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Prevention Systems: Structure and Challenges: Europe as an Example

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Introduction

The primary focus, mostly in North America, has been on developing and implementing "manualised" interventions. These are generally structured in a modular standardised format, which defines the number and sequence of sessions, as well as their content (e.g. social skills, awareness, normative education), their delivery (e.g. by interactive teaching strategies or by means of open discussions, role play, group work), contextual factors such as the composition of the target group, the person who should deliver the intervention, and above all the materials that have to be used. Such interventions allow for accounting for the active ingredients of a program, facilitate knowing how much dosage the target group actually received and therefore properly evaluate the effects of an intervention. Most of the evidence about substance-use prevention comes from such manualised programmes. A plausible and logical strategy is therefore to bring such interventions to scale. It is in this context that research has increasingly been focusing on "systems", since the importance of implementation quality is highlighted by evidence suggesting that even if effective programmes are available, this is not sufficient in itself to produce positive outcomes in target groups (Chan, Oldenburg, & Viswanath, 2015; Grimshaw, Eccles, Lavis, Hill, & Squires, 2012; Hunter, Han, Slaughter, Godley, & Garner, 2015; Ringwalt et al., 2010, 2011). It has often been reported that interventions that were highly effective in efficacy studies were then generally not widely implemented under real-world conditions (Tibbits, Bumbarger, Kyler, & Perkins, 2010) or did not yield results when implemented widely (Dzewaltowski, Estabrooks, Klesges, Bull, & Glasgow, 2004; Institute of Medicine and National Research, 2009). Additionally, many evidence-based interventions are not sustained after initial implementation (Scheirer & Dearing, 2011).

One key question has therefore been whether such effective and well-implemented programmes can actually be scaled up system-wide to such a degree that they can produce detectable impacts at the community or population level. For this purpose, the understanding and development of implementation factors such as policy, structure, organisation, workforce and its prevention ethos and culture may be as important (Aarons et al., 2014) as identifying effective interventions (Grol, 1997; Ritter & McDonald, 2008) since scaling up continues to be the main

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Z. Sloboda et al. (eds.), *Prevention of Substance Use*, Advances in Prevention Science,
https://doi.org/10.1007/978-3-030-00627-3_26

challenge. Hence, there is a need for comprehensive system-level processes that facilitate and accelerate the cycle of implementing findings of evidence-based research in a sustainable manner to practice and policy (Fishbein, Ridenour, Stahl, & Sussman, 2016; Wang, Moss, & Hiller, 2006).

What Does a Systems Approach Offer?

General systems theory (Von Bertalanffy, 1968) is a way of describing all kinds of systems with interacting components. The aim is to discover patterns and to find principles that can be distilled from and applied to all types of systems, be it in biology, social sciences, administration or mathematics. Within this framework, the prevention field could be conceived as a complex system, since there are many components (some of them unknown or undetermined) that interact with each other in almost unpredictable, complex ways, similar to an organism or the climate. Complex systems typically have feedback loops, a certain degree of spontaneous order or self-organisation (which is stable) and an emergent hierarchical organisation (Simon, 1991). Such a complex system is adaptive to changes in its local environment, is composed of other complex systems (for example, the human body) and behaves in a non-linear fashion so that change in outcome is not proportional to change in input (Shiell, Hawe, & Gold, 2008). Common to all system thinking is a comparison of an environment (or situation) as it is, and some models of the environment as it might or could be. This comparison can lead to a better understanding of the environment (the research and analytic part), and to proposals about how to improve it, and hence the rationale of this analysis.

Systems theory and the concept of a "prevention system" per se are relatively recent. It has been used predominantly to describe prevention delivery systems, such as the Community That Cares[1] system, which motivates and brings together community stakeholders assisting them in making science-based choices about the most adequate evidence-based prevention interventions to be implemented in their community (Arthur et al., 2010; Fagan, Arthur, Hanson, Briney, & Hawkins, 2011; Van Horn, Fagan, Hawkins, & Oesterle, 2014). This is in line with the main focus of implementation science, which is concerned with improving the scaling up, fidelity, acceptance and sustainability of manualised prevention programmes (Palinkas et al., 2015; Spoth, Guyll, Redmond, Greenberg, & Feinberg, 2011). During the collaborative work that took place across Europe while developing the European Drug Prevention Quality Standards—EDPQS—(Brotherhood & Sumnall, 2011), the concept of a "prevention system" achieved a broader meaning that includes different kinds of prevention activities, services and policies, including manualised, behavioural interventions. The essential feature of this prevention systems approach is to recognise the dynamic interactions of interventions within the broader context into which they are introduced. Such complex ecological systems can be schools, municipalities or entire societies. Hawe, Shiell, and Riley (2009) posit that three dimensions are particularly important: (1) the activity settings (e.g. clubs, assemblies, classrooms); (2) the social networks that connect the people and the settings; and (3) time. An intervention, for example a local policy or an evidence-based intervention, may then be seen as a critical and innovative event in the history of a system, leading to the evolution of new structures of interaction and new meanings. This can include changing relationships, displacing existing activities, and redistributing and transforming resources.

Prevention systems are directly interwoven with existing substance-use policies which generally aim to develop and deploy infrastructure, interventions and services in order to reduce the incidence of substance-use problems and associated or antecedent problem behaviours, mostly at the population level. In addition, there are higher level factors that are likely to influence the functioning of prevention systems, such as national legislation, social capital and social inequality.

[1] http://www.communitiesthatcare.net/

Fig. 26.1 The schematic composition of a prevention system

We propose five putative components of a prevention system, based on the information and data from and the experiences in Europe (Fig. 26.1): (1) *organisation*, i.e. decision-making structures; (2) *research and quality control*; (3) *interventions*; (4) prevention *workforce*; and (5) *target populations* themselves. This is complemented by a set of *moderators* that influence the interaction of these components. Furthermore, the implementation at the local level needs to be taken into account. In this chapter, we discuss the system components and moderators and include examples from available data sources from EU countries and transnational projects in the European Union.

Since this system-focused way of looking at prevention is relatively new, to gather information on these aspects is challenging: some important pieces of information are not readily available: political will or cooperation and professional cultures are difficult to assess and there is few information about the composition of the prevention workforce and its training. Countries do however report about the type of interventions, research and development, quality criteria, funding and organisational aspects. Besides this structural system, it is important to describe contextual mediators (elements, whose modification through policies changes the overall effect) such as administrative organisation, intersectorial cooperation, interaction with academia, implementation and moderators (that affect overall effects without being easily modified) that we hypothesise to influence the overall delivery of prevention. This model is conceptually similar to a recently proposed community systems model for obesity (Allender et al., 2015), or for behavioural change through environmental structures (e.g. MINDSPACE, Institute for Government, 2009), all of which propose interaction of different contextual and behavioural elements.

Organisation

It goes without saying that the term ‘organisation’ might cover a vast array of aspects, but we use it here only to subsume three aspects of how

prevention delivery is organised: where decision-making happens, how the cooperation between policy sectors occurs and how prevention is funded.

While for substance-use treatment there might exist an actual demand by clients, which in turn could drive the development of a private offer responding to it, without state intervention, this is much less likely to happen in the prevention field. Parents are likely to pay for the treatment of their offspring from their own pocket, but not for a prevention intervention. This illustrates how much policymaking (and sometimes research) has to drive prevention. In addition, most of the non-public prevention providers (NGOs, associations, universities) rely heavily on public funding and sometimes on support by foundations, insurance companies (in Germany), religious bodies or even industries (Moodie et al., 2013). The political decisions as to how prevention is delivered in organisational and infrastructural terms have therefore larger consequences than in intervention fields where people themselves (or their insurances) would pay for services, actively look for them, choose the most adequate and create hence a client-driven demand. Whether, how, where and for whom prevention interventions are developed, funded and deployed depend to a far larger degree on political decisions (at least at local level) than on "demand" (as in treatment) or than on bottom-up initiatives of those affected (as in harm reduction). The different political organisation of countries therefore plays a major role in implementing evidence-based prevention. Furthermore, policies can have an impact on the sustainability of prevention at local and national levels (Aarons et al., 2014).

Where Are Decisions Made?

