

Prevention and public health in social health insurance systems

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Introduction

If asked to describe social health insurance (SHI), a perfectly reasonable response might be that it provides a mechanism by which an individual who falls ill can receive medical care, secure in the knowledge that the care will be paid for by a sickness fund to which he or she has contributed.

This description has the advantage of brevity while capturing the model's essential elements. But brevity comes at a price. This simplified description is based on a situation in which an individual becomes ill, recognizes the fact, and seeks care. While this is often the case, as in the case of a broken bone or a heart attack, there are also many situations where it does not apply (Stevens and Gillam 1998).

First, an individual with a need for health care may not be aware of it, and thus may not demand it. There are several reasons why this might be so. Symptoms that may be easily treatable may be dismissed as normal or the consequences of ageing (Sarkisian *et al.* 2001), especially among sections in the population that are already disadvantaged, such as the poor, who may have low expectations of the health care system, or people from ethnic minorities, whose cultural characteristics or linguistic ability diminishes their access to mainstream health services (Stronks *et al.* 2001). Second, there are circumstances when the individual has no symptoms but has a condition that, if detected early, could be treated before symptoms appear and the condition has progressed so far that curative treatment is no longer possible. An example is screening for cervical cancer. Third, an individual may fail to seek care, or even actively reject it, even though

society has an interest in him or her receiving it. This may be the case with severe mental illness, immunization and some infectious diseases. Finally, whether from altruism or, increasingly, as a means of containing the costs of health care, society may have an interest in the health care sector actively promoting health rather than simply responding to disease.

The traditional model of health-seeking behaviour is also based on the principle that, once a system to pay for care is in place, the various elements in the health care system will respond by configuring themselves in such a way as to provide care in the optimal way possible. Yet this too is problematic, especially where that system is based on a series of relationships between sickness funds and individual health providers. The traditional model is best suited to meet health needs that can be managed by an individual professional during a single course of treatment, as is the case with common infections, but it is less well prepared to address the growing burden of chronic diseases that require the coordinated inputs from different professions and specialties. For example, in addition to their primary care physician, someone with diabetes who has had the misfortune to develop complications may need the skills of an ophthalmologist, a nephrologist and a vascular surgeon. For optimal results, these should be closely coordinated.

Many of these issues come together under the term 'population health', which considers the response of health systems to the needs of *populations*, rather than simply to the needs of groups of *individuals* (McKee and Figueras 2002). It encompasses two broad areas.

The first is where those who pay for health care, whether sickness funds or government, singly or in combination, shift from a reactive system of paying for care demanded by individuals to a more proactive model in which they become active purchasers of care, seeking to determine the health needs of those for whom they are responsible and defining models of care within which these needs can be met. Specifically, this involves addressing explicitly the inequalities in access to care that exist in all societies (Paterson and Judge 2002).

The second area encompasses those health services that are most appropriately provided collectively. In some, collective provision involves the coordinated management of services provided to individuals, such as immunization and screening. If population health outcomes are to be optimized, it is not sufficient simply to make such services available. Even when they are free, some groups, especially those already disadvantaged, will be unlikely to take them up because of the other barriers that they face, such as the non-health sector costs, in money and time, of obtaining care. As a consequence, purchasers in many countries have developed a range of activities to enhance uptake among all those who might benefit (Grilli *et al.* 2003).

Health services also include a range of functions that move back a step, to address the determinants of disease. They include the continuing vigilance necessary to detect the emergence of threats posed by infectious disease (Maclehose *et al.* 2002), as well as timely intervention to protect against health threats posed by the environment. They also include interventions to help individuals make healthy choices, and so reduce their likelihood of seeking health care.

These issues require a new set of roles that depart from the traditional model of social insurance. Some roles have been taken on by sickness funds. Others are

the responsibility of the state, through its public health services. There are also increasing numbers of innovative structures in which the state works with sickness funds and other organizations.

Different countries have adopted different solutions, with varying degrees of success. This chapter describes the arrangements they have put in place, what they have achieved so far, and what might be done in the future. It draws on a combination of published literature, in particular the 'Health Care Systems in Transition' series, and a survey of key informants in Austria, Belgium, France, Germany, the Netherlands and Switzerland.

