China reported the emergence of a substitute chemical in the form of a precursor of hydroxylimine.

124. 4-Methylmethcathinone (4-MMC), also known as mephedrone, is a synthetic amphetamine-type stimulant of the cathinone class, and it is not under international control. Polish authorities reported on form D for 2011 the dismantling of two clandestine laboratories manufacturing 4-methylmethcathinone from 4-bromopropiophenone.

IV. Challenges in international precursor control

125. The Board's 2011 report on precursors focused on achievements and progress in terms of implementing the framework requirements established under the 1988 Convention, related resolutions and the available tools. The present chapter contains a more detailed analysis of the existing gaps and outlines the future challenges of precursor control. From the Board's analysis of the implementation of article 12 of the 1988 Convention, it emerges that at this stage the key challenges of precursor control are related to two main areas:

- The lack of comprehensive implementation of the provisions of the 1988 Convention and related resolutions at the national level (i.e. domestic controls)
- The emergence of new challenges not comprehensively addressed in the existing legal framework

A. The lack of comprehensive implementation of the provisions of the 1988 Convention and related resolutions at the national level

126. The backbone of the international precursor control system is article 12 of the 1988 Convention, complemented by resolutions of the Commission on Narcotic Drugs, the Economic and Social Council and the General Assembly. Over the years, more than 20 resolutions have been devoted exclusively to issues involving precursors, requesting complementary measures.[26] In addition, elements of precursor control have been mentioned in at least 10 additional resolutions, in the context of drug control in general, including Security Council resolution 1817 (2008) on the situation in Afghanistan. The 1988 Convention also provides for a number of other measures relevant to the prevention of diversion of associated materials and equipment (article 13) and to ensure the integrity of the movement of consignments by commercial carriers (article 15), by sea (article 17), via free trade zones and free ports (article 18) and the mail (article 19).

1. National control as a prerequisite for the effective prevention of diversion

127. With 187 States parties, the 1988 Convention is now the most adhered to of the three international drug control treaties. The 1988 Convention gives significant discretion to each party in taking measures to achieve the central goal of article 12, namely to prevent the diversion of substances used for illicit drug manufacture. Such discretion is given specifically with regard to various measures to monitor licit manufacture and domestic distribution, recognizing the different roles and circumstances of countries regarding the nature and extent of legitimate industry and trade and of illicit drug manufacture within their borders. **It is critical to recognize that the ability to comply with the requirements set out in the 1988 Convention for the monitoring of international trade is very closely intertwined with the existence of the corresponding legal basis at the national level and of an appropriate regulatory framework, procedures and working mechanisms. Without information about the domestic market and its players, including end users, a party may not be in a position to comply with its obligations related to preventing the diversion of precursors.**

128. One element of such strategic information is knowledge about legitimate manufacturers. The Economic and Social Council, in its resolution 1995/20, requested Governments to submit information on manufacturers of substances in Table I of the 1988 Convention. However, since 2007, only 19 Governments have provided information on any substance in Table I.[27]

129. Other areas of weaknesses may include inadequate systems for the national registration of operators involved in the manufacture, distribution and commercialization, brokerage, import and export and/or end use of scheduled substances, or the inconsistent implementation of those systems.

[26] General Assembly resolution S-20/4; Economic and Social Council resolutions 1991/40, 1992/29, 1993/40, 1995/20, 1996/29, 1997/41, 1999/31, 2001/14, 2003/39, 2004/38; and Commission on Narcotic Drugs resolutions 42/1, 42/2, 43/9, 43/10, 45/12, 48/11, 49/3, 49/7, 50/5, 50/6, 50/10, 51/10, 51/16, 53/15 and 54/8.

[27] See *Manufacture of Narcotic Drugs, Psychotropic Substances and Their Precursors: 2011* (United Nations publication, Sales No. T.12.XI.6).