Another factor is the level of strategic decision-making and the cooperation structures between sectors that can be critical when moving from policy decisions to policy implementation. A US evaluation study that assessed state substance-use prevention system infrastructure in order to examine their role in achieving prevention-related outcomes suggested that a good development of state prevention infrastructure is linked to both funding from state government and presence of a state interagency coordinating body with decision-making authority (Piper, Stein-Seroussi, Flewelling, Orwin, & Buchanan, 2012). Even though there are several key institutions on different levels, in most countries strategic decision-making priorities lie at a central level; only a few countries in Europe (Spain, Germany, Denmark, the UK, Austria, the Czech Republic and Latvia) reported local and regional decision-making. Given the high leverage of centralised decision-making in prevention, the question is whether and how prevention policymaking shifts and moves alongside innovations in prevention methodologies and insights from the prevention sciences. There is no theory that describes how research findings and interventions can effectively influence decision makers' use of evidence. Researchers too often assume that policymakers do not use evidence and that the use of more research evidence would benefit policymakers and populations. By focussing on "getting evidence into policy", less attention has been paid to how research and policy actually interact in vivo. "Rather than asking how research evidence can be made more influential, academics should aim to understand what influences and constitutes policy, and produce more critically and theoretically informed studies of decision-making" (Oliver, Lorenc, & Innvær, 2014). A recent analysis (Langer, Tripney, & Gough, 2016) of the factors that influence policymakers' decisions outlines six intervention mechanisms of evidence use: awareness of evidence-based interventions; agreement about what is evidence; communication and access to evidence; facilitation of engagement between researchers and decision-makers; decision-makers' skills to access and use evidence; and influencing decision-making structures and processes. Several of these elements will appear again in the analysis presented in this chapter. Research and research findings should be more attuned to the needs of policymakers and practitioners, thus fundamentally changing the way in which research is produced and consumed. Rather than academics exclusively setting

the agenda, in a new approach to knowledge, researchers, and those they are seeking to address, need to work together to define the research questions, agree on the methods and assess the implications of the data analysis and findings for policy and practice (Hunter, 2009).

Factual Cooperation Between Policy Sectors

A recent joint publication by UNESCO, UNODC and WHO (2017) about the role of the education sector in substance-use prevention sheds light on an often-overlooked detail: policy sectors that could reach the most important shares of the target populations for prevention, in many countries, don't cooperate with those sectors or entities that develop prevention policies. Even if interventions have been proven effective and been successfully implemented in an array of countries, many school authorities nevertheless refuse to have them implemented. Ideological perspectives about how prevention should be delivered (Burkhart, 2013, 2015) are not the only reason; often the relevant policy sectors do not see their own interests being served in exchange for yielding resources for prevention and it isn't only the education (school-based prevention) or the social sectors (family-based prevention) that are not enthusiastic. Also ministries for economy and trade are used to having alcohol, gambling and tobacco tax incomes and value the interests of the respective industries, including advertising, publicity, etc. This aspect is often more pronounced in municipalities who depend sometimes heavily on the nightlife industry (Calafat et al., 2011; Hall, 2005; Hobbs, 2005; Winlow & Hall, 2005). There are therefore tensions between addictive goods as revenue raisers and as burdens upon health (Casswell & Thamarangsi, 2009; Moodie et al., 2013). Different ministries may also be looking for different outcomes. Health ministries will be interested in morbidity and mortality, justice in crime and education in educational achievement. In the European example, several countries have inter-ministerial commissions (Lithuania and France) or official institutions that are only responsible for prevention tasks (Hungary) and that are in charge of coordinating prevention among the different ministries. The information from only a third of the countries[2] suggests however that there is any actual cooperation. Albeit in Austria, where there is no national coordinating body for prevention, access to the school system for the implementation of programs is facilitated by the Ministry of Education, whereas in a few other countries evidence-based prevention programmes are not accepted by the school system. Often though, there are instances when cooperation can succeed at the local level. In Denmark, for instance, the BTI model (Danish for *Improved Interdisciplinary Efforts*) for systematic interdisciplinary cooperation targets staff in local services to provide guidance and tools. This model can be adapted to existing work in other municipalities with the aim to assure quality in integrated, coordinated efforts without interrupting follow-up of children, young people and families that need help. Similar systems exist in Norway and in some regions in Northern Italy. This is also why many prevention quality standards[3] highlight the importance of establishing alliances and coalitions with key actors for prevention at local level.

How Is Prevention Funded?

Funding avenues are an essential requirement for the development of effective interventions but also for successful implementation and sustainability (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). However, data on funding are scarce and there is not enough information available for precise estimates of what is needed and given to finance prevention activities. In Europe, almost all countries report central national

[2]The Czech Republic, Denmark, Ireland, Greece, Lithuania, Poland, Romania, Luxembourg, Finland, Sweden and Norway.

[3]http://prevention-standards.eu/toolkit-4/

http://www.emcdda.europa.eu/attachements.cfm/att_218446_EN_TD0113424ENN.pdf

http://www.communitiesthatcarecoalition.org/

funding allocations but some countries such as Spain, Germany, the UK, Austria, the Czech Republic, France and Latvia also mention regional funding resources for prevention. As an exception, in Denmark local funding services are predominant.

Since many European societies consider prevention as pertaining to public health, it does not come as a surprise that European countries have ministries or drug coordinators on federal and local levels that are responsible for prevention and are its key financing sources. Even if public funding continues to play a central role in supporting prevention, funding by insurance companies as direct service is likely to increase, as is the case in Germany and France. In Bulgaria, Austria and Poland, small parts of alcohol and tobacco tax revenues are used as investments for substance-use prevention, whereas in Spain, the confiscated assets of drug traffickers can be channelled into prevention funds. In some countries in the northern Europe, revenues from the gambling industry feed into prevention funding. Such funding sources are primarily at a central level as well.

Research and Quality Control

There are four aspects of the research and quality control component that are important to mention: funding, availability of technical assistance, assessment of local needs identified for prevention programming and prevention standards.

Conditional Funding

In some countries, specific funding programmes only support interventions that are highly rated in evidence-based registries[4] or by commissions. These funding schemes however do not represent the main financing stream for prevention. Currently, only two countries make full use of this mechanism at the national level: Portugal and the Czech Republic. In the latter, institutions can only receive public funding if they are accredited and if their interventions or programs have been certified (Charvát, Jurystová, & Miovsky, 2012). This is the result of an implementation and negotiation process that lasted more than 10 years, but which now communicates to the population that prevention is taken as seriously as treatment. In Portugal the most vulnerable areas in the country are identified in collaboration with local NGOs working in the field. The existing resources (services, NGOs, interventions) in the different intervention areas are mapped as well. Local institutions, NGOs or associations can then propose joint (i.e. they should make use of all locally available resources) intervention proposals to the central drug coordination office, SICAD,[5] which allocates funding and provides technical advice about how to improve interventions. The system seems to respond both to the need of quality assurance and to the importance of involving local stakeholders in the needs assessment and in intervention development.

Obviously, in a number of other countries as well, projects have to comply with the priorities of the existing National Plan. Such priorities are however often open to interpretation, so that interventions of dubious quality might still get funding.

Given the above-described situation, i.e. prevention funding in Europe is mostly public and mostly centralised, it seems that there is an important increase in the motivation to apply evidence and process standards in a more binding and rigorous way, by making funding conditional upon current widely accepted quality criteria, both for internal validity and for the evidence that they are based on. More complexity arises when prevention funding is specifically labelled (such as grants for a prevention program) or when prevention spending is part of more general activities (e.g. an early-years development fund or an educational engagement program).

[4]For example http://cayt.mentor-adepis.org/ in the UK

[5]General Directorate for Intervention on Addictive Behaviours and Dependencies: http://www.sicad.pt/EN/Paginas/default.aspx

Technical Assistance

As conditional funding is clearly the exception in Europe, and since local prevention agencies in most countries enjoy quite a high level of independence—only the prevention centres in Greece, Lithuania and Romania seem to be bound to stricter guidelines—technical assistance is the next important strategy that can theoretically improve the quality of prevention, as well as the uptake and sustainability of innovations. Technical assistance aims to enhance the readiness of practitioners to implement evidence-based prevention interventions, but some studies suggest that technical assistance is rarely delivered to professionals who are seeking to sustain innovations subsequent to adoption and implementation (Katz & Wandersman, 2016). This limitation might be a reflection that these studies are more concerned with technical assistance for the implementation of specific manualised interventions as they prevail in the Americas, and less concerned with scientific support for practitioners in general. Scientific support, advice and guidance are particularly important in countries where the delivery of prevention is largely delegated to the local level and where manualisation is rare. If the technical assistance partnerships create a collaborative relationship with local practitioners, science-based innovation can be moulded to local conditions. "Improvement science" has become the term for such approaches in which local practitioners are trained to use evidence to experiment with local pilots and learn and adapt to their experiences. In contrast, models such as the *Early Years Collaborative* in Scotland reverse this emphasis, using scholarship as one of many sources of information and focusing primarily on the assets of practitioners and service users (Cairney, 2015). The abandoned prevention training modules of CICAD[6] in Central America and the Caribbean used such a model, where, after each training module, practitioners had to experiment with evidence-based approaches in their environments and feed these experiences back into the next training module.