Purchasing health care for populations

Strategic purchasing of health care involves an organization, acting on behalf of the population for which it is responsible, undertaking a series of interlinked steps (Øvretveit 1995). These are assessment of health care needs, specifying models of care to meet those needs, purchasing healthcare that conforms to these models, and monitoring the outcomes achieved. Ideally, these activities would be undertaken within the framework of an explicit strategy to enhance health.

Health reporting

Information on population health is increasingly widely available. Yet while all countries have long produced statistical reports, these have tended to be limited to listing of tables of unprocessed data. In recent years, however, many agencies have developed innovative and user-friendly ways of presenting information that make it easier to assess the health needs of their populations (Evaluation of National and Regional Public Health Reports 2003). For example, the *Rijksinstituut voor Volksgezondheid en Milieuhygiene* (RIVM) has published a series of reports on future public health scenarios in the Netherlands and has made available, on the internet, detailed information on the regional distribution of patterns of health and its determinants in the Netherlands (Rijksinstituut voor Volksgezondheid en Milieu 2003). Many Dutch municipalities also produce local reports.

The French High Committee on Public Health has recently begun publishing annual reports on the health of the French population (Haute Comité de la Santé Publique 2002). In addition, the new regional hospital authorities produce plans for health sector investment that draw on the national reports and on data collected locally.

In Germany, while each *Land* is required to produce an annual report on health statistics, a few, such as Brandenburg, Baden-Württemberg and Hamburg have published more sophisticated health reports that examine trends and patterns of health (see <http://www.eva-phr.nrw.de/reports3.html>). North Rhine-Westphalia, which now has considerable experience with such reports, has also encouraged local health authorities to work with key stakeholders to produce regular reports (Weihrauch 2002).

However, even where health reports have been produced, with a few exceptions

there has generally been little attention to inequalities in either health or access to health care, with the exception of the Netherlands.

The limited extent of health reporting can be attributed to several factors. One is the scarcity of available data. Although data on mortality are universally reported, data protection laws (Lawlor and Stone 2001) and a lack of subsidiary information often preclude analysis of mortality by, for example, socioeconomic status or ethnicity.

The issue of data protection is especially important in Germany, largely because of historic concerns arising from the misuse of linked data in the 1930s, although recently there has been a debate on the concept of a '*Datentransparenz-gesetz*', i.e. a law on data transparency that would permit linkage of data on individuals from a variety of sources, but progress has been slow.

The availability of other sources of data is also often poor in the countries in question. With the exception of the Netherlands, there have been relatively few representative health and lifestyle surveys, such as those conducted regularly in the United Kingdom or the Nordic countries. In Germany, one large survey of more than 7000 adults was undertaken by the Robert-Koch Institute in 1998 and published in a special volume of *Das Gesundheitswesen* in December 1999 (Robert Koch-Institut 1999). It is not, however, utilized to its full potential.

Cancer registries could provide another source of data but again coverage is often quite limited. For example, in the former West Germany such registers only existed in Saarland, Hamburg and the area around the city of Münster, although the University of Mainz also maintains a register of childhood cancer. In 1995, a federal law required each *Land* to establish a registry but by the late 1990s coverage was still extremely low (Schuz *et al.* 2000).

There are, of course, many other sources of health data, from surveys undertaken for specific purposes, such as those within the framework of the WHO MONICA Project (De Henauf *et al.* 2000; Gasse *et al.* 2001), but these are often narrowly focused and designed to answer specific research questions.

Yet lack of data is only one explanation for the relative scarcity of health reports. As the examples described above show, it is possible to make imaginative use of what data do exist. Thus, the second factor is a lack of appropriate public health expertise to undertake the appropriate analyses and to present the results in a meaningful way. This point was made by most of the key informants surveyed for this chapter, who commented on the long-standing weakness of public health in their countries. A notable exception is the Netherlands, which has a strong academic public health community and a large training programme in which several universities collaborate (Netherlands Institute for Health Science 2003). There is, however, evidence that governments are beginning to address this issue, such as in the German federal government's newly created health services research programme.

Identifying effective care

Knowledge of the health needs of the population is only the first step in the process of purchasing care. Strategic purchasing also requires information on the effectiveness of interventions that might be used to meet those needs.