2. Threshold quantities of precursor chemicals below which monitoring requirements for import, export or domestic distribution do not apply

130. One related area of concern is the establishment of thresholds for the import and distribution of certain substances in Table I and Table II of the 1988 Convention. Considering that the diversion of a very small proportion of legitimately traded precursor chemicals would be sufficient to supply illicit drug manufacture, thresholds based on legitimate trade volumes might thus still allow significant diversion into illicit drug manufacture. A case in point are identified diversions and seizures of acetic anhydride, which were primarily reported by countries and/or related to regions with inadequate or light regulations relating to domestic trade, including thresholds and the requirement of end-user registration. These included, for example, Hungary, Mexico and Slovenia, which were among the world's top five countries reporting seizures of acetic anhydride in the period 2007-2011. According to information available to the Board, the identified weaknesses are currently being addressed. Another example is the domestic manufacture in Canada and the United States that is partially the result of circumventing purchase limits on pharmaceutical preparations containing pseudoephedrine or ephedrine: in the United States, existing purchase limits allow the spread of small-scale illicit methamphetamine manufacture for personal consumption; and in Canada, illicit drug manufacturers are relying on dietary health products that do not typically fall under the tighter controls of pharmaceutical preparations containing pseudoephedrine and ephedrine.

3. Difficulty in assessing actual needs

131. The Commission on Narcotic Drugs, in its resolution 49/3, requested Member States to provide the Board with annual estimates of their legitimate requirements for imports of four precursor chemicals of amphetamine-type stimulants (see para. 19 above). While the number of both Governments and substances for which such estimates are provided have been increasing steadily over the past couple of years and currently stands at 150 countries and territories, the Board also notes the difficulty some Governments are facing in providing adequate estimates. Too often, Governments build in a "safety margin" of significant proportions to ensure that possible increases during a year are accommodated rather than trying to establish realistic estimates as an additional tool to exercise their regulatory functions and role in diversion control. For example, in the case of countries for which both data sets are available, 45 countries imported significantly less (at least 40 per cent less) in 2011 than what they had estimated to be their annual legitimate import requirements for either ephedrine or pseudoephedrine (both in raw form and in the form of preparations). Discrepancies are highest in Eastern Europe, Central America and the Caribbean and South Asia for pseudoephedrine and in South Asia and North America for ephedrine. By contrast, the Governments of 16 countries exceeded their annual legitimate requirements for imports of these substances by 120 per cent or more.[28]

132. The Board recognizes the difficulties encountered by some countries in establishing accurate estimates for these precursor chemicals, especially when the chemicals are not used in the importing country but instead imported for the purpose of re-export (i.e. by countries with a significant proportion of trading and re-exporting companies). However, for at least two of the four precursors concerned, namely P-2-P and 3,4-MDP-2-P, licit trade is limited and legitimate uses are very limited. Establishing estimates for such limited use, or prohibiting the import of those substances, should therefore be relatively straightforward. Indeed, 50-60 per cent of Governments reporting legitimate requirements for imports have established a zero import requirement for the two substances and two Governments have prohibited the import of P-2-P; the Governments of seven additional countries (all in Latin America), have prohibited the import of ephedrine and/or pseudoephedrine and preparations containing them.[29] **All Governments are reminded of the need to share their methodologies for preparing estimates with each other and the Board so as to gradually improve the methodologies used. Governments are also reminded of the *Guide on Estimating Requirements for Substances under International Control*, developed jointly by the Board and WHO, and the Board's guidance note on issues that Governments may consider when determining annual legitimate requirements for ephedrine and pseudoephedrine, both available on the Board's website (www.incb.org).**

4. Compartmentalization and lack of cooperation at the national level

133. One of the obstacles to a more comprehensive implementation of the 1988 Convention and related resolutions remains the compartmentalization of precursor control. This is evident in the various types of legislation on

[28] Mostly Governments of countries in South-Eastern Europe and Africa exceeding their requirements for imports of ephedrine.

[29] Exceptions for the limited imports of injectable preparations and/or bulk material for their manufacture exist (for details, see www.incb.org/pdf/e/precursors/REQUIREMENTS/INCB_ALR_WEB.pdf).

precursor issues at the national level and is grounded in the differences in the nature of the substances involved, ranging from industrial chemicals to pharmaceutical raw materials and medical products. This is further compounded by the absence — in many countries — of a central authority responsible for precursor control, as well as the absence of adequate levels of cooperation and information-sharing between all the agencies concerned at the national level and with their counterparts in other countries. **To address the challenges of the future, Governments should review precursor-related information-sharing and practical working mechanisms between concerned regulatory and law enforcement agencies. They should ensure that there are neither gaps nor overlaps in responsibility that might be exploited by organizations trafficking in precursors.**