[6]http://www.cicad.oas.org/main/default_eng.asp

The Portuguese system within the above-described PORI (*Plano Operacional de Repostas Integradas*—Operational Plan for Integrated Responses) which provides technical assistance to all the local prevention partnerships, NGOs and associations in vulnerable areas uses such a methodology of improvement science and has produced a number of reasonably evaluated local interventions that are innovative and grounded in local conditions and needs. This program focuses however on prevention, harm reduction and social reintegration regarding drugs, in vulnerable areas, and belongs exclusively to the National Drugs Institute SICAD (*Serviço de Intervenção nos Comportamentos Aditivos e nas Dependências*).

The countries in the north of Europe also seem to have embraced this approach in a broader perspective, but with differing intensity. Public health institutes organise quality trainings for local prevention agencies and NGOs, or regional competence centres advise municipalities on science-based prevention principles. The training measures target county governors as well as key personnel in the municipalities beyond prevention practitioners, such as administrative decision-makers, politicians, relevant sector managers, retail and licensed trades, police, health personnel, local school managers, teachers, parents/guardians and voluntary organisations. Different from most other countries, this testifies to a conceptualisation of prevention beyond the narrow concept of "drug education" towards a stronger focus on socio-environmental determinants of behaviour.

Such strategies are even more important when quality control is delegated, alongside delivery, to the local level, as seems to be the case in the Nordic countries, Germany and the Netherlands. Responsible prevention policymakers would strive to make sure that local prevention professionals, agencies and NGOs implement interventions other than those that are only instinctively appealing approaches (educating, awareness raising, risk communication). Yet many professionals in the field continue to be fond of awareness raising and cognitive or educational interventions. These however may be more effective for

less vulnerable populations with sufficient cognitive abilities and superior executive functions (e.g. impulse control and knowing on how to translate knowledge into behaviour). They might therefore further enhance the already existing educational inequalities in problem substance use, in analogy to the trends observed in obesity (Adams, Mytton, White, & Monsivais, 2016) and tobacco smoking. One of the few studies addressing this (Legleye et al., 2016) found that in France, the risk of transition from cannabis initiation to daily use has remained consistently higher among less educated cannabis initiators over three generations.

If there are systems in place to assure that local prevention providers are well trained, well coached, open to evidence and innovation and well aware about the otherwise harmful effects of prevention, then high levels of delegation to the local level are safe. Otherwise, manualised approaches might offer an alternative. There seems to be an interaction between the level of science-practice dialogue and the way prevention is delivered: whether by programs or by highly flexible activities or services.

Assessing Local Needs

Different from harm reduction and treatment, a systematic approach to assess the health needs of the population is often missing in prevention. However, to improve the health of the population and to ensure the use of resources in the most efficient way systematic assessment (Wright, Williams, & Wilkinson, 1998) is essential in preventive work. The European country reports do not allow a clear picture as to whether interventions do correspond to the actual health needs or vulnerability profiles. Some countries however do explicitly report that data from municipal levels is used to inform important decisions regarding the overall strategy (Bulgaria) or that officials on the local level are consulted and allowed to participate in establishing strategies and priorities for prevention (i.e. Denmark, Croatia, the Netherlands, Austria, Portugal and Norway). Norway stands out for its "Ungdata" surveys,[7] a standardised system for local questionnaire surveys on various aspects of young people's lives, including the use of drugs, alcohol and tobacco. Also the implementation of Communities That Care[8] approach to planning and sustaining prevention programming at the community level in Lower Saxony in Germany[8,9] and in the Netherlands (Steketee et al., 2013) uses specific youth surveys in order to create local risk profiles that provide information used for deciding if and which kind of program should be implemented in a given neighbourhood or town.

An additional challenge is that the pathway from evidence via policies to practice is predominantly conceived as unidirectional. Rarely does research address the gaps of prevention practice and the needs of practitioners.[10] Drawing from the reports from European countries, only a few[11] mention consultations with the local level in designing and defining prevention strategies. Again, the countries with communitarian traditions (mostly protestant ones, see Burkhart (2013a) for the historical accounts) are overrepresented among them. This might be related to the above-mentioned degree to which local delivery agencies (municipalities or prevention centres) are independent from the central level. Especially in prevention, central governments often delegate delivery to agencies, charities or the private sector with differing degrees of autonomy in service delivery, often based on principles such as "localism" and the need to include service users in the design of public services. For scientists and for the translation of evidence this is a problem because many effective interventions (especially the manualised ones) do not fare

[7] http://www.ungdata.no/English

[8] CTC is a coalition-based prevention operating system that uses an evidence-based approach to prevent youth problem behaviours such as violence, delinquency, school dropout and substance abuse.

[9] http://www.ctc-info.de/nano.cms/umsetzung

[10] See for example http://euspr.hypotheses.org/276 and the ensuing discussion

[11] Denmark, Spain, Croatia, the Netherlands, Austria, Portugal, Sweden and Norway

well if they undergo too many modifications to local conditions and ad libitum.

Standards: They Are not Self-Implementing

Standards that include practitioners' and local policymakers' perspectives and experiences would solve part of these tensions. On the European level the European Drug Prevention Quality Standards (EDPQS) were set up to support *the development and evaluation of high-quality drug prevention* (i.e. "how to carry out prevention?"). Those standards have been agreed upon by a wide range of different professional groups, in several waves and often across many countries (Brotherhood & Sumnall, 2011), and can confidently be considered consensual common denominators for establishing "good quality" regarding content, design and implementation of prevention. They have afterwards been complemented with numerous tools[12] to improve adherence and acceptance in the prevention field.

At the international level, UNODC (2013) has published guidelines for the use of the current evidence (i.e. "what works?"), the International Standards on Drug Use Prevention. Both are examples of a variety of standards with different objectives (Burkhart, 2015).

But although standards can be used as a reference point on high-quality prevention, the applicability of the standards to local circumstances also has to be taken into account. The phase II of the EDPQS project[13] has dealt with this point, focusing on this aspect in a considerable number of European countries. Standards in prevention seem to be widely available in Europe: according to the workbooks only a third of the countries report no use of any prevention standard; and the EDPQS are the most predominantly mentioned, while a few countries[14] report using their own standards. The open question remains as to what extent are these standards followed and adhered to in the field at the local level. Since addressing this question through official national sources is not possible, the EDPQS project itself is seeking to monitor the use and application of its standards. Following the Capacity-Opportunity-Motivation model (Michie, van Stralen, & West, 2011), the tools provided by EDPQS have certainly contributed to increasing the opportunities of critical reflection and improving the work of professionals. The evidence mentioned above might have increased the capacity of doing so, but whether professionals and service providers actually are motivated to rigorously follow standards and to work accordingly depends ultimately on their motivation to do so. Self-improvement and professionalisation are relevant but financial incentives are likely to be stronger motivations.

There is consensus among experts and professionals that adherence to such standards will provide an optimal platform for the delivery of evidence-based programmes, which might make the delivery of effective approaches more likely. But there is currently no direct evidence in Europe that fully applying standards like the EDPQS actually leads to demonstrable improvements in prevention and outcomes. The attitudes of practitioners to them might be analogous to those of psychologists towards the NICE guidelines on psychotherapy (Court, Cooke, & Scrivener, 2016): they valued summaries of the latest evidence regarding effective practices but were also very concerned about the implication that the evidence is "neat "and that there is a correct approach across the board. Practitioners tend therefore to feel that their freedom to use their judgment and tailor their approach to individual situations would be curtailed.

Only some studies around the Communities That Care prevention system in the United States (Brown et al., 2013; Kim, Gloppen, Rhew, Oesterle, & Hawkins, 2015; Oesterle et al., 2015) provide evidence that a prevention system which offers only evidence-based interventions targeted for each community's vulnerability profile does not only improve programme delivery,

[12] See http://prevention-standards.eu/

[13] http://prevention-standards.eu/the-prevention-standards-partnership-in-phase-ii/

[14] Belgium, the Czech Republic, France, Hungary, Lithuania, the Netherlands and Finland

implementation and adoption but ultimately also youth outcomes such as violence and substance use in the areas using this approach.

Prevention Interventions: Programmes, Policies or Services?

