



European Monitoring Centre
for Drugs and Drug Addiction

The future of drug monitoring in Europe until 2030

A report summarising the findings and lessons learnt from
the EMCDDA's 'futures study'



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PART 1

Overview: The EMCDDA 'futures exercise 2030'

Background

Patterns of drug use and developments in the drug market in Europe are becoming more complex and dynamic, with major implications for drug monitoring and research. This observation prompted the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) to conduct a futures exercise 2030 to inform the agency's strategic reflection on how to improve its activities in the context of both ongoing rapid changes in the information environment and the new information needs likely to emerge over the next decade. A summary of this work is provided here.

The purpose of this exercise was to pilot a foresight approach and test its usefulness in helping the agency become more sensitive and agile to possible future challenges. This, in turn, could help the agency support wider discussions intended to increase Europe's preparedness to respond to future policy challenges in the drugs area.

Conceptually, a wide variety of approaches are sometimes referred to under the foresight and futures headings. These range from modelling activities, intended to predict likely future events with increased precision, to back-casting, in which possible desirable or undesirable future events are identified and strategies that might help to achieve, or avoid, these outcomes are developed. More generally, these methods are often used to identify a range of possible future events and to consider what we can do now to be able to respond to them should they occur, thereby increasing both the preparedness and resilience of current policies and systems to a range of potential future challenges. Two things to note here are that the point of action is the present and a range of possible plausible future scenarios are explored.

The approach adopted by the EMCDDA is detailed below, but essentially, it involved using a set of participatory horizon-scanning exercises to generate ideas to inform current discussions on how the agency can ensure its working approach remains in line with future needs. An

important observation is that this exercise is intended to inform current practice based on a consideration of possible future developments as opposed to trying to predict future events. This also implies that regularly repeating exercises like this can be valuable for the organisation as it can allow regular adjustments to be made to current approaches based on an assessment of the possible ways the long-term outlook is changing.

Summary of the main lessons learnt from the exercise

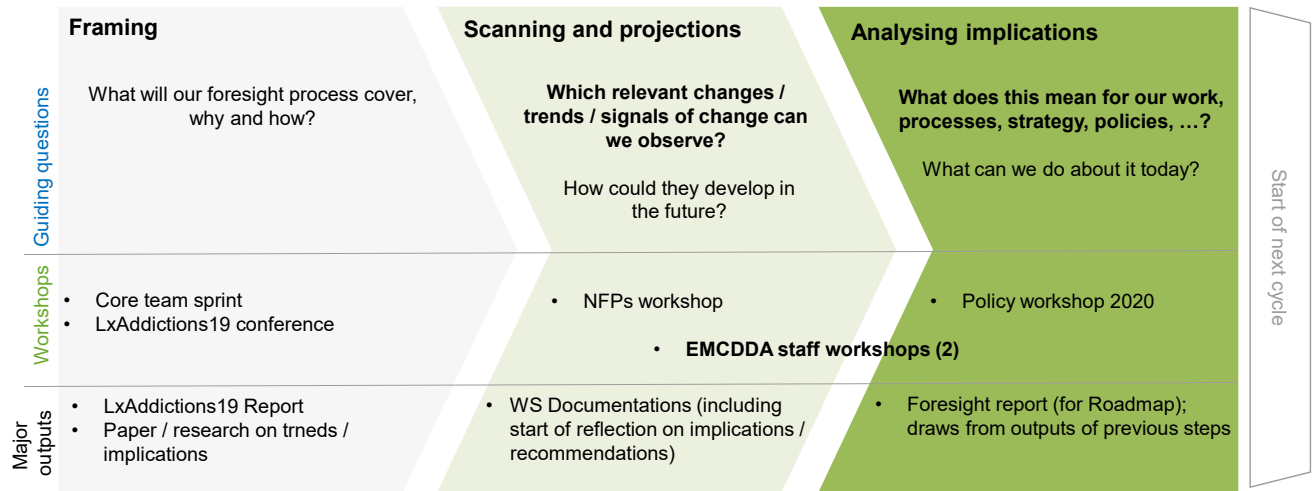
The following outcomes have emerged from this exercise.

- A greater understanding of the potential role of futures- and foresight-oriented activities in informing the EMCDDA's ongoing work.
- A recognition that these kinds of activities, if performed regularly, can contribute to creating a more agile organisation by raising awareness of possible future developments and creating a more forward-looking mindset.
- An appreciation of the value of creating a repository of tools and methods to support similar exercises by our stakeholders.
- A greater awareness of activities at the Commission and the EU-agency level in this area, and the possibilities for pursuing synergies and knowledge-sharing.
- Greater recognition and validation that a co-creation process can be valuable to an analysis of how the EMCDDA can ensure its working methods remain in line with future needs.

FIGURE 1

EMCDDA foresight process (first cycle): timing and outputs

| Focusing on trend analysis (and implications)



Why is it important to develop a foresight or futures perspective?

We live in an era of fast and fundamental change. The speed of social transformations and technological innovations is accelerating and can outpace existing policies and responses. In such an interdependent and complex world, if analysis conducted to support decision-making processes is to remain fit for purpose, it needs to go beyond specific areas of expertise and recognise that a single-issue focus may often be insufficient in identifying future threats or opportunities. This is because contemporary public policy challenges are often influenced by issues that are external to their specific area of focus. Concretely, issues like globalisation, climate change or digital innovation can impact on all areas of human activity, but may be considered too general to be included in a consideration of a specific area, such as drug policy. Thus, important external drivers of change may risk being ignored.

Therefore, governments, EU institutions and their technical agencies have begun to explore a set of foresight approaches that aim to promote systems thinking, anticipatory knowledge and participatory processes that deliberately cut across traditional policy boundaries and institutional silos. The purpose of futures-oriented activities/foresight varies but generally, the aim is to increase the preparedness of organisations in the face of possible important future developments and/or to provide a better understanding of what organisational strategies are needed now to achieve more-desirable future outcomes, or avoid less-desirable ones. These activities often invite us to consider the future as something that

can be created or shaped rather than as something predetermined.

The EMCDDA's 'futures exercise 2030' applied a horizon-scanning method to study events, issues and trends that may affect the drugs area, but that went beyond the drugs or the addiction field and beyond the European region. It also analysed global drivers of change (megatrends) that have, or may have in the future, implications for the drugs situation, drug monitoring and drug-related responses. The methods applied ranged from literature review, thematic analysis and workshops to expert panels. In addition, the exercise included a participatory component, enabling stakeholders representing different disciplines and countries to contribute to, and benefit from, the process.

Throughout 2019 and 2020, the EMCDDA organised six events bringing together around 350 people to contribute to this exercise with their views on the future of the drugs field and information needs: a thematic track at the Lisbon Addictions 2019 conference (with 30 sessions and 60 presentations), and four futures workshops (Figure 1) involving researchers, professionals, policymakers, the Reitox network, members of the EMCDDA staff, members of statutory bodies and international organisations.

In interpreting the findings from this exercise, it is important to remember that the approach was to identify different factors that may be important in the future, rather than a predictive exercise aimed at classifying their certainty or reliability. Thus, the findings are intended to provide input for further discussions only.

Major drivers of change

The major drivers of change identified by this exercise as potentially impacting on drugs area were classified as being social, economic, technological, environmental/ecological or political in nature (STEEP). They were divided into three main domains:

- megatrends – major external drivers of change impacting on Europe and globally;
- emerging trends in the drugs field (internal); and
- weak signals – defined as indicators of potentially emerging issues that may become significant in the future.

Out of the 14 global megatrends defined by the European Commission Joint Research Centre (JRC) as relevant for the future of Europe ⁽¹⁾, five were selected repeatedly by participants in the exercise as likely to be most significant for the drugs field and future EMCDDA work: accelerating technological change and hyperconnectivity; diversifying inequalities; shifting health challenges; population change (including migration, urbanisation and demographic imbalance); and climate change and environmental degradation.

Megatrends: the five identified as most significant for driving change in the drugs area

1. Accelerating technological change and hyperconnectivity
(e.g. digitalisation which reconstitutes patterns of consumption and production, as well as innovations in responses; opportunities for innovation in methods of monitoring and surveillance).
2. Diversifying inequalities
(e.g. the development of new vulnerable groups at risk of social exclusion and drug use problems; increase in the use of cheap, accessible and highly potent new drugs, which will be particularly challenging for countries with large youth populations that are undergoing rapid social changes).
3. Shifting health challenges
(e.g. drug markets in general increasingly 'pharmaceuticalised'; greater attention towards non-communicable diseases but not towards drug-related problems).
4. Population change – a category including the following cluster of megatrends:
 - increased significance of migration;

(1) See the European Commission website, [Megatrends hub](#).

What are megatrends?

Megatrends are long-term driving forces that are globally observable now and will most likely significantly influence the future in many different fields. They are larger than the power of individual organisations and often nation-states as well. The EC Joint Research Centre identified 14 megatrends as relevant for the future of Europe.

- continuing urbanisation;
- increasing demographic imbalances;

(e.g. migration and population flow potentially altering drug demand and consumption; demographic and social changes mean that the future health costs of drug use are increasingly likely to be borne by middle-income countries).

5. Climate change and environmental degradation
(e.g. alterations in agricultural-based crop production; or unregulated disposal of toxic waste into the environment).

Moreover, four categories of emerging changes in the drugs field were identified: shifts in drug policy, in the discourse of addictions, in drug markets, and in drug services.

Possible emerging trends and weak signals in the drugs area

1. A shift in drug policy and drug laws
 - public health-oriented approach (policy responses focus on targeted strategies for reducing drug-related harms);
 - changing regulatory framework (blurred frontiers between licit and illicit drugs, medicines etc.);
 - evolving cannabis policies and increased commercialisation of legal cannabis products (influence of industry);

What are emerging trends?

Emerging trends are relatively 'strong' and visible, or new developments that could already be observed (i.e. where there are some sources/some evidence), but that are not 'as big as' megatrends, nor as small as 'weak signals'.

What are weak signals?

Weak signals are indicators of potentially emerging issues that may become significant in the future. A weak signal describes something that is not yet significant but requires time to mature. Weak signals supplement trend analysis and they can be used to expand on alternate futures.

- implications of the global economy (economic crisis and public austerity measures);
 - populism facilitated by information crisis (alternative facts and 'fake news').
2. A shift in the discourse of addiction
 - possible greater normalisation of drug use;
 - renaissance of psychedelic drugs;
 - greater recognition of behavioural addictions;
 - increased importance of the non-medical use of medicines.
 3. A shift in drug markets
 - digitally enabled drug markets;
 - increase in production of synthetic drugs, chemical innovations, high-potency products, new psychoactive substances (NPS) and fake medicines;
 - market activity and production closer to consumers;
 - new delivery options (impact of globalisation) and greater connectivity between markets;
 - new large consumer markets in low- and middle-income countries.
 4. A shift in drug services
 - innovation and new tools (e- and m-health; new pharmacologies for dependencies and drug-related diseases, e.g. vaccinations, patches);
 - complex needs profiles and individually tailored interventions (ageing groups and comorbidities; migrants, homelessness but also new vulnerabilities);
 - joined-up addiction services (patient and civil society involvement) and responding to community needs;
 - new understanding of biotechnology and neurological processes;
 - new pharmacotherapies.

