even more strongly and permanently towards global public health policy. Often the US-CDC has a scientific leadership position in the field of infectious disease epidemiology and medical public health sciences in general. By hosting internationally renowned laboratory capacity, developing widespread surveillance standards such as the National Healthcare Safety Network (NHSN) and by playing an active role in the setting of research agendas, this federal government institution (which has hardly any regulatory or executive power to regulate the public health within the 50 states of its country) is in fact extremely influential not only within the United States but also in international public health policy.

The US-CDC's influence on international public health is a result of not only technical supremacy in multiple public health-related sciences but also an explicit national strategy documented in the Global Pathogen Surveillance Act. This bill of

the US Congress links financial incentives of developing countries to participate in WHO surveillance networks with a privileged access and allows US-CDC participation in the investigation of outbreaks with access to surveillance data (Calain 2007). Of course this strategic interest is not unique to the US-CDC, but the effectiveness with which it pursues its goal is unequalled by any other national public health institute.

4.5 The European Centre for Disease Prevention and Control (ECDC)

Although public health is generally regarded as one area in which the sovereignty of European Union (EU) member states has not yet been ceded to bodies of the EU, the line has already been crossed in various ways. The European Commission is able to influence national public health policy of the member states and even more so of those countries that aim to become members of the EU. Since the 1960s, numerous EU regulations in the field of consumer protection, work safety and others have interfered directly or indirectly with public health policy at the national level (Schluter 1996). Regulations on tobacco prevention, for example, although primarily enacted in the framework of consumer protection in lieu of public health, do of course have public health implications. It is of note that this is an example of where health policy in one country does not actually concern other countries very much, compared to infectious diseases.

But even in the specific area of infectious disease control, EU member states have to comply with mandatory standards, which do affect national public health policies: Under decision 2119 of 1998 of the European Parliament (European Commission Communicable Disease Network Committee 1998), for example, member states may have to change their national system of infectious disease surveillance in order to comply with EU obligations of infectious disease reporting (Ammon and Faensen 2009). The European Centre for Disease Prevention and Control (ECDC) founded in May 2008 is likely to play an increasingly important role in international public health policy. However, for the time being the mandate of the ECDC is quite limited. As stated in its founding regulations of 2004, the mission of the ECDC is to identify, assess and communicate current and emerging threats to human health from communicable diseases (ECDC 2004). Similar to the US-CDC, the ECDC has neither executive nor regulatory power, but in strong contrast to the US-CDC, the ECDC is not designed to be the central provider of all competencies itself but instead aims to support, coordinate and build upon the existing competencies of Europe's national disease control agencies (ECDC 2004).

There is criticism that with this limited mission and subsequently limited budget and size, the ECDC will never be able to come near the role of an international reference body for disease control and thus to be influential in international public health policy (Grundmann and Goossens 2005). While it may be disputed whether the latter is a legitimate goal by itself, the question does remain to what extent

the ECDC will be able to channel, harness and coordinate the existing expertise in the established national institutions of its EU member states. It is noteworthy that for laboratory expertise, the ECDC plans to rely on a network of high-level and reputed laboratories in the European member states, instead of building laboratory expertise in itself anytime soon. It remains to be seen whether this approach will detach laboratory science from epidemiology, as feared by some (Wigzell 2005). In contrast, several Asian countries plan to build a central Asian CDC with extensive laboratory capacities, following the model of the US-CDC (Tibayrenc 2005).

In certain fields, for example, in pandemic preparedness, it can be noted that the ECDC has been instrumental in facilitating a process of technical harmonisation in important areas of public health policy without formally interfering with national sovereignty (Haas and Straetemans 2009; Mounier-Jack and Coker 2006). Likewise, the ECDC has provided crucial support to member states in coordinating expertise from different countries in Europe, for example, in the risk assessment of the chikungunya outbreak in northern Italy in 2007, a viral disease mainly known as an arthropod-transmitted disease occurring in the tropics. By doing so the ECDC has not only helped Italy in controlling the outbreak but also facilitated risk assessment and preparedness decisions in other member states without interfering with their sovereignty (Depoortere and Coulombier 2006). However, the ECDC is also working in areas which might very well influence health policy in EU member states. Several networks and projects hosted at, or issued by, the ECDC deal with tremendous variety of immunisation schedules in the EU member states (Venice project 2007). The ECDC is generating guidance with respect to the use of new vaccines, such as, for example, vaccines against human papillomavirus infections (ECDC 2008). Although such guidance does not have the character of a recommendation, it is intended to support and thus likely to influence national policy decisions with respect to childhood immunisation schedules.