Manualised prevention concepts, interventions and having easy access to them are certainly important to ensure efficient knowledge translation within countries but also beyond national borders. Therefore, much of the prevention literature focuses on their evaluation, effectiveness and readiness for dissemination. But then the most distinctive aspect of European prevention systems is that manualised interventions play a significant role in only a few countries. In Spain some regions (such as *Castilla-la-Mancha*) have catalogues of certified programmes from which local prevention services and schools can make a choice. This allows for registering how much the programmes are adopted, but not how much they are implemented in real life. Also, Germany, the Netherlands, the UK, Poland, Lithuania and Croatia have increased the development or adaptation and implementation of evidence-based programmes in the past years. Accordingly, in these countries registries of programmes (see below) are also available. On the other end of the continuum, Sweden and Norway are deliberately reducing the role and importance of manualised programmes in order to give more space for communities to develop their own interventions. In Denmark, Finland and France manualised interventions have never had an importance and only very recently some programmes such as the Good Behaviour Game and Strengthening Families Program are beginning to raise the interest of policymakers in France. In the remaining countries, manualised interventions might coexist with a majority of interventions that are less complex and don't demand adherence to a given protocol. The scarcity of manualised interventions is often intended, in cultures where such programmes are seen as "American" and behaviourist in their modus operandi, rigid and not suitable to a given European country's reality (Burkhart, 2013). However, even in those countries where manualised interventions play a role and are evaluated, adapted and disseminated, their delivery still covers only a small part of the possible target populations: even in Spain, which offers 100 manualised programmes (*Memoria Plan Nacional sobre Drogas*, 2013), only around 10% (800,000) of the school population participated in any of them. Therefore, only by looking at the content, effects or dissemination readiness of manualised interventions, we can hardly assess the potentials of European prevention systems. This leads to the question: How non-manualised interventions can be monitored? Below we explore prevention services, regulations and policies.

Services

When we discuss prevention services we refer to the whole plethora of counselling, advice, personal help and support to vulnerable youth, vulnerable families and substance-using youth, delivered on the street, in recreational settings, at home visits or in service facilities. They might range from universal to indicated prevention but the contents of such interventions are mostly not known, except for specialised interventions such as crisis intervention in party settings or Brief Interventions with Motivational Interviewing. There are however some data on how these services predominantly operate, i.e. whether they actively reach out to vulnerable youth and families (Go-Strategies) or whether their professionals expect people to come into their facilities (Come-Strategies). In Europe, Come-Strategies prevail for most vulnerable groups.

For indicated prevention, individualised services have particular importance. While universal and selective prevention are manageable by local policies and population-based interventions (even nightlife venues frequented by a subset of high-risk young people can be accordingly managed or regulated), indicated prevention involves work with vulnerable individuals that cannot be defined by demographic or geographic factors. Instead they are coming from all classes and

backgrounds and seem personally vulnerable to several kinds of problems, especially psychological disorders or problems brought on by a poor/dysfunctional family situation. Thus, individual- or family-oriented services seem to make most sense. Also, good coordination and involvement of treatment services are important in this context, particularly when it comes to approaching substance-using parents. The challenge lies in the development of appropriate detection and intervention systems at the local level and to ensure for this purpose the cooperation with specialised services from the treatment and mental health areas. Data on the availability of such systems are lacking and there are few reports about their functioning (Espelt et al., 2012; Ramírez de Arellano, 2015) as these services are often not primarily conceived or developed for substance-use prevention purposes. This might be the reason that in European real-life conditions indicated prevention is predominantly implemented in its narrowest form, which exclusively is concerned with detecting and addressing substance use at intensities beneath clinical criteria of dependence or problem use. Even though they do not address individual behavioural, temperamental or psychological difficulties that mostly occur earlier than substance use and are considered precursors for it (Sloboda, Glantz, & Tarter, 2012), mostly such approaches are nevertheless called "early interventions". They probably comprise a vast array of services, ranging from stationary counselling services for young people and/or their parents, telephone helplines and home visits up to youth work on the streets. About the contents of these services not much is known and they are not subject to any monitoring. Drawing on accounts from multiple reports by European countries, counselling, education and street conversations[15] and other cognitive pedagogical approaches seem to be the most common ingredients.

These multiple services to address substance use on an individual basis and in an overlapping grey zone between prevention, harm reduction and minimal treatment are an important and distinctive feature of European prevention systems, while in other continents prevention seems to be more based on manualised interventions.

More is known about Brief Interventions (BI), an evidence-based (Carney & Myers, 2012; Foxcroft et al., 2016; Glass et al., 2015; O'Donnell et al., 2013; Yuma-Guerrero et al., 2012) form of intervention, which is—like the above—delivered at the individual level, but has been quasi-manualised and has clearly defined contents: normative feedback and motivational interviewing. Also in contrast to the above, much has been published about scaling it up and inserting it into routines of primary healthcare (Abidi, Oenema, Nilsen, Anderson, & van de Mheen, 2016; McCormick et al., 2010; Parkes et al., 2011) and emergency rooms (Cherpitel, Moskalewicz, Swiatkiewicz, Ye, & Bond, 2009; Kohler & Hofmann, 2015). Since the evidence for BI (and the majority of the implementations) comes from treatment settings, we have included Brief Interventions only marginally in this description of prevention systems.

Policies

Services and (quasi-)manualised interventions deliver prevention predominantly by means of personal interaction, by skill training, discussions, education or individual counselling. However, much of human behaviour is automatic, driven by impulses and habits, and unconscious (Marteau, Hollands, & Fletcher, 2012; Papies, 2016). This limits somehow the power of education and reflexive motivation when behaviour is supposed to be changed. With the increasing evidence for the potentials of interventions that shape the physical, economic and normative environment of people (Burkhart, 2011; Hollands et al., 2013; Hollands, Marteau, & Fletcher, 2016), local environmental policies are becoming more visible components of prevention systems, because they can complement current approaches in addressing the automatic and non-conscious determinants of behaviours such as substance use, violence and obesity (Adams et al., 2016). Most of them are however at local level and are

[15] For example http://www.streetworkinstitute.org/lms/

seldom defined and labelled as "substance-use prevention interventions". Therefore, we propose to focus monitoring and analysis on the following types that are most frequently described in the literature.

Regulations of Nightlife

Nightlife or entertainment venues are a good example of where social and physical environments, prices and serving practices significantly affect substance use and related problems, including violence (Hughes et al., 2011; Miller, Holder, & Voas, 2009). In such settings, the modification of physical spaces, visual cues and affordances[16] (Fleming & Bartholow, 2014; Ostlund, Maidment, & Balleine, 2010; Withagen, de Poel, Araujo, & Pepping, 2012) offer—in theory—multiple intervention opportunities that require low personal agency, which is essential in environments where people don't go in order to control, "be responsible" or moderate their behaviours. Accordingly, the potential (and the existing evidence) for multicomponent local policies regulating nightlife and its corollary (transport, nuisance, drunk driving, etc.) is higher than for the prevailing interventions that provide information and sometimes personalised advice (Bolier et al., 2011; Calafat, Juan, & Duch, 2009).

Municipalities, especially in regions with declining or weak economies, depend on or need to promote nightlife as a source of wealth and well-being (Hobbs, 2005) while trying to minimise the problems associated with the practice of this kind of entertainment. Local governments can play a major role in promoting and supporting environmental approaches (e.g., regulation of opening hours, banning of certain places and/or certain times for alcohol trade, increasing and reorganising police surveillance, ensuring strict compliance of the law, securing perimeters to reduce social nuisances) that can be undertaken by professionals and technical staff of the different municipal areas that they cover (Duch, Calafat, & Juan, 2016).

Since tourism to international nightlife destinations contributes also to the escalation of substance use in other countries (Calafat et al., 2010), especially in regions of Europe where regulations are weak (Greece and Spain), the strength of regulatory policies is important to be included in the assessment of any prevention system. Policies regulating nightlife, such as access by intoxicated patrons, alcohol-serving practices, happy hours or flat-rate offers, crowdedness, chill-out rooms and areas around the premises, are often reported from the North of Europe (Belgium, some German regions, France, Luxembourg, the Netherlands, Sweden and the UK) but barely from the South (only from Catalonia) where however the big international nightlife resorts are located. This might be one of the reasons why nightlife tourism in Europe seems to follow a North-South gradient, where not only the South's favourable climate but also the laxer regulations in its big tourist resorts would attract young tourists from the more regulated North of Europe.