Guiding questions for implications

What are the current and future information needs for decision-making in Europe?

What new information sources, methods, and tools should be incorporated into the EU drug monitoring system?

How can we communicate better the results of the EMCDDA's work?

What do the changes mean for EMCDDA internal processes, the culture of the organisation and future partnerships?

Possible implications for future information needs and drug monitoring

In light of the changing external environment and developments in the drugs field itself, the futures exercise 2030 also aimed at identifying new information needs and implications for the European drug monitoring system. Based on the views of various groups of stakeholders involved in the co-creation approach, the most commonly identified issues for potential consideration in the future can be organised around four categories: scope and framework, methods and tools, communication and dissemination, mindset and partnership. These areas are interconnected and, to some extent, overlapping.

Scope and framework

The analysis of major drivers of change triggered discussions about the complexity of the drug phenomenon due to social, technological, political, economic and ecological changes. In this dynamic and complex context, there is a need to consider how the scope of the existing drug monitoring system might be extended to provide a more holistic view of the different factors influencing the drug situation in Europe. Participants of the exercise also suggested realigning the analytical focus on new topics that may be outside our current areas of study. For example, social and health determinants that could present risk factors for drug use and harms, such as migration status, homelessness and ageing groups of drug users. Furthermore, the geographical scope of the monitoring system could be extended and cover more localised events, to detect emerging potential risks to health or security, as well as broader global developments that may have important future implications for the situation in Europe.

Key issues identified: scope and framework

- Social determinants (gender, migrants, homeless, older people) and impact on mental health
- Geographical levels (global, national, regional and local); geographical scope changed or enlarged (Western Balkans, eastern and southern EU neighbouring countries, other relevant regions and countries)
- New topics or areas (cybercrime, geopolitics, a study of the entire supply chain; intersection with other crime areas, environment, cost-effectiveness analysis, measuring problems)
- New concepts, new legal frameworks (illicit and licit; substance and non-substance-based addictions)
- Increased complexity due to changing status of drugs

It is important to note that a caveat in interpreting the findings from this exercise is that they are explicitly intended to provide food for thought only. Equally important is that while there did appear to be a high degree of consensus on many of the issues identified between the different groups, this exercise does not in any way represent a consensus position of those taking part. Therefore, the substantive issues identified and reported in this paper do merit consideration for how they could inform future EMCDDA activities. However, this exercise was not intended to arrive at any formal conclusion on what areas, in particular, should be taken forward, nor to critically evaluate the conclusions emerging from the process.

Methods and tools

In terms of implications for the future drug monitoring system, two main aspects emerged from the exercise, namely, the need for innovation in monitoring methods and tools (the future of monitoring) and futures-oriented monitoring (foresight approach).

This first aspect requires ensuring, at a systemic level, that the drug monitoring approach remains fit for purpose, that it benefits from technological advances and that there is integration of established monitoring tools with new data sources and information technology solutions. Advances in big data, e-surveillance and open-source information have the potential, for example, of facilitating the early identification of emerging trends and for increasing

Key issues identified: methods and tools

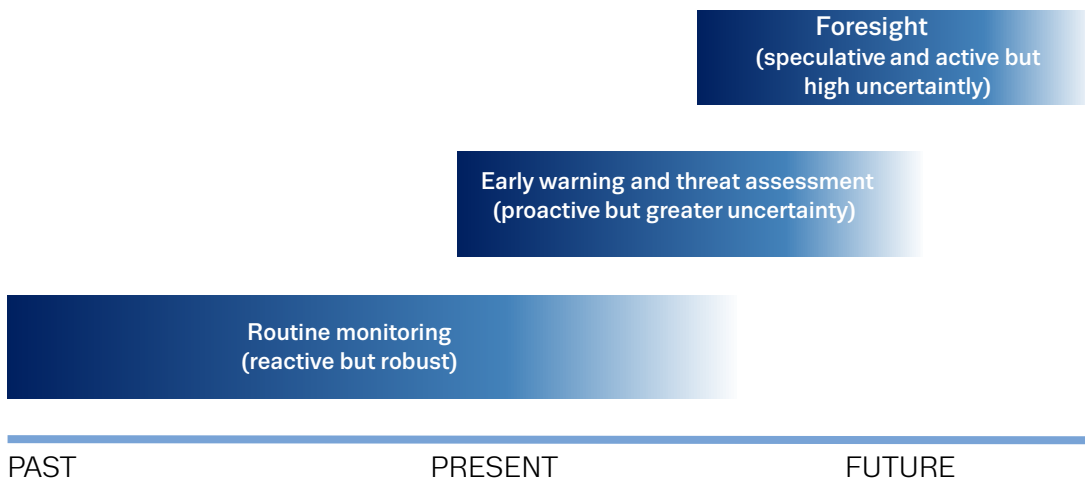
- Ensuring routine monitoring keeps pace with change and informs the research knowledge cycle (more topical analysis, review of reporting tools and monitored variables, e.g. age groups/older cohorts, more qualitative research); knowledge gaps and research questions
- Routine monitoring complemented by more proactive, timely and targeted threat assessment approaches
- Exploiting new technologies (automated methods of processing data, bio-monitoring and real-time data) but also identifying and addressing ethical and methodological issues raised by new monitoring methods, new information and new data sources
- The need for a foresight toolbox, including more rapid identification of trends, but also the development of scenarios to increase preparedness
- The benefits of adopting a co-creation approach and more involvement of information providers in analysis and knowledge creation and sharing (information design)

the timeliness and sensitivity of reporting. Our current, indicator-based, approach to drug monitoring remains important for time series and trend analysis and because of the increased certainty that comes from using statistically and methodologically robust tools. However, it is often necessarily reactive and may therefore not be sufficiently sensitive, in the short term, to emerging issues. Therefore, at the systems level (see [Figure 2](#)), monitoring could be enhanced by greater investment in complementary early warning studies and threat assessment analysis.

In addition, incorporating foresight or futures-oriented methods into the monitoring system could increase preparedness and help inform policy choices with a longer-term perspective in mind. These approaches are intended to be more holistic, capturing a larger global perspective, but at the same time there is a need to interface and test this more speculative analysis with information on the current situation and emerging developments in the drugs field. It is also important to acknowledge the increased uncertainty inherent in more speculative approaches. Thus, at the systems level, maximum benefit is likely to accrue when information collection tools with different temporal perspectives are included in the overall model used. In interpreting the information available, it is important to acknowledge the relative strengths and weaknesses of the

FIGURE 2

Information needs and reporting models with differing temporal perspectives



different approaches, as well as the fact that all approaches bring with them uncertainties

Communication and dissemination

In order for information to be useful for different stakeholders, its content and form need to be aligned with their specific needs. There are also new ways of communicating and disseminating information. In the context of the EMCDDA, easy-to-use data platforms, dashboards, access to raw data and tailored web content were identified as potentially increasing the uptake and usability of the information. Ensuring the timeliness of reporting and the communication of real-time information was also identified as important while, at the same time, ensuring that the increased uncertainty that often accompanies rapid reporting is communicated adequately. To increase access to multilingual products, the use of open-source applications or machine translation appears to be becoming more feasible and was identified as an area to explore further.

Mindset and partnership

Viewed through the lenses of possible changes in, for example, the regulation of cannabis and the increased use of psychoactive substances for medicinal and wellness purposes, the future may require greater dialogue and responding to problems in a more joined-up and inter-sectorial way. It is very likely to require greater dialogue with other policy areas, such as mental health, alcohol and tobacco, medicines, food safety, consumer protection,

health and safety at work, environmental issues, education and social affairs. There is also a growing understanding that a co-creation approach, together with greater involvement of information providers and users in analysis, knowledge creation and know-how and information sharing, is important for increasing the impact of activities.

Key issues identified: communication and dissemination

- Possible benefits of utilising new and more digital ways of communicating EMCDDA analyses; easy-to-use data platforms or dashboards
- Improving the timeliness of the reporting (real-time information)
- The possibility of providing more training (e-learning) for stakeholders
- Possibilities of automated translation (such as DeepL or other machine translation tools)
- Opportunities to develop products based on requests from stakeholders or to address specialist customers' needs
- The need to prepare for crisis situations and rapid communication
- Improving the impact of outputs by greater integration of communication objectives within the planning of scientific work

Key issues identified: mindset and partnership

- Incorporate a consumer protection mindset
- Regular horizon scanning and internal futures-oriented exercises (every two or three years) can promote staff awareness and a more futures-oriented mindset
- The value of a co-creation approach – more sharing of know-how and increasing availability of data or information from external partners from a wider universe of experiences and interests
- A broader network of collaborators (related to the expanded scope of monitoring and new tools), including within the EU ecosystem

Conclusions

This summary of the EMCDDA futures exercise 2030 highlights the approach adopted for this study and some of the main outcomes and reflections emerging from it. The nature of the exercise was to provide input for consideration, rather than identifying empirical findings or accurate predictions. There is obviously substantial uncertainty in considering the future, and ‘black swan’ (unpredictable) events, which by definition are not possible to anticipate, may occur, and over a longer time span will occur. Nonetheless, organisations that have a futures-oriented mindset are arguably still likely to be better placed to respond more quickly even when faced with events that were unforeseeable.

Not surprisingly the conclusions from different workshops tended to reflect the background and perspectives of the participants taking part, and future work might explore how having more multidisciplinary groups might influence the exercise. Nonetheless, there was considerable agreement between the groups with respect to identifying the future developments that could be seen as being likely to impact on the drugs area. The consensus between the different analyses produced by the participants in this exercise also highlights the value of this kind of co-creation participatory process, and it increases our confidence that the issues identified merit further critical consideration. This futures study can also be seen as an outreach and communication tool, as it contributed to building a shared vision and a common understanding of the opportunities and challenges that are likely to be important in ensuring that the work of the EMCDDA remains relevant to its stakeholders in the medium to longer term.