5. Common markets

134. Improving or facilitating international trade has an impact on the flow of all items of commerce, including precursor chemicals. The European Union single market will be celebrating 20 years of its existence on 1 January 2013, and there is a growing move towards customs unions elsewhere (e.g. the Caribbean Community Single Market and Economy, the Common Market of the South (MERCOSUR), the African Community Common Market (i.e. Burundi, Kenya, Rwanda, Uganda and the United Republic of Tanzania) and the declaration by the Governments of Belarus, Kazakhstan and the Russian Federation to deepen mutual economic integration by establishing a common economic space in 2012), increasing the volume of trade and reducing the number of international trade transactions. **The creation of common internal markets may present some difficulties regarding control that competent national authorities should be aware of and effectively address.** The European Union, for example, is adjusting its regulations concerning acetic anhydride and pharmaceutical preparations containing ephedrine and pseudoephedrine.

135. Similarly, increases in transportation networks, including container trade, as well as free trade zones, sometimes pose new challenges to precursor control.

6. Equipment and materials

136. Article 13 of the 1988 Convention concerns the prevention of trade in and diversion of materials and equipment used for the illicit manufacture of drugs. The scope of this article is considered to range from substances not listed in Table I or II of the Convention, to cutting agents, diluents, tablet excipients, packaging material, manufacturing equipment such as laboratory glassware and equipment (for example, tableting machines, including those obtained from legitimate sources, new or second-hand, and specialized or oversized pieces of equipment). Although the specific measures are at the discretion of the parties, the article requires States parties to cooperate with each other in order to prevent not only the use of such materials and equipment on their own territory but also the smuggling of such materials and equipment into other countries for use in illicit drug manufacture there.

137. Against the background of the successes in monitoring international trade in substances in Table I and Table II of the 1988 Convention, article 13 offers another complementary but as yet underutilized tool for countering illicit drug manufacture. Some countries or regions already make use of the provisions of article 13, for both regulatory and investigative purposes, such as the coordinated efforts within the European Union. **A voluntary code of conduct for industries that produce or trade in this equipment (a code of conduct similar to the one for industries that produce or trade in chemicals) could be applied.**

