data from two groups (exposed, non-exposed) of the general population and of more vulnerable groups, particularly children and mother/newborn pairs. They also include several cross-sectional studies, based on the analysis of health registries and census data, aimed at addressing potential adverse effects on human health, namely cancer and reproductive effects, associated with exposure to those pollutants.

Results

In terms of exposure, the results show differences between exposed and non-exposed groups that are, in general, statistically not significant. They also show, in relation to the baseline situation, either non-significant differences, or a general significant trend towards reduction, suggesting the effective control of pollutant emissions, as found by other authors in similar cases of modern incinerators. The epidemiological studies tend towards the same results, showing no convincing evidence of causal relationships between exposure to emissions from incineration and the adverse health effects under study.

Conclusions

Although much lower than from first-generation incinerators, human exposure to the pollutants that the new-generation facilities still do emit is non-null. It would then be prudent to acknowledge the very strong likelihood that residing near waste incinerators contributes to increase in the individual risk of associated adverse health effects. However, a different epidemiological approach is needed, mainly focused on human biomonitoring and able to clarify the relationship between biomarkers and biological responses, to investigate the impact on the health of populations living near incinerators of low-level long-term exposure to the pollutants present in modern waste incinerator emissions.

E.3. Workshop: Public health evaluation of vaccines: what epidemiology could (and should) do

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The public health evaluation of vaccines is challenged by several factors. Vaccine randomized trials often lack adequate sample size, fail to provide critical study details, exclude important populations, and rely on proxies for important outcomes. Observational studies are necessary to complement randomized studies in evaluating the effectiveness of vaccines in routine use and to monitor adverse effects of vaccine. Since vaccines are usually made by pharmaceutical companies, industry should be helped in developing new vaccines, and a transparent cooperation between researchers, public health practitioners and the vaccine industry is essential.

Providing an evidence-based approach for immunization programs is even more difficult, as the relevant information reflects factors which may have certain degrees of uncertainty and depends on different value judgements. Key elements of the decision making process concerning the inclusion/exclusion of a vaccination into a national immunization program include seriousness and extent of the disease burden, effectiveness of the vaccination and alternative measures, costs and public health organization, while political considerations may be an important element at the single- countries level. There is a need to integrate different forms of evidence (country data on incidence of diseases and vaccination schedules and coverages, sero-surveys, observational studies, experimental studies, systematic reviews and meta-analysis and economic evaluations), and sometimes these different forms of evidence show a certain degree of disagreement.

The general aim of the workshop is to provide insights on how evaluation of vaccines-efficacy, effectiveness and safety should be performed, giving the possibility to public health epidemiologists in Europe to make some reflections about the role of epidemiology in this field. There will be three presentations. The first presentation will be made by ECDC and will be an overview on methods to perform the evaluation of vaccines and vaccination strategies, outlining differences between the evaluation of vaccines and immunization programs. The second presentation will focus on the general criteria to include vaccinations into a national vaccination program, describing the Dutch experience. The last presentation will be taken by an EVM representative and will express the point of view of industry, outlining how harmonization of vaccination schedules across Europe might facilitate vaccine development.

Assessing vaccines and vaccination programmes on the field

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The effectiveness of vaccines and vaccination programmes is of paramount importance. The success of any immunization programme is often linked to the ability of demonstrating the efficacy of the vaccine and the effectiveness of the vaccination programme in controlling or eliminating targeted diseases. Communicating reliable data on the outcomes of the programme makes often the difference. On the other hand the evaluation of vaccination programmes is a very complex issue. There are several epidemiological methods that allow us to estimate the vaccine effectiveness both in pre- and post-marketing settings. These methods will be reviewed in detail and discussed. Assessing the effectiveness of a vaccination programme is much more complicated, because there are several different components to be evaluated. The simplest way to assess an immunization programme is to rely on epidemiological indicators as proxies for programme effectiveness: disease incidence, disease-specific hospital admissions, seroprevalence data, etc. Nevertheless both methodological and organizational issues have to be solved when assessing effectiveness in the field. Finally, cost-effectiveness analysis is increasingly important when introducing new vaccines and—in general—when a limited amount of resources are available.

Criteria for inclusion of vaccinations in public programmes

Hans Houweling

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Societal changes call for a transparent assessment framework and explicit criteria for inclusion of vaccinations in public programmes: lower profile of target diseases currently included, accelerated vaccine development, increasing maturity

of the public and easy access to independent information. No such framework and criteria—which may be likened to Wilson and Jungner's screening criteria—have hitherto been available.