There are also some obvious limitations to the approach. As expected, the chosen focus on scanning brought together information on megatrends and trends that were not ‘radically new’. However, there is still value in the systematisation of this information and the framework created, which can be replicated and serve as a basis for further reflection. Most insights gathered around the implications and specifics of trend developments in the drugs field arose from discussions in the expert workshops (see [Figure 1](#)). This is a strength of the approach, as it produced a shared sense-making process with stakeholders. Yet it can also be regarded as a limitation because it can result in groupthink, an over-interpretation of findings that are temporally and contextually located and necessarily speculative, or the belief that the current analysis is somehow set in stone and does not require future revision and critical review. Thus, this sort of technique should be regarded in the context of an ongoing practical accomplishment that is useful for making the agency and its monitoring system more agile and dynamic, but not a one-off or definitive exercise.

For this reason, it was concluded that it would be useful to develop an EMCDDA foresight toolbox to allow the learning from this exercise to be available for future exercises carried out either within the agency or by its stakeholders. Finally, it was also noted that the findings of this exercise are also relevant in the context of discussions on the new business model and the digital transformation of the agency’s communication work. This exercise is also useful to help the EMCDDA in its participation in the actions of the EU Innovation Hub for Internal Security, the EU drugs action plan 2021-25 and other EU initiatives with a component on innovation and research.

PART 2

Discussion document: The future of drug monitoring in Europe until 2030

Introduction to foresight

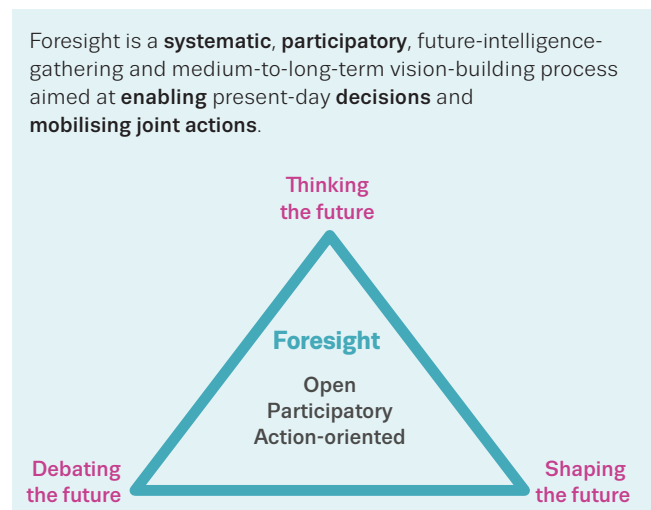
The world is becoming increasingly interconnected through flows of information, goods, services and people, and this implies that changes in one part of the world may have an impact on others (EEAS, 2020). We are also living in an era of faster and fundamental changes with uneven impacts on geographies and generations. Moreover, the pace of social changes and technological innovations is accelerating and outpacing the policies and responses in place (Wilkinson, 2017).

In such an interdependent and complex world, the analysis produced to support decision-making processes should be robust, timely and comprehensive, going beyond specific areas of expertise and recognising that a single-issue focus is often insufficient in dealing with emerging threats and opportunities. Nowadays only a few public policy challenges can be confined to one particular policy area (Habegger, 2010).

Therefore, governments, the EU institutions and their technical agencies have begun to explore a set of foresight approaches that aim at promoting systems thinking, anticipatory knowledge and participatory processes (see Figure 3). These deliberately cut across the traditional boundaries of policy areas and institutional silos. They are a starting point for increasing the organisational awareness of change, reactivity and responsiveness, and aim at creating a shared vision for policy-making. Although they vary, in general, futures-oriented activities or foresight⁽²⁾ help organisations prepare for potential developments that may have an impact on their operations in the future. They can lead to a better understanding of which organisational strategies need to be implemented in the present in order to achieve more-desirable future outcomes, or avoid less-desirable ones. These activities invite us to consider the

⁽²⁾ While there is an ongoing terminology debate within the field, in this paper we use the term 'foresight', as it was established in and by the European policy sphere (see Gidley, 2017 for a brief overview of terminology development).

FIGURE 3
Foresight approach



Source: The Joint Research Centre (JRC), [What is foresight](#).

future as something that can be created or shaped rather than as something which is already decided.

Futures-oriented approaches first became prominent in the public and research sector after the Second World War, and in the private sector since the 1970s, but have recently become an influential and more widespread practice in the area of public policy development (Gidley, 2017). By definition, such futures-oriented activities tend to be more speculative than more conventional scientific work and are often based on specialised, and sometimes less conventional, novel methods (EU-ANSA, 2019).

Encouraged by the positive experiences of other EU institutions and agencies in employing foresight methods the EMCDDA decided to conduct the first futures exercise to inform the agency's strategic reflection on how to improve the response of the European drug monitoring system to a more dynamic and complex situation which

involves rapid changes in the information environment and new information needs.

The objective of the exercise was to pilot the approach and to test its usefulness for transforming the agency and its monitoring activities into a more sensitive and agile system, which could, in turn, help increase Europe’s preparedness to face future health and security challenges.

The EMCDDA ‘futures exercise 2030’: process and methods

Overall framework

The EMCDDA’s Strategy 2025 and planned foresight exercise to inform future priorities for drug monitoring and reporting in Europe, to support policy dialogue on drugs.

In line with this commitment, in autumn 2018 the EMCDDA initiated the first futures exercise with the overall objective to analyse current and potential future developments and their implications for the European drug monitoring system until 2030 and to establish a set of recommendations to keep the EMCDDA tools and methods fit for purpose in the context of a changing information environment and new information needs.

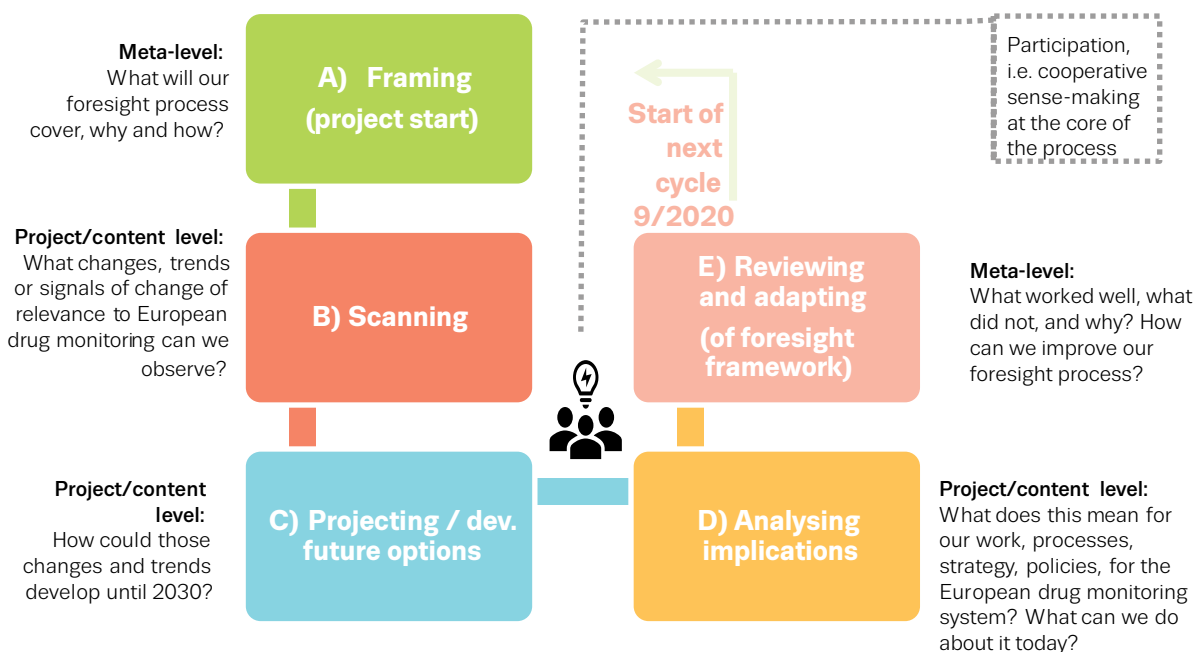
With the first activity of this kind, the EMCDDA aimed at piloting foresight, or futures-oriented methods, for informing the EMCDDA’s strategic discourse and for exploring how a foresight process might be usefully incorporated into the EMCDDA future working practices.

The project started by exploring different foresight approaches in order to get a better understanding of the usefulness of this type of work and analysis for the agency’s internal and external purposes, and to build a common understanding and language among EMCDDA technical staff. The exploratory phase assessed the existing capacity in-house and reviewed various ongoing activities, which could potentially contribute to the overall futures exercise.

Moreover, from various existing foresight framework models that provide an overview of a typical foresight process (see, for example, Hines, 2018; Hines and Bishop, 2013), one was selected and adapted for the EMCDDA exercise. This framework was considered to be both lean and relevant to the agency’s public-sector context and current internal capacities.

The selected framework model recommends a five-step process which aims at (a) framing of the projects and establishing their scope; (b) scanning of the environment; (c) analysing the results and making projections; (d) analysing implications; and finally, (e) reviewing and

FIGURE 4
Foresight framework model: one full cycle of a continuous foresight process



Model adapted by Daheim from Hines (2018) and Hines et al. (2017).

adapting the framework. The model has a cyclical or continuous nature, which enables the establishment of a longer-term view while creating capacity 'step by step' and progressively developing the EMCDDA foresight toolbox (i.e. a collection of foresight methods, tools and approaches). Most crucially, this model ensures a regular element of review and reflection at the end of each cycle. In this way, the approach allows lessons learnt to be continually integrated into subsequent activities. A vital element of the model is a collaborative approach, which enables participation of the main stakeholders in analysing the implications of the future potential developments and identifying future priority actions. Through this approach, a wide variety of stakeholders can be involved, insights can be brought together, and a solid foundation for the foresight activities can be created within the first cycle.

Due to existing resources and the project timeframe, it was decided that the first cycle of the EMCDDA futures exercise would follow the above-mentioned model (see Figure 4) but would have a focused scope (the 'horizon scanning') and only later the cycles would be extended towards more diverse and broader futures perspectives by creating scenarios and analysing specific developments in more depth.

Methods

The first EMCDDA futures exercise was focused on environmental scanning (or horizon scanning – see Figure 5) which entailed a holistic analysis of the general environment – a study of events, issues and trends affecting the drug area but going well beyond the drugs or the addiction field and beyond the European region. The objective was to analyse global drivers of change that have, or may have in the future, implications for the drugs situation, drug monitoring and related responses.

The 360-degree review (see Figure 5) of drivers of change aimed at identifying blind spots in terms of what can bring change in the drugs field.

The drivers of change assessed in the study were social, technological, economic, environmental/ecological or political in nature (STEEP) and they were divided into three main categories (see Figure 6).