This description indicates that the mandate of the ECDC does not differ much from that of WHO–EURO, except for the fact that the first is focused on EU member states (currently 27), and for the time being it is focusing on infectious diseases, while the second covers the whole WHO–EURO region and all issues of public health. As early as 1995, Fiona Godlee, assistant editor of the *British Medical Journal*, warned that increasing activity of the European Union in the field of public health would be bound to create conflicts and duplications with the European Regional WHO Office (WHO–EURO) (Schluter 1996). In view of the Select Committee on Intergovernmental Organisations of the House of Lords, the founding of the ECDC in 2005 has made this risk more than obvious (Select Committee on Intergovernmental Organisations 2008). Zsuzanna Jakab, director of the ECDC, however, sees more similarities between the constituencies and mandate of the ECDC and the US-CDC than between those of the ECDC and the WHO–EURO (Select Committee on Intergovernmental Organisations (2008). In practical terms, it seems that with the existence of the ECDC, WHO–EURO can concentrate more on those parts of its region that do not belong to the EU (Danzon 2004). In fact, WHO–EURO benefits from the ECDC as a competent partner that even includes data from non-EU countries in surveillance networks for TB and HIV.

In a way, it seems that both WHO–EURO and the ECDC can coexist quite well in mutual partnership and may in fact be able to address specific surveillance issues for the countries they primarily work with (Danzon 2004). It remains to be seen to what extent the mandate and capacity of the ECDC will gradually be expanded and how this might affect the ECDC’s impact as a global player towards international public health policy.

4.6 Other International Players

The WHO, the US-CDC and the ECDC are of course only three of the many international players in the field of international public health policy. In fact, the World Trade Organisation, due to its regulatory power over the trade of goods, has tremendous impact on infectious disease control policies (Taylor 2002). There are a number of other United Nations Organisations with considerable legally binding power that have significant impact on national public health policy such as the Food and Agriculture Organisation, the World Organisation for Animal Health, the United Nations International Children’s Emergency Fund or the United Nations Population Fund (Lazcano-Ponce et al. 2005). In addition to that, in the last few decades, the World Bank has increasingly taken health issues into its agenda, and due to its large funding capacity it is in a very prominent position to have a major impact on national health policies. Besides those international organisations of the United Nations, there are also other international bodies such as the European Commission which have a declared mandate to coordinate public health activities, if requested by the member states (Schreck et al. 2009). It is nearly impossible to oversee the interaction of all organisations involved in international health and Mbwe referred to this as the institutional labyrinth of international health (see Fig. 4.2) (Select Committee on Intergovernmental Organisations 2008).

Private foundations such as the Rockefeller Foundation, the Melinda and Bill Gates Foundation have budgets way beyond those of WHO’s disease-specific programmes and have become driving forces, setting comprehensive international public health agendas (Walt 1998). Moreover, non-governmental, non-profit organisations have focused agendas on health policy which may be highly influential even if they do not have large budgets: The International Society for Infectious Diseases, the International Union Against Tuberculosis, the International Union Against Venereal Diseases, Médecins Sans Frontiers, the Red Cross to name only a few of the numerous organisations with a significant role in international health policy (Taylor 2002). In addition to those mentioned above, one cannot overlook the pharmaceutical industry and other for-profit organisations as having a substantial influence on international health policy (Taylor 2002).

All these organisations may in fact have much greater impact – for better or for worse – on international and national public health policies than do governmental or intergovernmental organisations because of their very nature of being independent from government influence (Ronald 1997).