Each country benefits from the international regulatory environment within which safety and efficacy of pharmaceutical products and, to a lesser extent, medical technology is assured. In addition, in recent years, many countries have seen a considerable growth in health technology assessment, which goes beyond the existing regulatory requirements to ask questions such as whether an intervention is cost-effective (Banta 1994). This has yielded many important insights but it has often been focused on individual technologies, such as different types of scanner, rather than looking at the overall framework of care within which the technology is used. Thus, again with the exception of the Netherlands (ZonMw 2003), there are few organizational research programmes such as those within national research programmes in Canada or the United Kingdom.

Purchasing care

The next step is to make the connection with health services. It might be expected that this would be especially problematic in countries with social insurance systems, simply because of the many actors involved. This seems to be the case and there seem to be few examples of structures enabling close links between those producing health reports, typically public health services run by government, and either purchasers (in the form of sickness funds) or providers, such as associations of physicians or hospitals.

The exceptions are where innovative structures have been established, bringing these groups together. For example, a series of new mechanisms to foster coordination has been established in France. Since 1998, the newly-created regional hospital agencies (ARH) have assumed much of the responsibility for purchasing previously undertaken by the sickness funds, combining planning, contracting and, for public hospitals, capital funding. Although experience is still quite limited, they seem to have been able to combine these functions effectively to bring about changes in hospital services that are more closely aligned with population health needs (McKee and Healy 2002).

In North Rhine-Westphalia, a State Health Conference has been established that brings together a wide range of interest groups, both within and outside the health care sector. Since its creation in the early 1990s it has produced a series of health reports that have provided the basis for a regional health strategy, operationalized through a set of targets to which the participants in the Conference have signed up (Weihrach 2002). In general, however, structures providing effective links between public health services and sickness funds that can inform the process of strategic purchasing of health care remain uncommon.

This analysis suggests that considerations of public health play a relatively small role in strategic purchasing in the countries concerned. The national correspondents who contributed the material on which this chapter is based have identified several reasons why this may be so.

For example, the Dutch health system consists of four discrete silos with limited overlap (Figure 12.1). Overlap between the public health and acute care silos is confined mainly to some screening programmes and immunization against influenza (see below). Overlap between public health and long-term care occurs with mother and child care, childhood screening and immunization.

Figure 12.1 The four silos of the Dutch health care system

<i>Public health</i>	<i>Acute curative care</i>	<i>Long-term care</i>	<i>Social services</i>
Provided by: municipal public health offices, GPs and home care organizations	Provided by: private professionals and institutions	Provided by: private professionals and institutions	Provided by: municipalities
Financed through: municipal budgets and AWBZ	Financed through: ZFW and private health insurance	Financed through: AWBZ	Financed through: municipal budgets

Note:

AWBZ = universal, compulsory fund for ‘catastrophic’ illness (i.e. most long-term care); ZFW = sickness funds.

Source: Authors research.

The three sources of funding have different geographical boundaries. The AWBZ is organized on a national basis, local government runs public health and the sickness funds no longer have any geographical focus. Consequently, each organizational unit is responsible for a different population, making collaboration difficult.

The scope for strategic purchasing is also constrained by the limited scope for selective contracting. First, sickness funds are obliged to enter into contracts with all accredited hospitals in the Netherlands, and although they are, in theory, able to contract selectively with ambulatory care providers, their scarcity means that this freedom is largely theoretical.

Second, the Dutch tradition of self-regulation means that effectiveness is largely determined by the medical profession. Sickness funds and physicians do negotiate fee schedules, with specialists paid on the basis of fee-for-service. The fee schedules contain a long list of remunerated items and there is currently discussion about moving to a system based on diagnosis groups, but this has not so far included attention to issues of effectiveness. In primary care, as funding is based on capitation, there has again been little attention from purchasers to the care that is provided.

Third, the system of financing creates a disincentive to seek unmet need, with its potential cost implications. Indeed, greater competition has encouraged some funds to concentrate their efforts on employees of large- and medium-sized enterprises, as those in work are more likely to be healthy than the general population. Finally, the ability of any of the sickness funds that function at a national level to influence the configuration of services in a particular area is very limited.

Some of the same issues arise in Switzerland, where insurers must also reimburse all physicians. A law that would give greater freedom to insurers to contract selectively was proposed but faced strong opposition from the Swiss Medical Association, who argued that the insurers have yet to develop a clear concept of purchasing that goes beyond simple cost reduction. The provision of hospital facilities is subject to plans developed by the cantons but, as in the Netherlands, the lack of congruence between populations covered by sickness funds and cantons and the highly decentralized nature of the Swiss health care system has made the coordination of services very difficult (Wyss and Lorenz 2000).