Megatrends are defined as long-term, international and globalising social and material driving forces that are observable now and will most likely have significant influence on the future. They are experienced by everyone and often in more or less the same contexts insofar as they create broad parameters for shifts in attitudes, policies and business focus over periods of several years. They alter the environment at the level of the globe but also locally, such as at the level of the region, nation

FIGURE 5
Trend analysis principles – 360 degree view

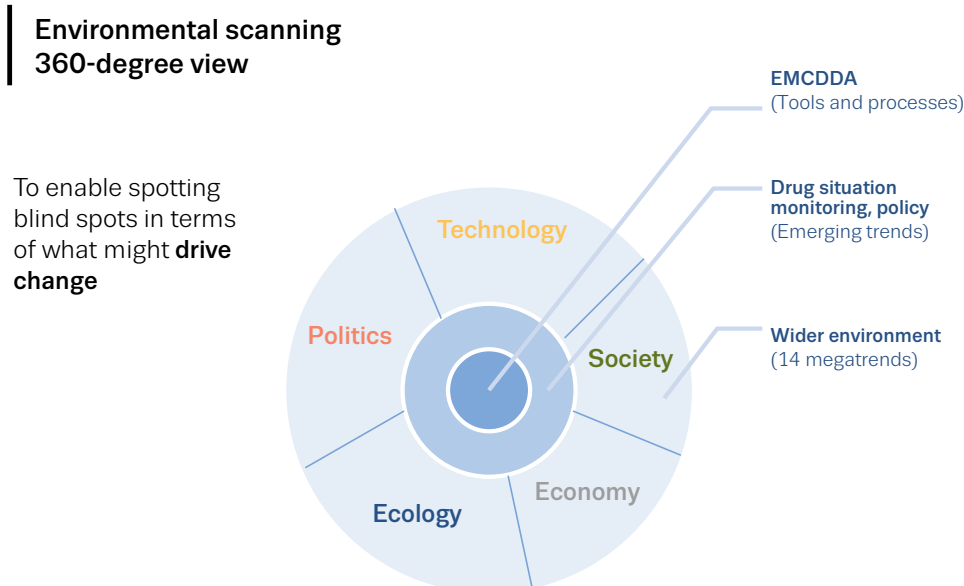
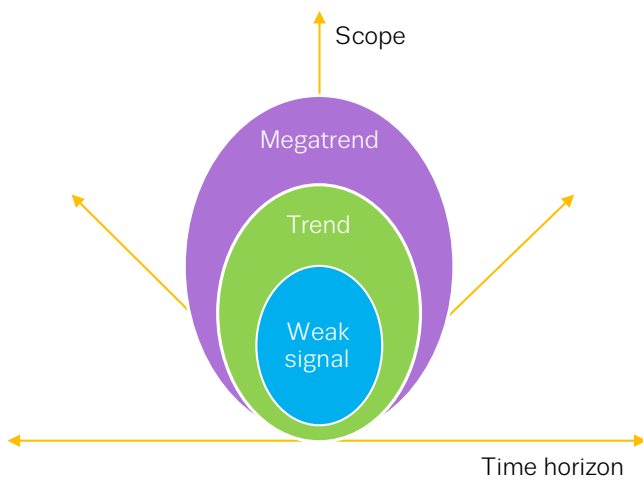


FIGURE 6

Environmental scanning – key criteria

Future impacts – contract for the EMCDDA, 2020.

state and society, and they are larger than the power of individual organisations and often nation states as well (e.g. urbanisation, demographic change) (EFP, 2010; Rhodes, 2019). The megatrends selected for analysis in the EMCDDA study were the 14 megatrends proposed by the EU Joint Research Centre (JRC) and identified as relevant for the future of Europe (for further description, see the list in [Megatrends relevant for the future of Europe](#) and [Megatrends possibly impacting the drug situation in the European Union](#)).

Emerging trends/trends are relatively 'strong' and visible, or new developments that could already be observed (i.e. where there are some sources or evidence), but that are not 'as big as' megatrends, nor as small as 'weak signals' (Dragt, 2017). They are often more directly linked with the field of analysis, in our case the drugs field.

Weak signals are indicators of potentially emerging issues that may become significant in the future. A [weak signal](#) describes something that is not yet significant but requires time to mature. Weak signals supplement trend analysis and they can be used to expand on alternate futures.

Methods used for the environmental scanning (horizon scanning) ranged from literature review, thematic analysis and workshops to expert panels. The whole exercise had a robust participatory component to enable stakeholders from different disciplines and countries to contribute to and benefit from the process. The main stakeholders involved in the first futures exercise of the EMCDDA were the 30 national focal points (NFPs), the EMCDDA staff, members of statutory bodies, researchers and national decision-makers.

The key events took place between November 2018 and September 2020 ([Figure 7](#)). The core elements of the process were five workshops organised for the NFPs, EMCDDA staff and EU policymakers. However, other meetings provided meaningful contributions to the whole exercise. While the kick-off Reitox meeting in Lisbon in November 2018 was focused primarily on discussing the information gaps and monitoring tools with national

Megatrends relevant for the future of Europe

Megatrends are long-term driving forces that are observable now and will most likely have a significant influence on the future (see also JRC Competence Centre on Foresight)

Key criteria of megatrends:

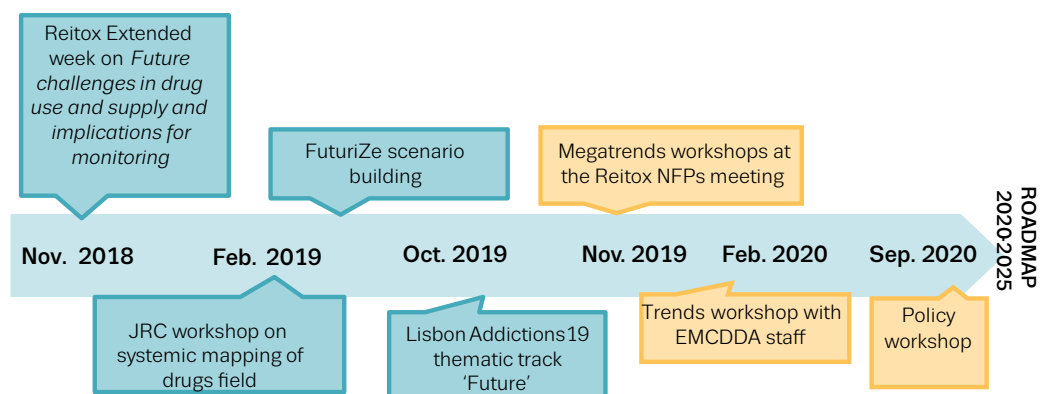
- globally observable (even if with regional differences);
- impact on many other fields;
- rather 'stable' and expected to continue for a decade at least (in contrast to micro-trends or weak signals).

Fourteen megatrends are identified by the JRC as relevant for the future of Europe.

1. Accelerating technological change and hyperconnectivity

2. Aggravating resource scarcity
3. Changing nature of work
4. Changing security paradigm
5. Climate change and environmental degradation
6. Continuing urbanisation
7. Diversification of education and learning
8. Diversifying inequalities
9. Expanding influence of east and south
10. Growing consumption
11. Increasing demographic imbalances
12. Increasing influence of new governing systems
13. Increasing significance of migration
14. Shifting health challenges

FIGURE 7

Major meetings related to the EMCDDA futures exercise

and international partners, the workshop with the JRC in February 2019 aimed at the systematic mapping of the drug and EMCDDA environments and identifying existing information sources. Finally, the Lisbon Addictions Conference in 2019, with its futures theme, provided a rich analysis of the potential developments in all drug-related areas and recommendations for future monitoring approaches.

The whole process was organised in a way that allowed building on the outcomes of previous meetings and the insights from EMCDDA analysis (especially the *European Drug Report 2019* and the *European Drug Markets Report* in 2019) to prepare and structure the major futures workshops.

Finally, an important caveat is that what is reported below simply summarises the issues identified across the EMCDDA's futures exercise. They provide useful food for thought and there was considerable consensus on many of the issues identified between groups. Nonetheless, these are offered here as part of our reporting on the outcome of this process, and they are not intended to be definitive conclusions in any way or represent a formal consensus of the participants.

Some six core events were organised with around 150 participants, along with one thematic track at Lisbon Addictions 2019. This included 30 sessions and 60 presentations to an estimated audience of 200 ⁽³⁾ involving researchers, professionals and policymakers from all continents, the Reitox network and members of the EMCDDA staff and statutory bodies (Management

Board and Scientific Committee) ⁽⁴⁾, and international organisations.

Major drivers of change

This section summarises the key outcomes of the process and commonalities in terms of their contribution to environmental scanning and the identification of major drivers impacting the drug situation and, therefore, the European monitoring system.

Megatrends possibly impacting the drug situation in the European Union

Megatrends are long-term global developments, albeit with regional differences, and they affect many different fields and policies. While all the 14 megatrends proposed by the JRC (see [Megatrends relevant for the future of Europe](#)) have an impact on the drug situation in Europe, here we briefly describe those selected by the different groups involved in the EMCDDA futures exercise as being most significant and relevant for the drug situation and thus for the European monitoring system (Table 1). Some of them are already well documented; others need to be further explored in terms of their possible impact on the drug situation. Furthermore, some of the megatrends are crosscutting in nature and may not be clearly distinguishable and separable from others. For each megatrend we briefly outline its development and consider the possible implications for the drugs field.

⁽³⁾ It is a conservative estimate on the basis of the FuturiZe bursaries – 120 and two special futures sessions supported by the EMCDDA.

⁽⁴⁾ Members of the Scientific Committee made their contribution during the inception phase (Reitox kick-off meeting), and members of the Management Board were involved in the futures policy workshop.

Accelerating technological change and hyperconnectivity

About the megatrend development

Advancements in genetics, nanotechnology, robotics and artificial intelligence, photonics, quantum and other emerging technologies and the synergies across them are accelerating. They are changing the nature and speed of new scientific discoveries and are challenging our understanding of what is possible. Hyperconnectivity, the 'internet of things', augmented reality and collective intelligence systems, combined with falling costs of implementation of new technologies are transforming entire systems of production, management and governance ⁽⁵⁾.

Insights on implications for the drugs field

Technology change touches many aspects of the drugs field – digitalisation remodels patterns of consumption and production as well as innovations in responses.

Technology has the potential to disrupt traditional retail supply networks and to create new markets (Rhodes,

2019). Currently, there are two primary forms of online markets with the potential to impact on the future of drugs and addictions: the surface-web market and the darknet drug market. Both are enabled by digital communication and the use of social media applications. The digitalisation of markets expands networks of distribution and potentiates low-volume and direct-to-consumer sales via encrypted communications and use of e-currency. The online market appears to be both dynamic and resilient and is predicted to grow, thereby and increase the availability of illicit drugs and pharmaceuticals (EMCDDA and Europol, 2019). The future of darkweb markets appears less clear and may depend on the extent to which they can maintain the confidence of both buyers and sellers in the context of police activities to disrupt them and scams.