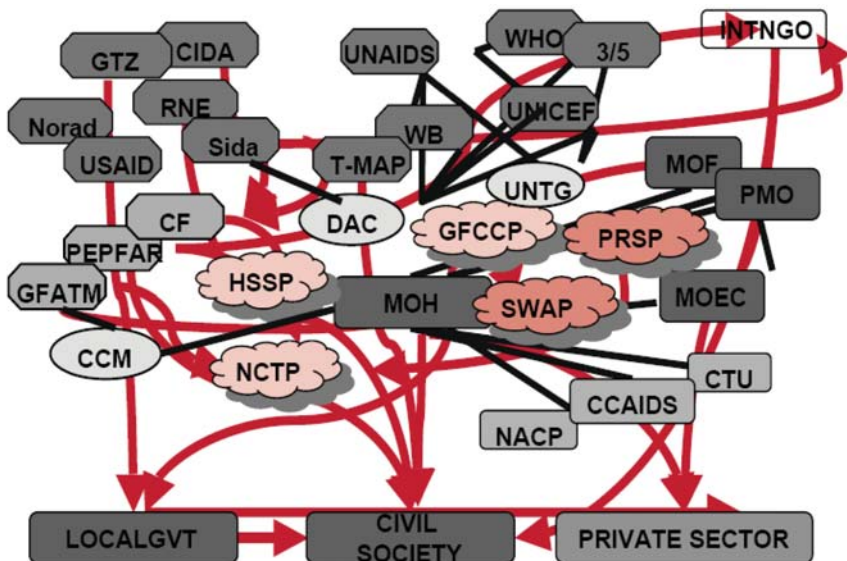


Fig. 4.2 Institutional labyrinth, Mbewe, WHO from Select Committee on Intergovernmental Organisations 2008

4.7 Conclusion

Multiple organisations play a role in shaping national public health policy. Such influence may certainly be beneficial when the vision of the institution that exerts its influence is concordant with the interests of the country accepting such influence. However, this need not necessarily be the case. Calain, for example, described in considerable detail how global surveillance initiatives have been heavily propagated in developing countries leading to undue distraction of attention and resources from highly prevalent diseases and to significant stress to already fragile health systems (Calain 2007).

International public health requires global health governance by a politically accountable institution. The WHO is not the sole organisation legitimised to fill this role. It is important, however, that the WHO regains and defends its leadership in setting the international public health agenda based on the interests of people of all member states, regardless of how influential individual governments and other organisations may be within and outside the WHA. For this purpose, the WHO should facilitate implementation of the IHR in member states. But perhaps more important than the formal mandate of the WHO received through IHR will be its capacity to expand its scientific authority and to stay clear of conflicts of interests. Similar expectations can be formulated for the ECDC, which in terms of mandate and capacity may become a hybrid between a sub-regional WHO office and a federal public health agency like the US-CDC. It will be interesting to follow how the

increasing involvement of national and intergovernmental organisations in international public health policies might affect the scope and quality of infectious disease control in the future.