In Germany hospital planning is also the responsibility of regional governments. In addition, German sickness funds are especially constrained by the legal requirement to adhere to decisions on reimbursement by the Federal Committee of Physicians and Sickness Funds, which brings together the SHI-accredited physicians and the sickness funds. This institution produces health technology assessment reports relating to outpatient care and, on this basis, decides whether they can be reimbursed. A similar institution was created in 2002 in relation to hospital care (Busse 2000); it is planned to unify them from 2004.

Furthermore, German sickness funds are precluded from selective contracting. Discussions among the key actors have traditionally focused on financial matters, with issues of effectiveness only now beginning to enter into the decision-making process. The contracting framework, in which separate agreements are reached with hospitals and with physicians working from their own premises, makes it very difficult to develop integrated solutions that cross the interface between the hospital and ambulatory care sectors. Since 2000 some pilot projects have been undertaken that seek to transcend these barriers but they are on a small scale and it is not clear whether they will continue after their initial funding round.

In Belgium, decisions on what to reimburse are made by the sickness funds, but in consultation with physicians and government. The situation is, however, complicated by the incentive, on the one hand, to reduce what is covered by compulsory insurance while increasing the scope of their complementary insurance, in particular by including interventions for which there may be demand but little need.

Unlike its neighbours, Austria has adopted a strongly interventionist approach with the sickness funds. It has a regional hospital planning system, with each *Land* required to draw up a local plan that is in accordance with the *Krankenanstaltenplan* (federal hospital plan) and the *Österreichischer Krankenanstalten- und Großgeräteplan* (Austrian hospital and high technology investment plan) (Theurl 1999). A significant amount of the recurrent costs of Austrian hospitals is paid from taxation, rather than by sickness funds, in part as a means of ensuring geographical coverage. Thus, in some ways, the Austrian structure resembles the French one, with its tight state control over the activities of both sickness funds and hospitals.

Collective health interventions

The second issue to be examined is the provision of collective health interventions. These are characterized both by their collective nature and by the fact that need is often not expressed as demand. As examples, two such services will be examined, namely immunization and cancer screening.

With both immunization and screening, in the absence of effective policies to promote uptake, utilization will generally be lower than desired, especially among disadvantaged populations, even when services are free at the point of use (Gillam 1991; Sutton *et al.* 1994; Bos *et al.* 1998).

There are also certain factors that should be taken into account in the design of screening programmes. Furthermore, outcomes are better where screening is part of an integrated system of early diagnosis and treatment, which includes ensuring the quality of all stages of the screening process as well as mechanisms for referral for further investigation, treatment and follow-up (Hakama *et al.* 1985). With breast screening, radiologists who read large numbers of films have higher detection rates (Esserman *et al.* 2002) and large screening centres obtain better results than smaller ones (Blanks *et al.* 2002). For these reasons, screening programmes are ideally based on population registers, with mechanisms to increase uptake among all sections of the population, with in-built quality assurance systems and integrated pathways for those in whom disease is detected.

Essentially there are three ways of providing collective health services in an SHI-based system:

- 1 They can be provided outside the relationship between the sickness funds and providers, typically, but not invariably, by public health authorities.
- 2 They can be undertaken within this relationship, with funding by sickness funds and delivery by private physicians, and public health authorities undertaking an oversight role of some sort.
- 3 Other organizational structures, bringing together sickness funds, providers, public health authorities and others can provide them.

The *first model* is employed to deliver childhood immunizations in France, Belgium and the Netherlands. In France, childhood immunizations are delivered by school health services managed by the state public health services. In the Netherlands, childhood immunization is provided by organizations that predate the establishment of the social insurance system in the 1940s. These also provide a range of health visiting activities, although they are separate from childhood surveillance, which is undertaken by municipal public health offices. It is intended to merge these two systems in the near future.