In the area of drug treatment and care, digitalisation heightens innovations in relation to harm reduction and treatment interventions, for example, e-health (the use of electronic communication and related technologies to assist in healthcare delivery, diagnosis, treatment and monitoring) and m-health (the use of mobile devices in patient monitoring, information dissemination and interventions). However, both remain poorly evaluated in the fields of illicit drug use and addiction. These developments, which tend towards self-monitoring and individual-level interventions, may change the way the services will be working in the future but also raise concern

⁽⁵⁾ Find out more about this [megatrend](#) at the European Commission's knowledge4policy website.

TABLE 1

Top five megatrends identified as most relevant for the drugs field

Megatrends selected as most relevant for the drugs field	NFPs	Policymakers	EMCDDA staff	Reports
Accelerating technological change and hyperconnectivity	X	X	X	X
Climate change and environmental degradation		X	X	X
Diversifying inequalities	X	X	X	X
Shifting health challenges	X	X	X	X
Population change cluster				
<ul style="list-style-type: none"> ▪ Increasing significance of migration 		X	X	
<ul style="list-style-type: none"> ▪ Increasing demographic imbalances 		X	X	X
<ul style="list-style-type: none"> ▪ Continuing urbanisation 		X		

Based on 'futures workshops' (NFPs, EMCDDA staff and policymakers); EMCDDA technical reports and the report from Lisbon Addictions 2019 by Rhodes, 2019.

for privacy protection and data management issues (Rhodes, 2019).

Pharmaceutical technologies are seeing unprecedented rapid developments (e.g. direct-acting antivirals – DAAs, new delivery devices for naloxone) and these innovations will shape the response to addictions (e.g. extended-release opioid agonists have the potential to be ‘game-changers’ in the light of high rates of opioid overdose deaths). The key question for the coming years will be how treatment practices of care might be reshaped by the availability of new therapeutic options.

Access to the internet and online goods and services has affected the organisation of everyday life, including the interests and behaviours of young people. Internet use, online gambling and gaming among this group, born with the internet and for whom it is an integral part of everyday life, is widespread. Since 2015, the European School Survey Project on Alcohol and other Drugs (ESPAD) report expresses concern over the growing popularity of youth gambling. The high degree of normalisation of gambling in societies and the culture of gambling within the family environment have been recognised as important drivers of gambling onset and youth progression into problem gambling. The report states that the development of patterns of addictive internet use, including online gambling and gaming among children and adolescents needs to be closely monitored and investigated, and measures to prevent adolescents from developing problems associated with online gambling are of high priority (ESPAD Group, 2020).

The trend in digitalisation affords opportunities for innovation in methods of monitoring and surveillance. Advances in big data, e-surveillance and e-health have potential as tools for detecting emerging trends (Rhodes, 2019). Moreover, digital platforms potentially allow for greater involvement of information providers and users in analysis and knowledge creation and sharing and moving towards a more cooperative model of work.

Climate change and environmental degradation

About the megatrend development

Even if all emissions from human activities suddenly stopped, the climate would continue to change. However, continued, unabated, anthropogenic pollution and greenhouse gas emissions will further increase global warming, ocean acidification, desertification and changing climate patterns. Aggravated by pollution, overexploitation of natural resources and environmental degradation, these will lead to severe, pervasive and irreversible changes for

people, assets, economies and ecosystems around the world ⁽⁶⁾.

Insights on implications for the drugs field

There is a growing awareness of and perhaps a cultural shift towards recognising the environmental harms that illicit drug production can make: ecosystem injury heightens adverse effects resulting from the plantation, harvest and production of cannabis and cocaine; similarly, methamphetamine production is linked to the unregulated disposal of toxic waste into the environment. This shifting cultural consciousness may alter future drug consumption choices, as well as the social acceptability of drug consumption patterns. Climate change may alter crop production capacities and agricultural regions, and in turn, reshape drug markets. Thus, climate change may have profound effects on patterns of drug use and harms locally and require responses (Rhodes, 2019).

Natural disasters such as floods, heavy storms and heatwaves may impact on the migration of people. Catastrophic property losses could lead to high inequalities and social problems, violence and drug use. Climate change is also associated with an increased incidence of various chronic diseases as well as infectious diseases, leading to more vulnerabilities and inequalities. Mental health problems could increase due to ongoing stress and a sense of disaster, increasing use of alcohol, drugs and pharmaceuticals.

Climate change in areas of conflict and instability, where organised crime groups are already profiting from social instability, exploiting vulnerable groups and recruiting them into the drug trade, may add to the existing pressure. The same applies to areas where floods or tropical cyclones, which may have implications for drug supply and, in general, can affect drug production security and stability in the region. New locations where plant-based drugs can be produced will be explored while traditional growing areas will become unviable.

At the same time, research speculates that the use and manufacture of pharmaceuticals will increase and diversify in response to new health threats linked to climate change (including mental illness), especially given the rising availability of increasingly inexpensive generic drugs (Rhodes, 2019).

The links between climate change and drug use are not yet sufficiently explored, and more analysis and research in this area is required.

⁽⁶⁾ Find out more about this [megatrend](#) at the European Commission’s [knowledge4policy](#) website.

Diversifying inequalities

About the megatrend development

Although global inequality between countries and the absolute number of people living in extreme poverty has been declining as poorer countries catch up with richer ones, the gaps between the wealthiest and poorest segments of the population are widening. Addressing income disparities, gender inequalities, access to education, healthcare and technology, and their compounded effects will continue to represent the most important social, economic and political challenges for the foreseeable future (7).

Insights on implications for the drugs field

Diversifying inequalities may deteriorate substantially the situation of those already challenged by a lack of social or economic support, such as young people with no access to education, but also homeless or irregular migrants with limited social rights. It can also lead to the development of new vulnerable groups at risk of social exclusion and drug use problems. Economic restrictions may lead to the use of cheap, accessible and highly potent new drugs, as evidenced by the increase in the use of synthetic cannabinoids among more marginalised populations (Peacock et al., 2019). It can also lead to a rise in serious violence, for example, in homeless communities or prison (EMCDDA and Europol, 2019). The situation may be particularly challenging for countries with large youth populations that are undergoing rapid social changes and experience problems with governance, poverty and social marginalisation (Peacock et al., 2019).

The inequalities may also lead to more diverse patterns of drug use and choices of drugs between poor and rich populations, which consequently may lead to different needs for services and interventions. Access to healthcare for the poorest groups in society will most probably be limited while they are most at risk of drug-related health consequences. The role of community-based services for hard to reach populations as well as services provided by the private sector to richer segments of society may increase.

The impact of inequalities on the production of new, cheap and highly potent drugs and their availability, as well as activities of organised crime groups making use of more vulnerable groups in drug production and trafficking, should be closely monitored (EMCDDA and Europol, 2019).

There is insufficient understanding of social determinants and the impact of inequalities on drug use and risky behaviour and this therefore remains an area requiring the development of research and analytical capacity.

Shifting health challenges

About the megatrend development

Global health concerns are shifting. Advancements in science and better living standards have increased the opportunity to live longer and healthier lives and reduced the incidence of infectious diseases. However, obesity, malnutrition, antimicrobial resistance, and non-communicable diseases are increasingly becoming the health burden of our century. Cardiovascular and chronic respiratory diseases, diabetes, cancer, depression and anxiety are only some of the symptoms of unhealthy lifestyles, growing pollution and other anthropogenic causes, combined with reactive, rather than preventive, medicine (8).

Insights on implications for the drugs field

Mental health issues need to be covered when considering the impact of shifting health challenges on the drug situation, including an increase in anxiety, depression, ADHD and other psychological disorders, as well as increasing numbers with a dual diagnosis or self-medicating for mental health conditions. Therefore, drug markets in general may become increasingly 'pharmaceuticalised' (Rhodes, 2019). Misuse of medicines is already a topic of growing concern in both the European Union and the United States. In the United States particularly so, as pain medications have been implicated as playing an important role in the development of the current opioid public health crisis. More generally this area is conceptually complex as it requires consideration of a broad set of issues that include appropriate prescribing practices; self-medication; misuse for recreational and enhancement purposes; patterns of polydrug use; and the substitution of medicines for established illicit drugs.

The COVID-19 pandemic and the consequences of lockdowns, isolation and the loss of jobs is reported to have led to increased mental health issues among all age groups. Reports of increased depression, anxieties and suicide attempts have been reported in the literature and media (WHO, 2020). Long-term consequences related to the use of psychoactive substances associated with mental health comorbidities during and after the pandemic therefore also need to be examined.

(7) Find out more about this [megatrend](#) at the European Commission's knowledge4policy website.

(8) Find out more about this [megatrend](#) at the European Commission's knowledge4policy website.

There is also growing concern around non-substance-related addictive behaviours, which may play a more significant role in the addictions field in the future. Already in some of the EU Member States (Austria, Czechia, Poland), it has been suggested that public expenditure to support responses to behavioural addictions is higher than that attributable to illicit drugs. It is therefore important to monitor any policy shift in priorities in the public health area that may impact on the resources available to support responses targeting drug use. Changing policy priorities may also differ across different groups of drug users, for example, problem drug users (often an ageing group with complex needs and comorbidities) may be seen as a higher or lower priority in the future.

Legal and illegal substance use, alongside economic austerity, were seen as contributing to causes of deaths and decline in life expectancy in some countries. This suggests that drug policies need to address drug use more holistically and recognise the contribution of economic distress and social factors to drug use and harms (Degenhardt et al., 2019).

Population changes

About the megatrend development

The 'population change' category is a cluster of three observed megatrends related to global population shifts: (1) increasing significance of migration, (2) continuing urbanisation and (3) increasing demographic imbalances. Their effects on the drug situation are potentially significant, but not sufficiently explored.

The share of international migrants in the world population has increased from 2.8 % in 2000 to 3.5 % in 2019. The substantial increase in migrant stocks worldwide has made migration into a demographic process with growing social and political resonance. With 79.5 million, the number of forcibly displaced people has reached an all-time high in 2019. Europe and North America are two of the most significant hosts of international migrants. The COVID-19 pandemic has revealed essential roles that migrant workers play in economies around the world, but also heightened their often-vulnerable position in society.

Even though migration tends to have a positive impact on economic and societal development, there seems to be a growing concern that current migration flows are unsustainable in many parts of the world. In addition, concerns about any influx of new migrants can result in public anxiety, political disputes and increasing security

measures, sometimes with knock-on implications for civil liberties and freedom of movement ⁽⁹⁾.

Insights on implications for the drugs field

Migration and population flows can potentially alter patterns of drug demand and consumption. Our current understanding, however, of drug use among refugees and migrants forced to move due to conflict, disaster, famine or environmental change remains very limited.