Based on two ethical principles the Health Council of the Netherlands developed an assessment framework: (i) the population should be protected optimally and (ii) benefit should be fairly distributed across population groups on the basis of need. Seven criteria for inclusion of candidate vaccinations into public programmes were formulated, covering the burden of disease, effectiveness, acceptability, efficiency and urgency.

It will be shown how the criteria may be applied in different epidemiologic situations. The framework and the seven criteria allow a systematic assessment of the value of vaccination. They urge one to be very specific about the goal of vaccination and the target group, and make gaps in knowledge explicit.

Using the criteria may help to make decision making more transparent, set priorities and retain public confidence. In the discussion we will focus on the feasibility of developing an international set of criteria.

Discordant immunization schedules can complicate vaccine evaluation for Europe

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Although vaccine licensure can be centralized through the EMEA, immunization recommendations are established at the national levels, reimbursement policies vary widely, ranging from regional to national, from private to public, and the lag time can be long between licensure and eventual introduction into a national immunization program. An example of this discordance is the pediatric combination vaccines. Young infants in some EU countries receive a whole-cell pertussis vaccine, in a three- to five-vaccine combination ('DTPw | IPV | Hib'). Acellular pertussis vaccines have been introduced over the last decade in many other EU countries, with four- to six-vaccine combinations ('DTPa | IPV | HBV | Hib'). Either of these combinations may be administered with a '3 + 1' schedule, with the first dose between the ages of 2 to 3 months, a spacing of 1 to 2 months between doses and the final (booster) dose usually given at anywhere between 12 and 24 months of age, but in a handful of countries as late as the age of 3–5 years. By contrast, a '2 + 1' schedule is applied in some countries for the 'DTPa | IPV | Hib' or 'DTPa | IPV | HBV | Hib' vaccines: first dose, three-months old; spacing, two months between doses; final (booster) dose, 11–14 months of age. Most of the world's vaccines are produced in Europe. Nonetheless, piecemeal national policies in the EU may have led to delays in the introduction of the newest vaccines (e.g. pneumococcal conjugate, meningococcal conjugate, rotavirus, influenza, varicella-zoster, etc.), which must be shown to be compatible with the various infant immunization programmes across Europe. This could lower the likelihood, in some EU countries, of the public health advancements that these new vaccines can provide. Furthermore, this discordance might eventually make Europe less attractive for future vaccine research and development. Harmonization of vaccination schedules might rationalize vaccine development, streamline the introduction of novel vaccines into the national immunization programmes and facilitate the evaluation of the impact of new vaccines in Europe.

F.3. Workshop: Social and cultural resources for health: local level approaches

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Resources play a key role in health promotion. The focus of this workshop is on local level approaches to support social and cultural resources for health. Local level approaches mentioned in the papers include communities, schools, hospitals and religious institutions. Social and cultural resources for health include capacities for health promotion in different settings and their measurement, religion in the service of families' mental health promotion and socio-economic school district factors and their impact on alcohol drinking onset in adolescents. The workshop will start with a theoretical paper on capacity building (Krajic), followed by a paper on a new approach to measure community capacity development (Trojan *et al.*). Furthermore we will discuss how a cultural variable such as 'religious practice' (Benkö *et al.*) and a social variable (housing type, Stock *et al.*) might be integrated into the broader concept of community capacities.

Building capacities for health promotion in settings: the case of professional, people-processing organisations

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Background

Capacity building as strategy reacting on deficits in implementation of health promotion has been introduced mainly in the Australian and Canadian context, but is gaining ground also in scientific research. The Health Promotion Glossary (Smith/Tang/Nutbeam 2006) defines capacity building as development of knowledge, skills, commitment, structures, systems and leadership to enable effective health promotion. It involves actions to improve health at three levels: the advancement of knowledge and skills among practitioners; the expansion of support and infrastructure for health promotion in organizations, and the development of cohesiveness and partnerships for health in communities This concept can be complemented by adding a 'societal systems level' (VicHealth 2004, also Catford 2005).

Methods

Theoretical proposal developed on the basis of a systematic reconstruction of the capacity building discussion, utilizing a social-systems approach. This project is part of a 7-year research programme on health promotion in schools, hospitals and long-term care.

Results

In organizational settings, capacity building is a strategy to increase the likelihood of integrating health promotion in core processes and management decision making. The paper outlines a model for health promotion capacity building for professional people-processing organizations. Capacities are to be developed for organizations and their relevant societal environment and comprise of four levels: (i) individual level (competencies and skills of professionals, health literacy of users), (ii) organizational level (supportive structures, processes, cultures, management tools), (iii) local communities (supportive partnerships) and (iv) societal regional, national or supra-national level (networking strategies, legal, financial