In Belgium, the situation is especially complicated because of the different regulations for each vaccine. Immunization against polio is mandatory, with distribution and monitoring of uptake the responsibility of the Federal Health Ministry. The Federal Health Ministry also finances the non-mandatory childhood immunization against hepatitis B. In the late 1990s, in response to an increase in cases, several sickness funds began to offer immunization against meningitis C. Subsequently, the French community obtained funding for 200,000 doses of this vaccine from the federal government. The French

and Flemish communities finance other childhood immunization programmes. The actual delivery is the responsibility of organizations under the jurisdiction of the Ministries of Culture and Social Affairs of the two communities, the *Office de la Naissance et de l'Enfance* (ONE) in the French community and the *Kind en Gezin* in the Flemish community. These organizations administer 50–70 per cent of immunizations, with private physicians administering the remainder and the vaccines paid for by the communities. The corresponding ministries in the communities are responsible for monitoring uptake.

The *second model* can be seen in the delivery of childhood immunization and cancer screening in Germany, both of which are financed by sickness funds and delivered by private physicians. This model creates a number of difficulties (Schmitt 2001). One is simply determining uptake rates. Information on childhood immunization is only collected at school entry, which is at 6 years of age, so it is long out of date by the time it is obtained, although public health authorities in Saarland and Schleswig-Holstein are trying to develop mechanisms that would yield more timely data.

In general, responsibility for increasing uptake is unclear, so little is done, except for some promotional campaigns by pharmaceutical companies or as part of the general process by which physicians market their services. However, in North Rhine-Westphalia the State Health Conference (see above) has made measles eradication a priority and is mobilizing key actors to achieve this goal.

According to a representative survey among 3000 persons above 14 years of age in 2003, 26 per cent of German SHI-insured persons would like to be reminded by their sickness fund if an immunization is due (with the younger agreeing more often with this statement) while 80 per cent would like to see their GP doing so (and even 87 per cent of those above 60 years). In reality, however, only 47 per cent say that their GP talks to them about immunizations (eastern part 62 per cent, western part 44 per cent) (BKK 2003).

Sickness funds measure uptake rates for breast and cervical screening on the aggregate level, but neither monitor them closely (e.g. in respect to certain groups) nor approach individuals. Until 2003, there have been no organized breast screening programmes, but many mammograms have been undertaken, large numbers of which are by non-specialist radiologists (Perleth *et al.* 2001). From 2004, a regular mammography screening is included in the SHI benefit catalogue (Köhler *et al.* 2003).

In Austria, cervical smears are performed routinely at gynaecological attendances but the records are maintained only in the clinic and laboratory involved. Large numbers of mammograms are performed in a similar ad hoc manner (Wild 2001). There is also a programme of annual health checks to which all insured people are invited and where the physician completes a report for the sickness funds, but these reports so far are not analysed. Uptake of these checks has increased in recent years but there are large geographical variations, with the lowest rates in the east of Austria.

In view of the weaknesses of the existing system, the Vienna City Health Department has established a coordinated programme aimed at women aged 50–70, with targeted invitations supported by an information folder and a helpline in German, Turkish and Serbo-Croat, quality assurance systems, and

integrated management of women with abnormalities, including counselling and rapid referral to designated surgical clinics.

The *third model* is employed for cancer screening in Belgium, the Netherlands and Luxembourg. In Belgium, the decision to provide cancer screening has been taken at the federal level but with the communities taking operational responsibility (Vermeulen *et al.* 2001). The Flemish government has established five breast screening programmes that provide screening according to agreed standards, using only accredited radiologists. These centres are required to provide data for monitoring and quality control. The breast screening programme in the French community is currently (2002) being established in five provinces, coordinated by a community reference centre, and again using agreed protocols with monitoring.

Cervical screening in Belgium is also funded by the communities but is undertaken by private physicians. Monitoring of uptake and quality assurance systems are both reported to be weak.

In the Netherlands, cancer screening is based on a network of regional cooperatives involving municipal public health offices and cancer centres (Banta and Oortwijn 2001). Luxembourg has also established a separate programme, backed up by the sickness funds' refusal to reimburse screening mammograms outside the screening programme (Autier *et al.* 2002).

Switzerland provides a valuable natural experiment in alternative methods of financing preventive activities within a social insurance system. Since 1996 insurers have been required to pay for a range of preventive activities. One was childhood immunization, which had previously been undertaken by school health services managed by cantonal health authorities. The cantonal health authorities are required to ensure that this provision is equitable and that uptake is high.