Available data suggest that migrants may often have a lower rate of substance use than their host communities, but some may be more vulnerable to substance misuse for reasons such as trauma, unemployment, poverty, loss of family and social support (EMCDDA, 2017a). Migrants may suffer from post-traumatic stress disorders due to traumatic experiences during the travel or stress related to prolonged asylum procedures or poor living conditions in the reception centres or because they are fleeing areas of civil unrest or conflict. Vulnerability can be aggravated by poor knowledge about access to drug treatment services compounded by language barriers. In addition, and more generally, adverse childhood experiences (the potentially traumatic events that occur in childhood) may impact on drug use behaviours in the future.

Given the significant number of applicants for international protection in 2015-2019 in Europe and the increase in the burden of substance use disorders globally (EASO 2020; Greene et al., 2019), there is a need to address the gap in knowledge about the extent and nature of substance use among applicants in Europe, and assess drug-related health needs along with what might represent effective and appropriate responses. There is also a need to increase awareness and competencies in addressing drug use and related responses among those working with migrants, refugees and asylum seekers.

The world is becoming more urbanised. According to the newly adopted definition of urban areas, 76.5 % of the world's population was already living in urban areas in 2015, as opposed to previous estimates of 54 %. Both the total number and relative importance of cities are growing steadily, with the global urban population potentially reaching 9 billion by 2050. The rate of urbanisation varies greatly by region, with nine out of ten future mega-cities (exceeding 10 million people) expected to be in the developing world, which will represent 90 % to 95 % of the urban expansion in the coming decades. The largest part of the urban population growth is expected to take place in Asia, Africa and Latin America. Cities are increasingly functioning as autonomous entities, setting new social and

⁽⁹⁾ Find out more about this [megatrend](#) at the European Commission's [knowledge4policy](#) website.

economic standards. Urban identity will grow in importance compared to national identity (Matinmikko-Blue et al., 2020). Increasing urbanisation links to the bulk of the projected increase in populations of people who use drugs (Rhodes, 2019).

By 2030, the world's population is estimated to reach 8.5 billion, while getting older and increasingly urban. Change will be uneven across regions, with rapid population growth in many still-developing economies, while stalled – or even shrinking – population numbers are expected in many developed countries ⁽¹⁰⁾.

The megatrends in population change will potentially alter drug demand and consumption patterns. As the population ages, so potentially does the population of people who use drugs. An ageing population is for example observed among opioid users in Europe. More generally, as drug use tends to be associated with younger age groups, the global drug problem is likely in the future to be increasingly shaped by countries with large youth populations. Demographic and social changes will therefore mean that the future health costs of drug use are increasingly likely to be borne by low and middle-income countries (Degenhardt et al., 2019).

Emerging trends in the drugs field

In addition to the megatrends, the futures exercise also analysed emerging trends, which were identified by participants to be relatively strong, visible or new developments that can already be observed in the drugs field.

The emerging trends described in this section were either captured by the EMCDDA reporting system or identified by the participants of the futures workshops through the trend scanning exercise. It is important to note that some of the emerging trends have been triggered or impacted by wider global drivers of change (megatrends) and therefore some of them, or aspects of them, are also referred to in the previous section of this report. The emerging trends are grouped into four different categories that represent significant conceptual changes in the drugs field: shifts in drug policy and law; shifts in the discourse of addiction; shifts in drug markets; shifts in services (Table 2).

Shifts in drug policy and laws

Some participants noted that in their country there was a move towards greater recognition of the need for public health-oriented approaches to tackle drug problems

accompanied by a shift in the goals of drug policies towards reducing drug-related harms. However, the relatively limited set of indicators that has historically been used to evaluate drug policy may have limited utility for informing on outcomes relevant to this perspective. Some drug policy experts have argued, for example, that a preoccupation with drug use prevalence as a primary outcome measure for drug policy is problematic, as it does not sufficiently consider the complexity of patterns of use or harms, nor distinguish sufficiently between different forms of drug use and the harm attributed to them. Taken together, trends suggest that moving towards drug policies that accentuate targeted approaches to reducing drug harms necessitates concomitant shifts in the focus and priorities of drug monitoring and evaluation systems. This would imply giving greater attention to indicators that monitor harm. In addition, approaches which can more holistically consider different patterns of use and how these may interact are likely to be necessary for informing future drug policy evaluations (Rhodes, 2019).

A drug policy shift towards a focus on harms to target responses may also be accompanied by arguments for drug law reform. It is argued for example that there is evidence that suggests the criminalisation of drugs can increase some health, social and economic harms. Accordingly, there is a momentum towards seeking alternatives to criminalisation for simple possession and greater consideration in policy discourse on the possible unintended negative consequences of different policy options (Rhodes, 2019).

Globally, some recent changes in cannabis policies have experimented with different ways of regulating the sale and use of cannabis. Evolving cannabis policies raise numerous potential concerns about negative side-effects. These include increased commercialisation of legal cannabis; increased influence of the cannabis industry (similar to 'big pharma'); possible increased use or more harmful patterns of use; complexities for regulatory approaches for the cannabis markets between countries that do not adopt the same policy; and tensions with UN international system for drug control and multi-national cooperation. There are also concerns related to the increased availability of products containing high levels of THC that may increase the risk of acute intoxication. There are also broader policy issues that may grow in importance should commercialised cannabis markets become established, such as what are the appropriate regulatory frameworks for addressing cannabis-impaired driving or restricting commercial availability to minors. Additionally, it was observed by some participants that an increased supply of the commercially available CBD products in some Europe countries raised concerns about possible negative effects on the consumers (EMCDDA, 2020). Possible emerging needs identified

⁽¹⁰⁾ Find out more about this [megatrend](#) at the European Commission's knowledge4policy website.

TABLE 2

Overview of emerging trends

Trend	Identified in report from Lisbon Addictions conference	NFP workshop	EMCDDA staff workshop	Polymakers' workshop
Shifts in drug policy and laws				
Public health-oriented approach (policy responses focus on targeted strategies for reducing drug-related harms)	X			
Changing regulatory framework (blurred frontiers between licit and illicit drug; going beyond illicit drugs)		X	X	X
Evolving cannabis policies; possible increased commercialisation of legal cannabis products (influence of industry)	X	X	X	X
Implications of global economy (economic crisis and public austerity measures)		X	X	X
Populism facilitated by information crisis (alternative facts and fake news)				X
Shifts in the discourse of addiction				
Normalisation of drug use	X			X
Renaissance of psychedelic drugs	X		X	
Behavioural addictions				X
Misuse of medicines		X	X	X
Shifts in drug markets				
Digitally enabled drug markets	X	X	X	X
Increase in production of synthetic drugs, chemical innovations, high-potency products, NPS and fake medicines	X		X	
Markets closer to consumers	X		X	
New delivery options (impact of globalisation)	X		X	
Drug-related organised crime – impact on development and governance and youth offending patterns	X		X	
Shifts in services				
Innovation and new tools (e-, m-health, and new pharmacologies for dependencies and drug-related diseases)	X	X	X	X
Complex needs profiles and individually tailored interventions (ageing groups and comorbidities, migrants, homelessness, and new vulnerabilities)	X	X	X	
More joined-up addiction services (patient and civil society involvement) and integrated models for delivering healthcare	X		X	
New understanding of biotechnology and neurological processes	X		X	

in the policy workshop included how to monitor quality assurance of cannabis-based products being produced legally in the European Union and how to identify and report on any potential risks associated with new policies and products.

The debates about shifts in cannabis policies may also require us to make a clearer distinction between legalisation of cannabis for medical purposes and for recreational use. This is likely to require reliable information and timely monitoring of the health effects of cannabis use (medical and recreational) from the countries or regions where cannabis regulations have been changed.

Any blurring of the frontiers between regulated substances, psychoactive medicines, illicit drugs and new psychoactive substances will have implications for drug policy frameworks. On a national level, it was observed that in some countries there was a move towards substance misuse or even addiction strategies in which drugs were included with other psychoactive substances, such as alcohol or tobacco, or even behavioural addictions, such as gambling (EMCDDA, 2017b).

There is also an emerging need to consider the impacts of the economy on drug use and drug-related responses. Economic crisis potentiates socio-economic changes and diversifies inequalities (see [Diversifying inequalities](#)), which may be considered as a determining factor leading to higher vulnerability. Possible future economic crisis, and the resulting austerity measures, may be also linked to instability in funding drug services and drug monitoring activities.

Some participants identified increasing populism facilitated by alternative facts and fake news as a factor that may negatively impact on drug policy debates and result in evidence-based solutions being rejected in favour of more ideological responses. This could present a risk for a balanced and evidence-based approach to drugs, and a lack of support for new research projects and initiatives. In an environment where experts' opinions are increasingly questioned, there will be an increased need for investing more in how to effectively communicate evidence, describe uncertainty and promote best practice. The provision of objective and reliable data and independent monitoring systems may also come under greater political pressure if they are communicating results that do not fit with prevailing political sentiments.

Shifts in the discourse of addiction

An emerging trend with implications for both scientific discourse and clinical practices was shifts in the definition of the category of 'addiction', noted both among

practitioners and in the literature (Keane, 2021). For example, there is an emerging concept of 'normalised addiction'. In this argument, rather than addiction always necessarily conferring harm, normalised addiction can also co-exist with well-being and health. It was also argued in some workshops that there is a 'normalisation' of drug use, especially in certain social groups or subgroups. Signs of a shift in the population's perception of substance use towards normalisation were noticed in a renaissance of psychedelic drug use, for example, experimental use for the medical treatment of psychiatric disorders, micro-dosing in order to enhance emotional and cognitive processes, and physical energy. The shifts towards normalisation may encourage the destigmatisation of some forms of drug use and prompt policymakers to think about the drug phenomenon differently, especially when also concerning legal substances. On the other hand, drug use normalisation also raises other policy challenges, such as responding to the risks posed by driving or working under the influence of drugs.

Diagnostic categories of addiction are also expanding, with thresholds of inclusion loosening, to include matters of social, psychological, as well as physiological, concern. It is possible to imagine then a future addiction which encompasses non-substance-related practices, for example, behavioural addictions linked to the use of new technologies. Existing concerns are already apparent in this area, especially regarding internet use by children and youth (see [Accelerating technological change and hyperconnectivity](#)).

A number of sources suggest that licit synthetic opioids are increasingly misused⁽¹⁾, and concerns have been growing, particularly in the light of large increases in deaths in part resulting from prescription opioid analgesics in the United States. The misuse of medicines also occurs in the context of polydrug use, for example, benzodiazepines are often misused by high-risk opioid users, and this appears to be associated with considerable morbidity and mortality. There is also a concern that an increased incidence of mental health issues (see [Shifting health challenges](#)) raises the possibility of an increase in the misuse of medicines for self-medication. Overall, despite the perception that the misuse of medicinal products will become an issue of greater importance in the future, knowledge gaps are considerable in this area. There is for example a lack of information on prescribing practices in Europe. Information is also lacking on the nature of medicines misuse and how medicines are sourced on the illicit market, as well

⁽¹⁾ Misuse of medicines refers to the use of a psychoactive medicine for self-medication, recreational or enhancement purposes, with or without a medical prescription and outside accepted medical guidelines.

as on how many and who misuse medicines and for what reasons (EMCDDA, 2017a).