Implementation and Reinforcement of (Alcohol) Policy at the Local Level

National alcohol policies are not always completely implemented at local level, particularly in smaller municipalities, where local decision-makers might be more compromised to the local trade and to cultural drinking traditions. Municipalities have nevertheless possibilities to effectively intervene in their jurisdictions (Giesbrecht & Haydon, 2006) since often they have also quite a decision latitude in defining local regulations to address, for example, density and concentration of outlets, type of selling venues, and selling and serving policies. Legislation in several countries allow for alcohol consumption to be addressed locally at a broader level than the individual premises, for example, through early morning restrictions and late-night levies in the UK (Martineau, Graff, Mitchell, &

[16]The possibility of a behaviour or action within an individual–environment transaction. A sofa, for example, provides an obvious affordance for sitting; free water for drinking. It is independent of an individual's ability to recognise it or even take advantage of it.

Lock, 2014). There as well, local authorities can also designate so-called cumulative impact zones (CIZs) to control new alcohol outlets in areas where the cumulative stress caused by existing overprovision of alcohol outlets threatens the licensing objectives. A number of studies have already suggested a clear relationship between outlet density and alcohol-related harm (Holmes et al., 2014; Livingston, 2011; Young, Macdonald, & Ellaway, 2013). For Europe, where for long such local policies have been limited to Sweden (van Poppel, 2008)—with the Trelleborg (Stafström, Ostergren, Larsson, Lindgren, & Lundborg, 2006) and the STAD (Gripenberg Abdon, Wallin, & Andréasson, 2011) projects—there is recently increasing evidence for the impacts of local alcohol policies, also in Spanish, Dutch and UK administrative and legal contexts. A recent study in England (de Vocht, Heron, Angus et al., 2016) rated at national level the intensity of licensing scrutiny aimed at controlling licensing and alcohol availability in local areas and found a relationship with alcohol-related hospital admissions, showing that local government areas in England with more intensive alcohol licensing policies are also the places where measurably larger reductions in alcohol harm have taken place. The analogue effect was also found regarding rates of violent crimes, sexual crimes and public order offences (de Vocht, Heron, Campbell et al., 2016). In the Netherlands, two of three regions in which municipalities adhered to a regional alcohol prevention policy had beneficial outcomes (compared to the non-adhering region) in regard to weekly drinking, increase in adolescents' age at consuming their first alcoholic drink, and changes in heavy weekly drinking (de Goeij et al., 2016). Whether direct causation of the policies themselves or association, this suggests a population health benefit of local government initiatives to restrict alcohol licences. Also regarding opening hours, a recent study (de Goeij, Veldhuizen, Buster, & Kunst, 2015) compared two districts of Amsterdam, one of which established longer opening hours for bars. There was a significant difference between the districts, with an increase in alcohol-related harm and nuisance in the district with longer opening hours. Also the city of Barcelona has successfully reinforced specific regulations (e.g. no sales to minors and late night, no consumption in the public space) and monitored the development over several years with a view to change the social perception that minors have of alcohol consumption. There have been no documented episodes of heavy drinking in masses in public spaces (known as "botellón") in the city in that period (Villalbí et al., 2015). In most other countries, the local implementation of alcohol policies is difficult to assess or to monitor from the central level. A parents' empowerment initiative in Spain is a good example how civil society can monitor and reinforce alcohol legislation at local level: the local parents' associations of FERYA[17] denounce and lobby against alcohol selling, serving and promotion practices that would violate principles of alcohol legislation. Cooperation with civil society initiatives like these could improve the monitoring in prevention systems. The EU-funded multinational Take Care Project has monitored (until 2012) implementations of alcohol legislation in some locations in Belgium, Denmark, Germany, Greece, Ireland, Portugal, Slovakia, Slovenia, Cyprus and Italy (South Tyrol). In some countries local alcohol policies as the above described for England seem to be particularly difficult to implement, e.g. in Germany, where they can be legally challenged with ease (Schmidt, 2014).

Supporting School Policies/ Environments

There is emerging evidence that positive school climates that make pupils feel safe, stimulated and accepted may have a protective effect against violence and substance use (Bonell et al., 2013; Jamal et al., 2013; Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). Students' perceptions of whether they are treated fairly and of school safety as well as teacher support are also related to the prevention of substance use. Interventions that increase student participation,

[17] http://ferya.es/

improve relationships and promote a positive school ethos (involvement, engagement and positive teacher–pupil relations) therefore appear to contribute to a reduction of substance use. Programmes based on this concept have been shown to be transferable between countries (Markham, Young, Sweeting, West, & Aveyard, 2012). Again, except for such programmes, school climate is difficult to monitor without specific audit instruments (Embry, 1997). Such interventions should not be confounded with health promotion in schools, which has repeatedly failed to show evidence for effects on substance-use behaviour (Langford et al., 2015; Stewart-Brown, 2006). Interestingly, there are only a few published attempts to combine an effective structural (on school climate or norms) intervention with content components of social-emotional and behavioural training in order to create synergistic effects (Domitrovich et al., 2009) and the best known European example (the Healthy Schools and Drugs Program) failed to yield significant effects (Malmberg et al., 2014, 2015).

But also school norms and rules are supporting policies since they reduce the visibility and therefore the illusion of normality and social acceptance of substance use on school premises (and sometimes around) which is associated with substance use (Kuntsche & Jordan, 2006; Kuntsche & Kuendig, 2005). They are easier to monitor as well. In Europe, such environmental prevention approaches in schools have expanded and today almost all countries report total smoking bans in all schools, and a majority of them report high availability of drug policies in schools, i.e. rules on the use and sale of substances on school premises and procedures how to deal with violations. As indicated in the International Standards, key to effective school policies on substance use is to have policies that are clearly specific as what substances are targeted and to what locations and/or occasions they apply, that the infractions are dealt with using positive sanctions such as providing referral to counselling or other support services and not suspensions or expulsions, and that all stakeholders (students, parents and school staff) participate in the development of the policies (Fig. 26.2).

The advantages of manualised interventions are certainly that their ingredients are known, that their evaluations provide trust in their safety and effectiveness and that those who implement them get clear instructions or deepened training and do therefore not have to know everything about prevention. A priori however, they don't provide the feeling of ownership and identity that local self-made interventions or practices can provide. Adaptations to local conditions that create such ownership feelings are demanding.

Locally developed services or interventions are based on an understanding and an involvement of the local situation, resources, actors and mentalities, but tend to be less complex than manualised interventions, in the sense that content-wise they tend to rely more on information and education rather than on skill training, or on regulating, incentivising or limiting behaviour directly. They are generally not theory based. If such approaches are meant to become more evidence based, such local services require above all a very motivated and well-trained prevention workforce who is aware that prevention is something else than just educating about risks, informing about dangers, giving advice, using fear tactics or organising external lectures by police officers and ex-users or drug awareness days; in short they require professionals who can use other than cognitive strategies in changing behaviours.

But after all, both concepts—manualised evidence-based programmes and locally relevant experiences—are not mutually exclusive and could be combined, as the experiences with CTC in some member states show: this system allows communities to first objectively analyse their specific need and problem profile and then to choose the most suitable programme(s) that address their particular situation. Ideally, science-based manualised interventions that train competences and skills should ideally be complemented with local environmental policies.

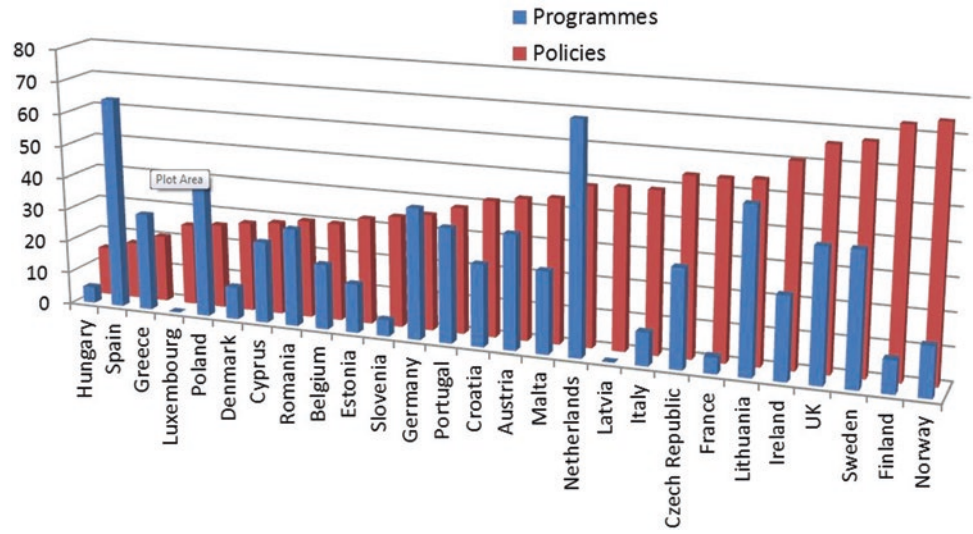

Fig. 26.2 Comparison of the importance given to manualised interventions versus local policies across European countries (high values indicate a high importance)

Moderators

There are accounts from Sweden that evidence-based programmes, such as Unplugged (Faggiano et al., 2008), Strengthening Families Program (Skärstrand, Larsson, & Andréasson, 2008) and MultiSystemic Therapy (Sundell et al., 2008), were not superior to usual Swedish services or interventions. This might however be related to additional factors in societies like Sweden that have low social inequality, high social capital and strong social norms against substance use. These factors might lower the overall vulnerability of the target group so much that additional interventions yield little additional effects to the existing prevention infrastructure.