The cantons have adopted three types of response. Some have entered into agreements with insurers to provide some funding of existing school health services, while maintaining a monitoring role. Others have gradually reduced support for school health services, on a piecemeal basis, as immunizations by private physicians have increased. Others have explicitly transferred the task to private physicians, while strengthening their monitoring role. Some cantons have also begun to engage in dialogue with non-governmental organizations to explore ways to enhance uptake.

A recent evaluation of this process identified a lack of clear objectives with little attention to implementation. Immunization rates are thought to have declined but this cannot be confirmed as information flows have been disrupted.

Insurers are also required to reimburse breast and cervical cancer screening. This too has been problematic. Programmes have been established in only three cantons, Geneva, Valais and Vaud (Faisst *et al.* 2001). An in-depth study of three cantons without programmes found that, although several organizations, including sickness funds, physicians' associations and cantonal authorities all had a potential role, none had sufficient individual resources to start the process and none was prepared to assume a coordinating role (Gürtner 2002).

A similar situation pertains with cervical screening. Most sickness funds paid for it before reform of the social insurance system, but screening was not provided as part of an integrated programme. This has not changed and there are

considerable inequities in provision, which are difficult to address. One specific factor is that, as Swiss social insurance includes an annual deductible amount, many otherwise healthy women who do not use other services have to pay the entire cost of the procedure themselves.

The authors of this evaluation concluded that the changes to preventive services arising from the social insurance reform had not been a success because of a lack of explicit objectives, a failure to consider the process of implementation and the fundamental requirement that such activities should be part of an organized programme, rather than a set of disjointed activities. These conclusions could equally apply elsewhere.

Conclusion

This chapter has examined two areas where the focus of the health care system is on populations rather than on individuals: strategic purchasing and the delivery of collective interventions. In both cases, policy-makers working in systems based on social insurance appear to face considerable challenges.

Effective strategic purchasing requires influence over the scale and nature of facilities to provide care as well as its reimbursement. Yet in many countries examined this is difficult to achieve. One problem is the lack of coherence in the populations covered by each of the relevant organizations. Another is the lack of freedom to contract selectively, either in terms of particular providers or models of care. A third affects only some countries, where contracting systems make it impossible to contract for packages of care that span different sectors or professional groups. Finally, although some purchasing organizations, such as the AOK in Germany and the Federation of Austrian Social Security Institutions, are developing expertise in public health and technology assessment, the level of skills is generally very low.

Yet as France has shown, it is possible to address these problems. Although it is premature to draw firm conclusions, the French regional hospital agencies do seem to have been able to bring about substantial reconfigurations of hospital provision, including the creation of new centres to meet the needs of increasing numbers of people with cancer and AIDS. This has, however, required the state to play a leading role in a range of activities previously undertaken by sickness funds, so creating a model that is quite distinct from that seen in other social insurance systems.

Turning to collective interventions, although the evidence is still limited, and it is likely that outcomes of different policies will be, to some extent, context specific, some tentative conclusions can be drawn. First, simply requiring that sickness funds pay for collective interventions to be undertaken does not mean that they will be done. Second, while public health services have been able to undertake immunization programmes, where the intervention is relatively straightforward, they have not been able to develop their own cancer screening programmes that depend on strong links with mainstream health services. Effective programmes do, however, seem most likely where new structures have been created that provide a means for formal coordination between the actors concerned, including public health authorities, with their population

focus and public health skills, sickness funds, with their financial resources, and health care providers.

Although the nature of the tasks involved are quite different, both of these topics raise similar issues. Neither public health systems nor networks of sickness funds and providers are able to implement these activities on their own. Yet when they work closely together, in formal structures with clear lines of responsibility, much can be achieved. The challenge is how to create such structures, especially where change must overcome strongly-held views about what is and is not possible. Perhaps the first step is to undertake a rather more detailed analysis than has been possible in this chapter to identify more explicitly the strengths and weaknesses of different models so that the debate on configuration of health systems can proceed on the basis of evidence rather than anecdote.

Acknowledgement

We are grateful to the following individuals who provided the background material on which this chapter is based: Eleonore Bachinger and Heinrich Tinhofer (Austria); Marina Puddu (Belgium); Marc Brodin and Dominique Polton (France); Niek Klazinga (the Netherlands); as well as Bernard Burnand and Felix Gürtner (Switzerland).

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