Shifts in drug markets

The drug market is increasingly dynamic, with organised crime groups (OCGs) quick to innovate and take advantage of opportunities presented by several megatrends in global and digital economies. Changes have already been observed in the speed and methods of distribution, influenced by factors such as globalisation and technological advances, as well as the digitalisation of drug markets (see [Accelerating technological change and hyperconnectivity](#)). Rapid developments in virtual currencies and anonymised payment systems increasingly facilitate the online drug trade and allow OCGs to reduce risks, as evidenced by the expansion in 'pick-up and drop-off' networks offering 24/7 options for deliveries and the use of drone technology (EMCDDA and Europol, 2019).

Historically, drug problems were often viewed through a lens that focused on drugs produced in the developing world and consumed in the developed world. However, a large proportion of the herbal cannabis consumed in the European Union is grown there, closer to its place of consumption, reducing the risk of interdiction. Production closer to consumer markets is observable also with other substances, such as synthetic drugs and creates additional challenges for law enforcement (EMCDDA and Europol, 2019). The European Union has also become a significant global producer of some synthetic substances such as MDMA and, more generally, a production area for synthetic drugs consumed within the European Union.

The increase in the production of synthetic drugs is facilitated by their potential for large-scale production in chemical factories and their higher amenability to be transported and distributed than plant-based substances. The shift to synthetics entangles with the increasing use of pharmaceuticals and growing production of fake medicines and the shift towards pharmaceuticalisation in treating ill health (see [Shifting health challenges](#)). Additionally, climate models predict changes that may potentiate alterations in crop production, drug production capacities and in turn, reshape global drug markets (see [Climate change and environmental degradation](#)) (Rhodes, 2019). In the area of synthetic drugs, attention needs to be paid to the OCGs' ability to exploit regulatory gaps and differences across geographical space, as illustrated in recent developments in the NPS area and in respect to the precursors used for drug production. Less-common and uncontrolled substances appear to be a growing issue for some countries, with concerns about the use of ketamine,

GHB and LSD, nitrous oxide (laughing gas) and new benzodiazepines (EMCDDA, 2020a).

Potential exists for OCGs to exploit further in the future regulatory differences that exist between jurisdictions in areas such as medicines, lifestyle and other products that may contain psychoactive chemicals or be converted into them (EMCDDA and Europol, 2019).

A growing phenomenon identified by some groups was an increase in the use of violence and the exploitation of vulnerable populations, including children, by involving them in drug production and trafficking, especially at the city and local levels, where city-based drug-dealing groups seek to establish themselves and assert a dominant presence through aggression and intimidation (EMCDDA and Europol, 2019).

Shifts in services

Technology change brings new opportunities to improve the methods and tools for interventions within drug services, in particular, digital interventions (e-health, m-health) and pharmaceutical developments (e.g. DAAs, new delivery devices for naloxone, extended-release opioid agonists) (see [Accelerating technological change and hyperconnectivity](#)). Advancements in neuroscience and genetics open further opportunities in the areas of early detection of addiction and the development of new therapeutic methods (Rhodes, 2019). Therefore, there is a growing need for acknowledging the utility of new tools and methods.

Recently, the COVID-19 pandemic showed the need to adapt services, to use online communication tools and reshape the treatment offer, for example, to offer digital psychosocial interventions or provide opioid agonist treatment medication for more extended periods instead of requiring frequent appointments. New treatment technologies may change treatment models in unforeseen ways and require new models of care for delivery in a wide range of settings. This suggests there is a growing need for more flexible and adaptive services. With a greater diversity of different vulnerable groups, personalised tools encompassing the specific needs of these groups are likely to be required in the future, both in treatment and harm reduction services. The main vulnerable groups identified in this exercise were linked to the implications of the megatrends on population (see [Shifting health challenges](#) and [Population changes](#)) and include people with social determinants such as homelessness, migration, imprisonment and criminality, and poverty, as well as people with mental health problems, ageing populations and vulnerable youth.

Developing new approaches to working with different and often new vulnerable groups is likely to require greater community engagement. Also, health professionals, programme planners and policymakers need to listen to the voices of affected communities, their needs and expectations.

The needs in the area of prevention are observed mainly in broadening its scope and addressing new health and social issues that contribute to the drug problem. Also needed is the use of more innovative approaches and tools, especially when working with young people as a target population.

With all the challenges and shifts faced by drug services, it is necessary to consider the sustainability of services over the longer term. There were already observed concerns about the sustainability of funding for drug-related services and the consequent impact on their availability and access to services for people who use drugs (see [Shifts in drug policy and laws](#)).

Given the possible cuts in funding of drug-related services due to competing priorities in the public health area, increasingly more importance is given to the implementation of evidence-based and cost-effective interventions. This can be supported by the continued development of the European mechanisms to exchange and promote the implementation of best or promising practices in the drugs field. Participants in the workshops identified the target audiences for this type of work as policymakers, programme planners and practitioners.

Future information needs and implications for the drug monitoring system

In light of the changing external environment and the developments in the drugs field itself, the futures exercise set out to identify new information needs and implications for the European drug monitoring system. This section summarises the views of the various groups of stakeholders and emphasises the most commonly identified issues for consideration in the future (Table 3). As noted earlier, all findings are simply a summary of group discussions and intended to provide food for thought only.

We suggest that new information needs and potential adjustments of the drug monitoring system could be analysed under four headings: scope and framework, methods and tools, communication and dissemination, and mindset and partnership. These areas are interconnected

and to some extent overlapping. They aim to address the following questions: What are the current and future information needs to inform decision-making in Europe? What are the new information sources, methods and tools that should be incorporated into the EU drug monitoring system? How can we communicate better the results of the EMCDDA's work? What do the changes mean for the EMCDDA's internal processes, the changing culture of the organisation and the new partnerships?

Scope and framework

The analysis of megatrends and emerging trends triggered discussions about the complexity of the drug phenomenon due to social, technological, political, economic and ecological changes. In this dynamic and complex context, it was suggested by some participants that there is a need to widen the scope of the existing drug monitoring system in order to provide a holistic view on the different factors influencing the drug situation in Europe. For example, social and health determinants that could present risk factors for drug use and harms, such as migration status, gender, mental health problems and comorbidities or homelessness, but also older age groups including ageing drug users. All these aspects arguably deserve more extensive investigation and could be the focus for further study in the future.

Furthermore, it was suggested that the geographical scope of the monitoring system could be extended and cover both localised events, to detect potential risks to health or security, as well as broader global developments that may have implications for the situation in Europe. Identification of new and emerging trends at the local level and the role of the early warning system and rapid responses were discussed at length. At the same time, importance was given to the need to monitor global developments related, for example, to changes in drug production or the regulatory framework applied to different substances in other parts of the world, as both of these may have knock-on implications for trends and developments in Europe.

The new geographical scope of the EU monitoring system was directly linked to both the recognition of a more globalised and interconnected world but also existing cooperation in the drugs area of the European Union, and its specialised agency, with non-EU countries. Various EU-funded projects are supporting national and regional readiness to identify and respond to drug-related security and cross-border health threats and therefore could help enhance EU monitoring activities in the future.

TABLE 3

Key findings for the European drug monitoring system and the work of the EMCDDA based on the Futures workshops

Scope and framework
<ul style="list-style-type: none"> ▪ Social determinants (gender, migration status, homelessness, older people) and impact on mental health ▪ Geographical levels (global, national, regional and local); geographical scope changed or enlarged (Western Balkans, eastern and southern EU neighbouring countries, other regions and countries) ▪ New topics or areas (cybercrime, geopolitics, study of the entire supply chain; intersection with other crime areas, environment, cost-effectiveness analysis, measuring problems) ▪ New concepts, new legal frameworks (illicit and licit, substance and non-substance-based addictions) ▪ Increased flexibility due to changing status of drugs
Methods and tools
<ul style="list-style-type: none"> ▪ Ensuring routine monitoring keeps pace with changes and informs the research knowledge cycle (more topical analysis, new age groups, older cohorts, more qualitative research) to inform future research agenda ▪ Routine monitoring complemented by more proactive, timely and targeted threat assessment ▪ Exploring new technologies (automated methods of processing data, bio-monitoring and real-time data) ▪ Considering and addressing ethical and data protection issues raised by new monitoring methods and new information and data sources ▪ The need for a foresight toolbox, which includes support for development of scenarios to increase preparedness ▪ Exploitation of a co-creation approach and more involvement of information providers in analysis and knowledge creation and sharing (information design)
Communication and dissemination
<ul style="list-style-type: none"> ▪ Potential of new and more digital ways of communicating EMCDDA analyses; easy-to-use data platforms or dashboards ▪ Improving timeliness of the reporting (real-time information) ▪ Stronger messaging (maintain and repeat); formulating recommendations; promoting evidence-based responses to address disinformation and to build trust ▪ Providing training (e-learning) for the main stakeholders such as professionals and policymakers ▪ Possible new options for translation (using DeepL or other machine translation tools) ▪ Tailoring of products – more products based on requests from stakeholders or specialist customers' needs ▪ Preparing for crisis situations and rapid communication ▪ Designing information for impact and decision-making by greater integration of communication objectives within the planning of scientific work
Mindset and partnership
<ul style="list-style-type: none"> ▪ Move towards a consumer protection mindset ▪ Regular horizon scanning and internal futures-oriented exercises (every two or three years) to promote staff awareness and a more futures-oriented mindset ▪ Value of a co-creation approach – more sharing of know-how and increasing availability of data and information from external partners from a wider universe of experiences and interests ▪ A broader network of collaborators (related to the expanded scope of monitoring and new tools), including within the EU ecosystem

The participants of the 'future exercise' also suggested new topics for analysis and investigation. These included an enhanced analysis of drug supply and drug markets, including a study of the entire supply chain or innovation in drug production, and also the area where there is a crossover between drug production and trafficking with other criminal activities. In the public health field, topics such as the cost-effectiveness of drug-related interventions or better measuring of problems and harms related to drug use were suggested as crucial for the decision-making process.

The most prominent role in the 'futures discussions' was given to issues related to non-substance-based addictive behaviours and increasingly blurred frontiers between licit and illicit drugs, both in terms of patterns of drug use but also their legal status. Many participants seemed to believe that a new conceptual framework that could capture both commonalities and differences for policy services and responses in these particular areas is needed.