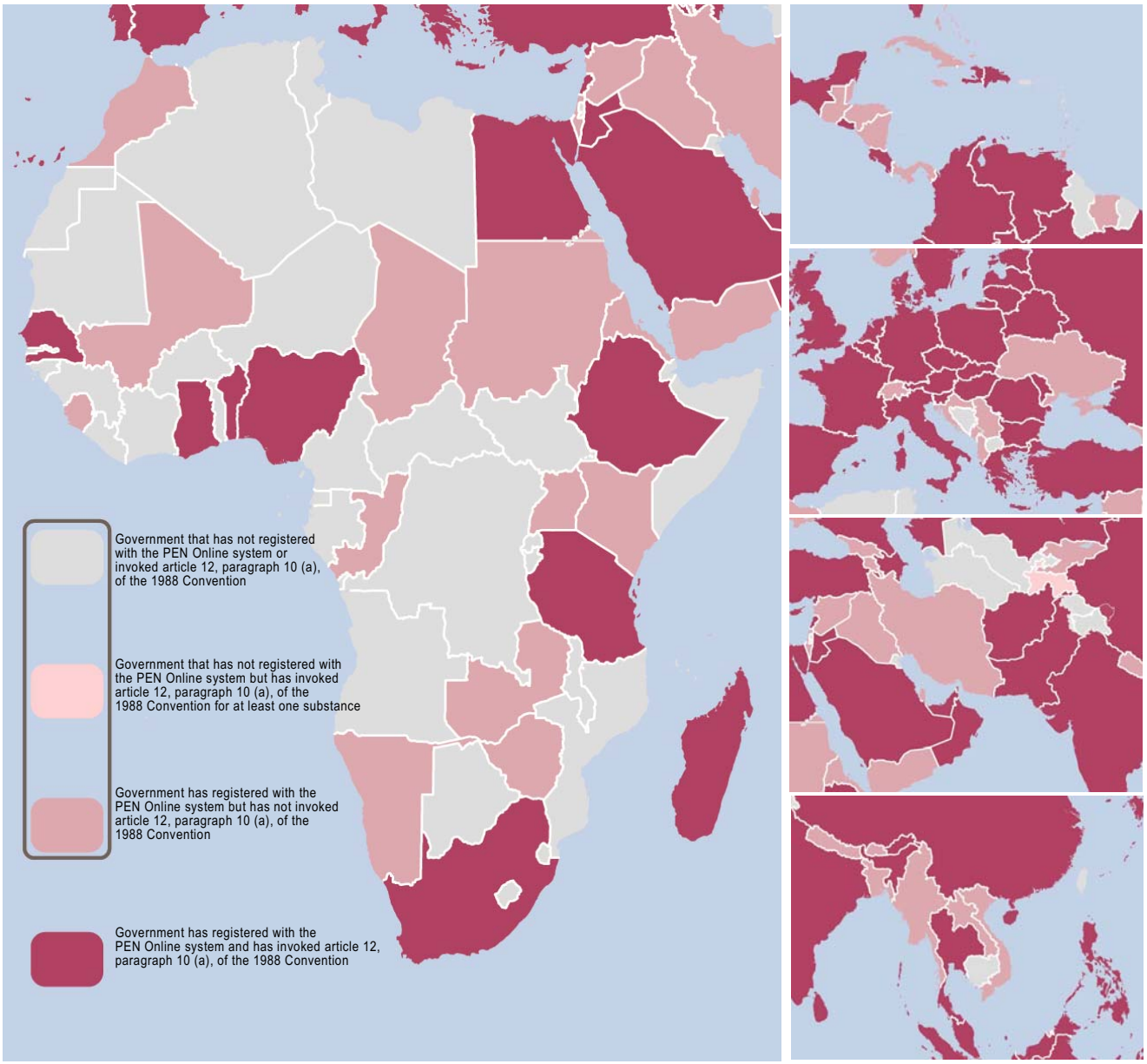
B. International controls

1. Countries not making use of basic tools

138. Article 12, paragraph 10 (a), of the 1988 Convention provides the possibility for States parties to make it mandatory for an exporting country to inform the importing country of the planned export of any substances in Table I. Since 1990, when the Convention entered into force, only 80 Governments have made use of this provision, leaving the notification of exports to more than 100 countries at the exporting countries' discretion. Closer analysis indicates that gaps in this mechanism correlate with regions and subregions currently being targeted by traffickers, including parts of Africa, Central America and the Caribbean, Central Asia, South-East Asia and South-Eastern Europe (see map 8). **The countries concerned have to recognize their responsibility to create the conditions for being notified of exports of precursor chemicals. Otherwise, they may continue to be regarded as easy targets by organizations trafficking in such chemicals. The provisions of article 12, paragraph 10 (a), if used and implemented by all, could create a robust and practical mechanism for the control of international trade in scheduled chemicals.**

139. A comparison of shipments of precursors pre-notified through the PEN Online system with actual imports in a particular year shows that there are significant discrepancies in both directions. While higher amounts pre-notified through PEN Online might not be of immediate concern, as not all planned imports might materialize, the Board is concerned that about half of the

Map 8. Examples of regions with weak mechanisms for monitoring the import of precursor chemicals[a]



[a] See annex X to the present publication.

30 countries for which both data sets are available for 2011 reported on form D imports to be higher than indicated by the pre-export notifications. Discrepancies are particularly evident for substances in Table II of the 1988 Convention, and for some substances in Table I, particularly acetic anhydride and phenylacetic acid.

2. Not all countries apply a system of import and export control

140. **Governments that do not apply some system of control over exports of precursors are not in a position to comply with their treaty obligation to contribute to the prevention of diversion, which is a shared responsibility.** In addition, those Governments which do not apply any system of authorization to exports of certain precursors in Table I and Table II of the 1988 Convention, or which base their exports of those substances solely on the issuance of a general permit may not be in a position to comply with their obligation to provide notifications to importing countries prior to the export of precursors pursuant to article 12, paragraph 10 (a), of the Convention. The Board is aware of about 70 Governments which require individual authorizations for the export of all substances in Table I and Table II, while fewer than 30 Governments which had informed the Board of their export authorization systems indicated that they had only a general permit or no export controls in place.