References

- Aginam O (2006) Globalization of health insecurity: the World Health Organization and the new International Health Regulations. *Med Law* 25(4):663–672
- Ammon A, Faensen D (2009) Surveillance von Infektionskrankheiten auf Europäischer Ebene. *Bundesgesundheitsbl - Gesundheitsforsch - Gesundheitsschutz* 52(2):176–82
- Brundland GH (2003) Global health and international security. *Global Governance* 9:417–23
- Calain P (2007) Exploring the international arena of global public health surveillance. *Health Policy Plan* 22(1):2–12
- Calain P (2007) From the field side of the binoculars: a different view on global public health surveillance. *Health Policy Plan* 22(1):13–20
- CDC (2006) CDC Mission – To promote health and quality of life by preventing and controlling disease, injury, and disability. Available from: URL: <http://www.cdc.gov/about/organization/mission.html>
- Danzon M (2004) ECDC and WHO: a common mission for better health in Europe. *Euro Surveill* 9(12):2
- Depoortere E, Coulombier D (2006). On behalf of the ECDC Chikungunya risk assessment group (Boutin J-P, Brooker S, De Valk H, Dieckmann S, et al.). Chikungunya risk assessment for Europe: recommendations for action. *Eurosurveill Wkly*; 11(19)
- Ebban A (1995) The U.N. idea revisited. *Foreign Aff* 74(5):39–55
- European centre for disease prevention and control (ECDC) (2008) Guidance for the introduction of HPV vaccines in EU countries
- European centre for disease prevention and control (ECDC) (2004) Regulation (EC) No 851/2004 of the European Parliament and of the Council of 21 April 2004, 851/2004
- European Commission Communicable Disease Network Committee (1998) Decision No 2119/98/EC of the European Parliament and of the Council
- Fidler DP (2003) SARS: political pathology of the first post-Westphalian pathogen. *J Law Med Ethics* 31(4):485–505
- Greenberg AE, Tappero J, Choopanya K, van GF, Martin M, Vanichseni S, et al. (2005) CDC international HIV prevention research activities among injection drug users in Thailand and Russia. *J Urban Health* 82(3 Suppl 4):iv24–iv33
- Grundmann H, Goossens H (2005) Report of working group 1: public health challenges. *Clin Microbiol Infect* 11(Suppl 1):36–40
- Haas W, Straetemans M (2009) Wie groß sind die Differenzen zwischen den europäischen Pandemieplänen, sind sie relevant und woher stammen sie? *Bundesgesundheitsbl - Gesundheitsforsch - Gesundheitsschutz* 52(2)(in print)
- Krause G (2009) Infektionsschutz Europäisch - von staatlicher Souveränität zu internationaler Vernetzung. *Bundesgesundheitsbl - Gesundheitsforsch - Gesundheitsschutz* 52(2):147–8
- Lazcano-Ponce E, Allen B, Gonzalez CC (2005) The contribution of international agencies to the control of communicable diseases. *Arch Med Res* 36(6):731–738
- Mounier-Jack S, Coker R (2006) Pandemic influenza: are Europe's institutions prepared? *Eur J Public Health* 16(2):119–120
- Ronald A (1997) The role of international agencies in emerging infections. *Ann Acad Med Singapore* 26(5):616–619
- Schluter P (1996) Legal requirements for health protection from the European viewpoint—uniform regulations or reciprocal recognition of public health norms? *Zentralbl Hyg Umweltmed* 199(2–4):105–18

- Schreck S., Strauss R., Lücking G, Krause G (2009) EU-Strukturen zur Überwachung und Bekämpfung von Infektionskrankheiten. Wer sie macht, wie sie entstehen und wie sie funktionieren?. Bundesgesundheitsbl - Gesundheitsforsch - Gesundheitsschutz 52(2):149–56
- Select Committee on Intergovernmental Organisations (2008) Diseases Know No Frontiers: How effective are Intergovernmental Organisations in controlling their spread? Authority of the House of Lords
- Taylor AL (2002) Global governance, international health law and WHO: looking towards the future. Bull World Health Organ 80(12):975–80
- Tibayrenc M (2005) A hard lesson for Europeans: the ASEAN CDC. Trends Microbiol 13(6): 266–268
- Tucker JB (2005) Updating the international health regulations. Biosecur Bioterror 3(4):338–347
- Venice Project Work Package no. 3 (2007) Report on First survey of Immunisation Programs in Europe
- Walt G (1998) Globalisation of international health. Lancet 351(9100):434–437
- Wigzell H (2005) A European CDC? Science 307 (5716):1691
- Wilson K , McDougall C, Upshur R (2006) The new International Health Regulations and the federalism dilemma. PLoS Med 3(1):e1
- WHO (2008) Cholera in Zimbabwe. Disease outbreak News 2008 December. Available from: URL: http://www.who.int/csr/don/2008_12_02/en/index.html
- WHO (2005) Revision of the International Health Regulations (WHA 58.3)