As moderators within a prevention system we conceive those aspects of social, political and cultural life that influence the functioning, implementation and effects of prevention. They are however difficult to be modified by prevention systems themselves. For the purposes of a comprehensive overview of prevention systems, these possible moderators should be taken into account. This is particularly relevant as moderators are not foreseen to be involved in most conceptualisations of prevention strategies or cannot be considered in research studies in an adequate way, but may have a high practical relevance especially in the field of cross-national exchange of intervention programmes. Due to the lack of data on these moderators in European prevention activities public-use data of cross-national surveys from research fields that are not primarily related to prevention were reviewed, such as the Tobacco Control Scale, the Alcohol Control Score, the World Values Survey and the Gini Score[18] data by OECD.

Social Inequality

It has been argued that a range of social problems, including substance use, teenage pregnancy and violence, are more prevalent in countries with high levels of social and health inequality (Wilkinson & Picket, 2010) because of the increased competition for status and positional goods which affects people's physiological and physical well-being. A WHO (CSDH, 2008)

[18]The Gini inequality index measures income inequality between the richest decile of a population and the poorest. It ranges from 0 (everyone has the same income) to 100 (one person has all the income) and is a good proxy for social inequality.

report and the Marmot Review (2010) for the UK confirmed that inequalities in health including substance-use problems are related to social inequality.

Social Capital

Francis Fukuyama (2001, p. 7) defined social capital as "an instantiated informal norm that promotes cooperation between two or more individuals". Social capital norms lead to co-operation in groups and therefore are related to traditional virtues such as honesty, keeping of commitments, reliable performance of duties and reciprocity (Fukuyama, 2011). One important factor for social capital is particularistic trust, which is characterised by three different forms: trust in family, trust in neighbours and trust in people one personally knows. Data of the World Values Survey (years 2010–2014) suggest that in general, the level of trust in family is comparably high among all European countries and trust in neighbourhood or personal acquaintances never approach family trust in any researched country. This in turn has impact on community organisations and the openness towards adopting new social interventions: if societies with low social capital have a "narrow radius of trust" (Fukuyama, 2001), their members do not easily co-operate with outsiders. The result is that, in some societies, social capital resides largely in families and a rather narrow circle of friends. If members of such groups do not co-operate with each other and do not get involved in new activities, the adoption of preventive interventions would be difficult.

Social Norms

We focus here on general social norms at the population level, which cannot be modified by prevention policies or interventions and are therefore considered moderators (in analogy to why we have included alcohol and tobacco policies among the moderators). This is different from in-group social norms which are obviously malleable through some kinds of prevention strategies (e.g. normative education and environmental prevention). Descriptive norms ("Everybody does that") and the social acceptance of a behaviour (injunctive norms) seem to influence the initiation into problem behaviour and substance use (Berkowitz, 2002). They can therefore boost or undermine the reach and impact of prevention interventions.

Alcohol and Tobacco Policies

In an ideal situation, macro-level alcohol and tobacco control policies would be an integral part of a prevention system. In a slowly increasing number of countries, such as France and the Nordic countries, this is indeed the case. However, in many countries alcohol and tobacco policies continue to be policy domains apart from substance-use prevention. Besides, the alcohol industry in some countries has a participatory role in (influencing) policymaking, not necessarily protecting public health (Brown, 2015; Knai, Petticrew, Durand, Eastmure, & Mays, 2015). While at the policy level national drug coordinators sometimes cannot touch the interests of the alcohol industries with regulatory approaches on advertising, prizing or taxation (Burkhart, 2011), professionals strive to compensate for such macro policymaking with local prevention interventions. Therefore, national alcohol and tobacco policies are considered as moderators, since they often continue to be independent from prevention systems, sometimes counteracting their objectives.

Drug-Use Legislation

There is currently no evidence that the harshness of legislation on illicit drugs (consumption or possession for use) has an impact on substance-use behaviour (EMCDDA, 2011, p. 45). There are concerns that harsh drug laws, which increase the stigma (Lloyd, 2010) for drug users in general and punish vulnerable young people for behaviour that is ultimately beyond their control, might

hamper the reach and implementation possibilities of selective and indicated prevention interventions if vulnerable substance users cannot openly be enrolled and engaged in them, because they have to conceal their drug use (Booth, Kwiatkowski, Iguchi, Pinto, & John, 1998; Cunningham, Sobell, Sobell, Agrawal, & Toneatto, 1993; Finney & Moos, 1995).

We hypothesise that strong alcohol and tobacco policies, together with low inequality (low Gini score), paired with high social capital (generalised trust, i.e. not only towards the family) and strong social norms against antisocial behaviour, as well as a public health-oriented legal framework (less punitive) would all contribute in supporting prevention systems and boosting their outcomes in terms of substance use-related problems. The limitation for a comprehensive analysis is that (a) complete data—i.e. covering all EU countries—are available only for alcohol and tobacco control, and for income inequality; (b) a score on the harshness of drugs legislation does not yet exist; and (c) the available data on social capital and social norms do not allow for developing a stringent theoretical framework and a clear interaction with prevention systems, similar to, e.g., the alcohol control score. A conceptual limitation is that the premises of this model are based on a "modern" state (Fukuyama, 2011), while in many countries in the South of Europe social life and support continue to be driven by family, thus affecting the relevance of people outside the family. There is often less trust, less "social capital" and hence less public solutions for problems, which are taken care of by the families. These "private solutions" continue to contribute to buffering the impact of a number of social and public health problems, even if the system of "public solutions" might be weaker.

To give nonetheless an overview of moderators at the national level, in the original EMCDDA report a composite score was calculated of only those moderators that are consistently available and interpretable. It includes social inequalities (Gini score), as well as alcohol and tobacco control policies. For all three variables we calculated quartiles and subsequently all variables were summed up. Lower scores of the composite score indicated less supportive moderators on national level (Fig. 26.3). In a direct comparison, the Nordic countries show a high score of supportive moderators whereas Greece, Cyprus, Luxembourg, Portugal, Spain and particularly Germany show less supportive structures. In Luxembourg and Austria, inequality is relatively low but both countries do have weak alcohol and tobacco policies. In Ireland the alcohol and tobacco control regulations are quite stricter but social inequality is one of the highest in Europe, with the second highest Gini score.

The Prevention Workforce

The success and positive outcomes of prevention strategies in general and of a prevention programme in particular depend on a careful selection of the practitioners who implement them: their skills, motivation, dedication and personality. Moreover, the infrastructure (social, legislative, technical and physical) that support them are of vital importance (Burkhart, 2013).

The professional background and training level of professionals do play a crucial role in the delivery of prevention strategies, but for the majority of countries it is difficult to describe and analyse the composition of the prevention workforce and how they have been trained (Fixsen et al., 2005).

This is very distinct from the treatment field, where most professionals (except in non-publicly funded therapeutic communities in some countries), before they are allowed to treat and deal with clients, need to have accreditation and specific training, which is easier to register.