There was also a consensus that while an enhanced monitoring system and the establishment of new indicators could cover some of the areas discussed above, others could only be responded to through in-depth research studies.

Methods and tools

In terms of implications for the future drug monitoring system, two main aspects came out from the exercise, namely, the need for innovation in monitoring methods and tools (the future of monitoring) and the development of specific futures-oriented monitoring approaches (e.g. foresight).

This first aspect requires continued development of the current drug monitoring approaches benefiting from new technological advances and integrating new data sources with more established monitoring approaches. Automatic or non-human processing of data and the use of real-time data may, for example, increase the sensitivity of the system to detect changes over time. Advances in big data, e-surveillance and open-source information also have the potential to support the early identification of emerging trends and increase the timeliness and sensitivity of the reporting system. Moreover, the use of digital platforms has the potential to allow greater involvement of information providers and data users in analysis and knowledge creation. However, integrating these sorts of new approaches into the EU monitoring system would raise a number of complex practical, methodological and ethical challenges, meaning the feasibility of proposals made in this area requires critical review.

There was a general agreement among most workshop participants that the current more classical or routine monitoring system remains important for time series and trends and because of the increased certainty that comes from using statistically and methodologically robust tools. However, these approaches are often necessarily reactive and therefore not sufficiently sensitive to detect emerging issues. Therefore, at the systems level, monitoring could be enhanced by greater investment in complementary early warning studies and threat assessment capabilities.

In addition, incorporating foresight or futures-oriented methods into the monitoring system could increase preparedness and help inform policy choices with a longer-term perspective in mind (see [Figure 2](#)). These approaches are intended to be more holistic, capturing a larger global perspective, but at the same time there is a need to interface this more speculative analysis with information on the current situation and emerging developments in the drugs field. It is also important to acknowledge the increased uncertainty inherent in more speculative approaches. Thus, at the systems level, maximum benefit is likely to accrue when information collection tools with different temporal perspectives are included in the overall model used.

New data collection sources

For several years already, the EMCDDA has been investing in new sources of information in order to help strengthen the current reporting system, enhance the reporting timelines and triangulate other data sources. Some of the new methods, such as wastewater epidemiology, drug checking, web surveys, syringe residue analysis or trendspotter studies, were applied and incorporated into the EMCDDA's information systems, analysis and reporting (see the list of new tools and methods in [Table 4](#)).

An expansion of the scope of the monitoring and research agenda, including new topics and areas of analysis, will require the development of new conceptual frameworks and definitions and perhaps a wider use of qualitative research. A significant part of the new information needs expressed in the 'futures exercise' cannot be answered by the existing monitoring mechanism and requires further investments at the national and EU levels in monitoring and surveillance, and importantly in research studies that target information gaps.

Communication and dissemination

In order to target the EMCDDA's key customers, discussions focused on the need to develop further both the form and content of the agency's communications. There are now

TABLE 4

New sources and methods identified at the Reitox kick-off meeting in 2018

Already being implemented to some extent
<ul style="list-style-type: none"> ▪ Wastewater epidemiology ▪ Syringe residue analysis ▪ Hospital emergency data ▪ Web surveys ▪ Internet and darknet monitoring ▪ Open-source information monitoring (media screening) ▪ Drug checking data ▪ Drug consumption rooms data ▪ Trendspotter studies
Only used occasionally and with future potential
<ul style="list-style-type: none"> ▪ Monitoring other forms of open-source information including big data and artificial intelligence (social media, mobile applications, discussion boards, geo-locations, systematic literature reviews) ▪ Satellite data ▪ Modelling studies ▪ Key informants surveys ▪ TOE (testing, online and expert opinion) ▪ City-level surveillance, including community-based surveillance (e.g. drug consumption rooms data) ▪ Hair analysis and saliva swabs (with survey data) ▪ Improved toxicological and forensic analysis (e.g. of drug-related deaths) ▪ Drugs and driving surveillance

new opportunities provided by information technology advances that could help improve the dissemination of EU drug analysis to different target audiences. For example, easy-to-use data platforms, dashboards, and refreshed and tailored web content were all identified as having the potential to increase the uptake of the information provided by the EMCDDA.

Increasing the reach of communication in the future is likely to benefit from a greater availability of multilingual products. The production of these is increasingly facilitated

by improvements in the availability and capabilities of machine translation options. The benefit of new and digital communication technologies can also be seen in their use to implement new forms of cooperation with stakeholders and to support co-creation in data collection, analysis and dissemination by exploiting the benefits provided by the use of digital platforms and online groups or forums.

Some participants noted the potential to support knowledge transfer by developing further the EMCDDA training portfolio, including online and e-learning platforms. It was also suggested that there is a need for the EMCDDA to formulate concrete recommendations for policy and practice and to further promote evidence-based responses to address disinformation and populism. It was noted that it is important to invest in building relationships with different groups of customers to consolidate the role of the EMCDDA as a trusted information source.

The timeliness of the reporting and the communication of real-time information was seen as important. The COVID-19 experience showed that such change is possible but requires changes to internal work processes and data collection methods. However, it also revealed some potential limitations of rapid approaches in respect to increased uncertainty and a tendency to be overly reductive.

It was suggested that communication needs to be well integrated with the EMCDDA's scientific work, in particular, considering communication issues during the production of outputs can help maximise their impact.

Mindset and partnership

The future viewed through the lenses of possible changes in the ways drugs are regulated may require greater inter-sectorial cooperation. This could require a greater dialogue with other policy areas such as mental health, alcohol and tobacco, medicines, food safety, consumer protection, workplace, environments, education or social affairs.

There is a growing understanding that a co-creation approach, together with greater involvement of information providers and users in analysis, knowledge creation and know-how and information sharing, is beneficial. Again, digitalisation and new communication channels may facilitate this kind of collaboration. Finally, it was suggested that we need to consider wider networks of collaborators related to new topics and monitoring requirements (e.g. local level, new areas of expertise, etc.).

Lessons learnt from building the EMCDDA foresight toolbox

Focusing on the lessons learnt from this exercise three aspects of the work appeared to work well:

- adopting a co-creative approach (involvement of a wide and varied set of stakeholders);
- adopting a 'lean and simple' approach (set a clear focus for the next cycle);
- recognising the need and developing a process for building internal competencies via, for example, co-facilitator roles and mini-training sessions in workshops.

In addition, a number of possible actions were identified that could be beneficial to consider for future adoption.

- A futures approach could be implemented formally within the agency planning cycle. Involving staff at different levels of the organisation in conducting a regularly shared reflection on possible future developments could help build preparedness within the organisation.
- The act of connecting with broader stakeholder groups via a toolkit approach brings the benefit of a wider reach, visibility and increased indirect impacts. The development of the EMCDDA website-based foresight mini-toolkit could increase stakeholder communication around the EMCDDA's foresight process and build external capacity. With this product, the EMCDDA will have an opportunity to cement its role as a key resource and reference point for foresight in the drugs field.
- Setting up an internal and more formalised (yet lean and output-focused) scanning process and approach with the aim of producing regular and systematic outputs of the foresight process would contribute to a continuous learning curve (around which changes can be observed in the broader environment relevant to the EMCDDA). Ideally, it would also enable a more in-depth analysis of specific key futures issues.
- To reflect on expanding the EMCDDA foresight toolbox by developing scenarios and working with disruption-focused approaches.

Conclusions

This EMCDDA report focuses on summarising and communicating the achievements of the first internal

foresight exercise while recognising that this is still a work in progress. The futures study was finalised during the COVID-19 pandemic. Therefore, it was not possible to fully reflect on the impact the pandemic might have on the EMCDDA's work and future developments in the drugs field. However, the policy workshop touched upon the issue of increasing resilience to global events and better preparedness and communication in crisis situations in general. The COVID-19 pandemic also helped develop our understanding of the impact global events have on the drug situation and the need to widen the perspective of our analysis. This reflection informed the EU drugs agenda 2021-2025 and the EU strategy on drugs, and the decision of the EU Member States to invest in implementing foresight approaches in the drugs area.

The EMCDDA 'futures exercise' was conducted in parallel with an internal discussion on the agency's new business model and the next EMCDDA roadmap 2025. We believe that the co-creation approach piloted by the 'futures exercise' contributed to building a shared vision and a common understanding of the challenges ahead and potential mid- and long-term responses to keep the system agile and relevant in a changing information environment and new information needs.

Having involved some 350 stakeholders and experts in the process, as well as a large share of the EMCDDA's staff, this report brings together first insights around key issues to reflect on concerning the future of drug monitoring as identified in this co-creative process. It also makes these insights available for stakeholders in the field.

However, there are also limitations to the approach used. As expected, the focus on scanning brought together information on megatrends and trends that are not 'radically new' due to the approach chosen. There is, however, value in the systematisation of this information, and the framework created can be replicated and serve as a basis for further reflection. Also, most of the insights gathered on implications and specifics of trend developments in the drugs field came from the futures workshops. The strength of this approach is that it produced a shared sense-making process with stakeholders and thereby spread information on foresight and relevant trends.

Thus, this sort of technique should be regarded in the context of an ongoing practical accomplishment that is useful for making the agency and its monitoring system more agile and dynamic, not a one-off or definitive exercise.

For this reason, it is recommended that the EMCDDA foresight toolbox should be further consolidated, expanded

and systematically integrated within existing analytical work and internal and external decision-making processes. Moreover, an EMCDDA foresight toolbox can contribute to add robustness to the impact of the foresight work implemented to date, as well as help in positioning the EMCDDA as a forward-looking actor in the EU drug system.

Furthermore, this project resulted in the development of an EMCDDA online foresight toolkit to allow the learning from this exercise to be available for future exercises carried out either within the agency or by its stakeholders.

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Further resources

- **The EMCDDA foresight toolkit.** An introductory trend-based workshop to support the EMCDDA's stakeholders, other actors and researchers in the drugs field to implement their own foresight exercise.
- **Trend card set.** A set of cards featuring the emerging trends that are specific to the EU drugs arena as identified within the EMCDDA's foresight activities.
- **Preparing for the future — applying a foresight approach in the drugs field.** A webinar to promote a foresight approach among the EMCDDA's stakeholders and to take stock of current initiatives in this area and reflect on possible ways forward.

About this publication

Changing patterns of drug use and developments in the drug market are creating an increasingly complex and dynamic drug phenomenon in Europe. This publication presents the main findings of a foresight exercise carried out by the European Monitoring Centre for Drugs and Drug Addiction to enable the agency become more sensitive and agile to possible future challenges in the drugs field.

About the EMCDDA

The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) is a decentralised EU agency that provides the EU and its Member States with a factual overview of European drug problems and a solid evidence base to support the drugs debate. Today it offers policymakers the data they need for drawing up informed drug laws and strategies. It also helps professionals and practitioners working in the field to pinpoint best practice and new areas of research.

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