Nevertheless, even in therapy, a non-irrelevant portion of clients gets worse (Crawford et al., 2016) and several findings (Dishion & Dodge, 2005; Hornik, Jacobsohn, Orwin, Piesse, & Kalton, 2008; Moos, 2005) suggest that prevention can be harmful as well. However, there seems to be little concern or awareness among parents and policymakers about potential harms arising from prevention activities that might be well intended, but without evidence or carried out

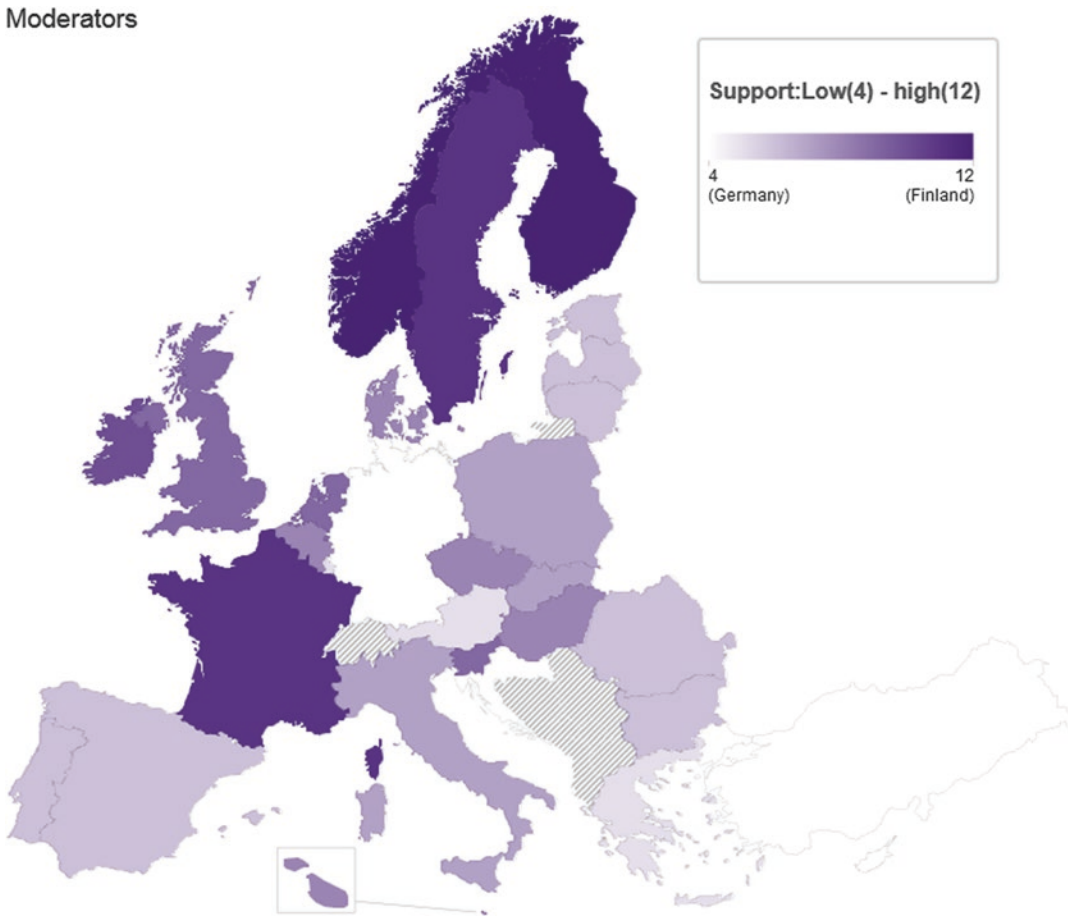

Fig. 26.3 Composite score of moderators that support functioning, implementation and effects of prevention (high scores indicate a composition of highly supportive moderators)

by suboptimally trained staff. Many standards (see also Brotherhood and Sumnall (2011) for the EDPQS) therefore address the issue of staff qualification. According to the country reports only in the Czech Republic a proper accreditation is required for any prevention professional who wants to deliver prevention in the education system.

The prevention workforce can be categorised by prevention services, local prevention decision makers and implementing professionals.

Services

Providers and facilities that deliver prevention are mostly public service settings like schools, prevention centres and health centres or sometimes through law enforcement, but differing from country to country other settings such as NGOs, associations and universities play a crucial role. Most countries report predominantly about their public prevention services, since those—alike those in the treatment field—are accredited and tend to have stable funding. Less seems to be known about the activities of private associations. This might be related to the fact that accreditation is not a prerequisite for entities to deliver prevention and to enter into contact with youth and children. Therefore, it is often the case that some NGOs, charities and mainstream (and fringe) faith groups deliver ineffective activities that are typically based on informational, awareness-raising

approaches, sometimes combined with blunt scare tactics. The available information from European countries suggests that most local services are also not obliged to follow existing standards and don't seem to be audited for this.

Monitoring of such services for prevention is almost impossible because of this diversity of different services, which are not necessarily bound to a physical installation; for example, a small NGO operating from a home office can implement several school-based prevention interventions. Several countries report an incalculable plethora of organisations that somehow carry out prevention.

Local Decision Makers

Among regional or local decision makers there is no common understanding of what substance-use prevention (or prevention of problem behaviour) would consist of, and possibly because of the frequent assumption that "prevention is informed decision-making" purely informative approaches are still used in many countries (EMCDDA, 2015). It seems for example that in countries with a preponderance of psycho-analytically trained prevention professionals, all approaches are repudiated that could be marked as "behaviourist" or "normative" (Burkhart, 2013). In one country in Latin America the implementers of the Good Behaviour Game (Kellam et al., 2014) had to change the "packaging information" of the intervention (description of theory base, working mode and objectives) in order to overcome the fierce resistance by the Ministry of Education which considered it behaviourist and manipulative and therefore unacceptable for the country's educational philosophy, according to which the children have to consciously and knowingly adopt the desirable behaviour but should not be nudged towards it. A similar concept seems to be the reason that "drug education" is the prevailing term used for prevention—virtually exclusively—in the UK: the assumption that prevention has to be done via education, i.e. by only applying conscious processes of persuasion, information provision and reflection. Accordingly, comprehensive social influence programmes are repeatedly denounced as "American" and manipulative.[19] Such specific professional cultures among decision makers seem also be the basis as to why in some countries manualised programmes have been seen as too standardised, rigid and not suitable for diversified local conditions (Burkhart, 2013).

Since the publication of the International Standards on Prevention (UNODC, 2013) and the European Drug Prevention Quality Standards—EDPQS (Brotherhood & Sumnall, 2011)—training initiatives and curricula[20] have been developed that aim both to train prevention decision makers and prevention implementers in effective prevention principles and in how to implement them. Once adapted to Europe they might improve the current situation where it seems to be difficult for local decision makers to select the most suitable prevention approaches.

Professionals Who Actually Carry Out the Interventions

Not only should prevention specialists and decision makers be considered in a prevention system, but also above all implementing professionals such as teachers and educators, family counsellors, staff in health, counselling and youth centres, policemen, outreach and social workers, and other professionals enrolled in delivering prevention. Their role is crucial. Horton (2014) postulates that in order to achieve safe, effective, patient-centred, efficient, timely and equitable care, a revolution in the quality of care is needed, which would constitute "a third revolution in global health", but this depends on staff training and less on interventions. Often there is no relation between health outcomes and coverage with key interventions because the missing ingredient is quality of the care provided by the specialised workforce. This applies to prevention as well. A pivotal point here however is

[19] http://findings.org.uk/PHP/dl.php?file=drug_ed.hot

[20] https://www.issup.net/training/universal-prevention-curriculum

that there is yet no agreed-upon means to monitor the quality of prevention work. There is not even a common professional profile of a prevention worker and for this reason it is difficult to obtain information about who makes up the prevention workforce in Europe, except for the teachers who deliver interventions in schools. Professional cultures, beliefs and assumptions are influential: for example the situation in which an entire professional group in a country decides that certain intervention types—e.g. indicated prevention—are unacceptable because they'd "medicalise" certain behaviours, or if other professional groups fiercely oppose local regulatory approaches because they sometimes have been developed from the crime prevention or law enforcement sector, or because they see them as limiting "personal freedom".

If there was a unified prevention training syllabus for prevention professionals in Europe, such ideological prejudices or misunderstandings about the nature and scope of prevention might be reduced. The open question remains, why not-so-well-paid prevention workers would invest in such a training curriculum of about 280 h, like the Universal Prevention Curriculum (see Footnote 20), which is currently being adapted to Europe. Based on the UNODC standards of evidence (UNODC, 2013) and the EDPQS (Brotherhood & Sumnall, 2011) it transmits key competences such as Needs and Resource Assessment; Preparation and Implementation of Interventions and/or Policies; Selection of Evidence-Based Interventions and/or Policies; Specifying and Defining Outcomes; Monitoring and Evaluation; and Dissemination and Improvement.

The Target Populations

The characteristics of the target population should be considered as part of the prevention system as well, since the target population is not only the final recipient of prevention, but also have an active role in how prevention measures can (or cannot) be implemented. There is an obvious interaction between the characteristics of the target population and the adequacy and relevance of interventions or policies for them (Brotherhood & Sumnall, 2011).

The most obvious characteristic that comes to mind is the vulnerability profile of the populations in terms of social exclusion, for example how many vulnerable groups are there and how deprived are they. A target population with a high vulnerability is often associated with low education (Legleye et al., 2016; Legleye, Beck, Khlat, Peretti-Watel, & Chau, 2012) or personal resources, such as self-control (Teasdale & Silver, 2009; Vaughn, Beaver, DeLisi, Perron, & Schelbe, 2009; Wills, Ainette, Mendoza, Gibbons, & Brody, 2007). As a consequence, informational strategies to raise awareness about drugs and their risks are even less adequate, relevant and pertinent for them since they require a very high level of "personal agency" (Adams et al., 2016), i.e. the capacity of transforming knowledge and intentions into behavioural change. Such informational strategies require a level of cognitive and executive skills that is often lacking for the most vulnerable. In other words, more effective contents of interventions for vulnerable groups and individuals are either environmental measures or policies (since they require low personal agency) or interventions that address underlying or associated behavioural challenges and obstacles by training social competence, academic performance and motivation (Sussman et al., 2004) or positive family management (Bailey, Hill, Oesterle, & Hawkins, 2009; Hill et al., 2010).

Families and students sometimes have participated in a number of prevention interventions so they are reluctant to engage in new and additional interventions, even if they are perhaps more evidence based (Burkhart, 2013). If however prevention interventions or policies provide added value to their lives and development, their reception might be different. The reception of "Unplugged" and "the Strengthening Families Program" by pupils, teachers and vulnerable families, respectively, was unexpectedly enthusiastic in Brazil for example, because in its deprived public schools and marginalised families these programmes provided for the first time interactive role play, and a focus on social inclusion and

competence. When programmes originating from another country are adapted to new contexts and cultures, it is good practice to involve the target group in the adaptation process, by assessing its relevance and adequacy and in making suggestions in order to guarantee that the intervention is meaningful to them (Burkhart, 2013; UNODC, 2009). This principle does not apply only to manualised interventions but could—in a participatory approach—generally improve and perfect more elements of a prevention system. These arguments provide strong support to those prevention systems where the central level and research centres closely work together with local communities in developing interventions at local level. These same principles can be applied also to manualised interventions.

Conclusions

It appears that system thinking can be helpful in overcoming the current major focus only on (evidence-based) manualised interventions or programmes. Many more determinants have to be optimised in order to achieve sustainable and detectable prevention effects at a population level. This chapter therefore aimed at inventorying these different factors and conditions that need to be known in order to describe how "prevention systems" could be conceptualised. These elements characterise how and by whom prevention is conceived, planned, organised, delivered, evaluated, improved and received. We have proposed additional variables and aspects of a society (e.g. its inequality) that can boost (or impede) the implementation and impact of prevention interventions or policies, and have called them "moderators". Even if they are often not seen as pertaining to prevention and difficult to be modified by prevention policies, they certainly are determining aspects of a prevention system and important for understanding the multifaceted cultural and structural reality. We have seen that in the example of Europe, many variables of a prevention system change substantially from each country to another, particularly the training and professional cultures of the workforce. It seems often difficult for people in one country to realise that the conditions of implementing and improving prevention in other countries are fundamentally different, solely because of system conditions, without even going into cultural comparisons. Evidence-based interventions are an innovation for much of the prevention field, which has been dominated by untested approaches. If such innovations in interventions, policies or training have to be rolled out into other countries, it is advisable to first apply some system thinking and to have a look at the variations of the systems components that are essential for the functioning, uptake and sustainment of these interventions or initiatives. For example manualised programmes might be particularly difficult to implement in certain countries while environmental strategies might be hard to implement in others. Under the current trend where effective interventions, evaluation and relevance for the population are demanded at all levels, this chapter might help to draw the attention to the additional aspects that need to be considered in order to achieve this aim.

Since the prevention strategies of many countries are quite compartmentalised into crime prevention, drug prevention, alcohol prevention, etc., a systems approach is even more necessary for instance in clarifying that evidence-based crime and violence prevention share most aetiological factors and almost all principles of effective action with substance-use prevention, and that (illicit) drug prevention cannot be effectively carried out when alcohol policies are not considered.

A weakness of this analysis is that the model is static: for the most part, we are not able to predict how the different components might influence each other over time and have therefore used general systems theory only to a limited extend in presenting the components of a system, which are interlinked. The processes involved have not been discussed since this would require longitudinal information about changes in the countries' prevention systems. In the future, hopefully specific organisational system research methods might also help in detecting how the different components affect individual components

and how this synergism affects systems for drug prevention.

Given the low popularity of manualised interventions in Europe, as a particular example, it is unlikely that evidence-based prevention can be taken to scale in the continent by focusing only on the large-scale dissemination of programmes. Manualised evidence-based programmes are an effective way of reaching relatively large populations, but they collide often with professional traditions about how to deliver prevention in many countries.

An important share of prevention practice in Europe continues to be much ingrained in treatment traditions: by providing services that target, approach and counsel people *individually*. This has facilitated developing flexible responses for vulnerable groups (selective prevention) and for vulnerable individuals (indicated prevention) in Europe, but the unique potential of prevention as population-based intervention is underused and sometimes even unpopular. Nevertheless, a good collaboration and integration with the treatment field are essential in order to reach all target groups and to provide a multi-tiered offer of prevention interventions and services.

Institutions at national or regional levels in Europe have often a stronger role than communities and civil society. But siloed institutions and sectors make cooperation for a multi-context, multidisciplinary activity like substance-use prevention particularly difficult, if for example the education sector does not share the interests of the health sector, criminal justice or other essential stakeholders. This integration is easier in countries with communitarian traditions, where most of prevention is delivered at the municipal level, where multi-sector co-operation is straightforward.

The moderators in the prevention system model proposed here should be taken into account carefully when for example an ambitious new prevention strategy or an evidence-based programme is supposed to be implemented or introduced from one country into another. It would be naïve to assume that offering evidence-based interventions, mapping and involving key stakeholders and professionals, forming community coalitions and getting political support would be sufficient to bring evidence-based prevention to scale and to have population-level effects. In a country with weak alcohol policies and indulgent social norms about antisocial behaviour, substance-use and violence prevention interventions are less likely to make an impact, and in countries with low social capital they might be much more difficult to implement. These are not trivial details. International publications for example tend to assume that parenting programmes, which have achieved great progress in effectiveness in the recent past (Foxcroft & Tsertsvadze, 2011; Mihalic & Elliott, 2015), should and could be widely implemented (Leslie et al., 2016), for instance through primary care. Most parenting programmes however require parents to meet and to interact with each other (sharing experiences, challenges, problems and progresses). But contrary to schools, where almost all young people can be found and by default are expected to interact with each other, families interact with others better in societies with high social (bridging) capital. North American societies have much stronger traditions of communitarian self-organisation (de Tocqueville, 1838; Fukuyama, 2011) than many European societies, where social capital is accordingly lower. In Portugal for example, the recruitment of families for the Strengthening Families Program has been difficult for this reason. Often preferred in this country is therefore a locally developed intervention (Melo, 2009) that targets each family individually, i.e. not requiring them to interact with unknown people. For countries with low social capital it is recommended that interventions be developed to respond to this cultural peculiarity. In a similar way, social norms, attitudes and policies about alcohol and tobacco have to be taken into account when prevention systems are to be optimised, especially for Europe, with its worldwide high consumption rates for alcohol (World Health Organisation, 2014).

To sum up, a systems approach can be useful to researchers and practitioners, as well as to policymakers:

- By opening their thinking towards a view of prevention as a system, in which many different components and their interaction need to be considered.
- By considering that for an intervention within a system, the research question should not be "is it effective?" but rather "how and when does it contribute to effectiveness?"
- By going beyond a particular focus, e.g. on evidence-based programmes only and their implementation towards a broader consideration of supporting factors and actors.
- By planning and providing different resources for different aspects of a system that need to be developed.
- By assessing beforehand the "system compatibility" of new approaches and programmes, and for deciding what adaptations are needed in order to increase system readiness.
- By developing multi-modular interventions and policies with modules that allow reducing complexity or intensity according to system characteristics.
- By developing implementation checklists that assess the most relevant system components before implementing programmes or policies. This might help to make multi-site evaluations more meaningful and comparable.
- By informing national prevention action plans at different levels to consider a wider range of policy options and stakeholders.
- By recognising that professionals' behaviour and attitudes might only change if multicomponent implementation strategies are employed, particularly for new, more science-based and evidence-based approaches.

Applying some of these examples might help in actually achieving sustained behavioural change by setting up multilevel, multitiered, multicomponent prevention systems, where important but non-obvious stakeholders such as the police, commercial outlets and treatment sector have a clearly recognised role, optimising thus their unique contributions to prevention.

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