3. Objections through PEN Online

141. An analysis of the replies of importing countries sent in response to pre-export notifications from exporting countries shows that about 7 per cent of pre-export notifications, accounting for 4 per cent of the total volume, resulted in the importing country objecting to the shipment. Most of the objections related to pre-export notifications for shipments of solvents in Table II of the 1988 Convention. Some pre-export notifications resulted in the importing country objecting to the shipment of substances in Table I, above all ephedrine and pseudoephedrine, potassium permanganate and acetic anhydride. At this stage, however, it is difficult to assess how many of those objections were for administrative reasons and how many were because of suspicion. In any case, **the analysis of pre-export notifications resulting in objections and the reasons for the objections, from the perspective of both exporting and importing countries, could help to determine patterns that, in turn, could be used to identify weaknesses at the national level, and that information could subsequently be used to strengthen existing systems. It is therefore important for importing countries that object to shipments of precursors to indicate the reasons for their objections.**

C. Emerging precursors and other non-scheduled substances used in illicit drug manufacture

142. Another key challenge is the emergence of substitute or alternative chemicals, which are used to replace traditional precursors under international control. Moreover, a number of non-scheduled substances are required, in addition to the scheduled precursors or their substitutes, in the illicit manufacture of drugs. The number of substances in Table I and Table II of the 1988 Convention has remained unchanged since 2000, when norephedrine, a precursor of amphetamine-type stimulants, was added to Table I; the other changes affecting the scheduling of those substances involved only transferring substances from Table II, containing substances under less stringent control, to Table I (see figure IX). However, seizures of non-scheduled substances, reported to the Board on form D, increased from 24 to 225 (almost 10-fold) between 2003 and 2011 (see figure X).

143. The emergence of substitute chemicals used in illicit drug manufacture is partly attributable to increased controls, at the national and international levels, over the chemicals traditionally used in such manufacture and to an

Figure IX. Substances in Table I and Table II of the 1988 Convention, 1988-2011

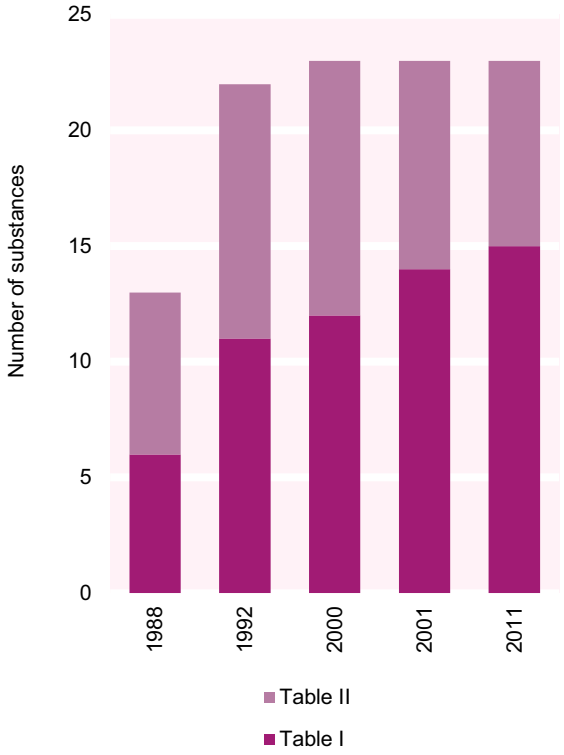
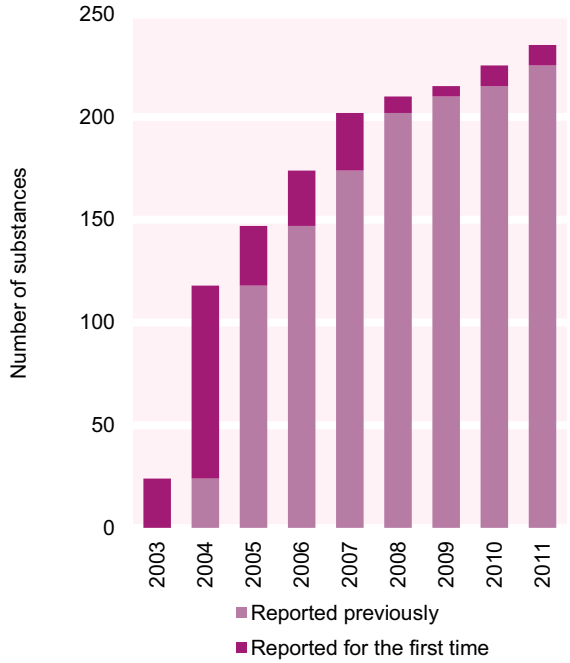


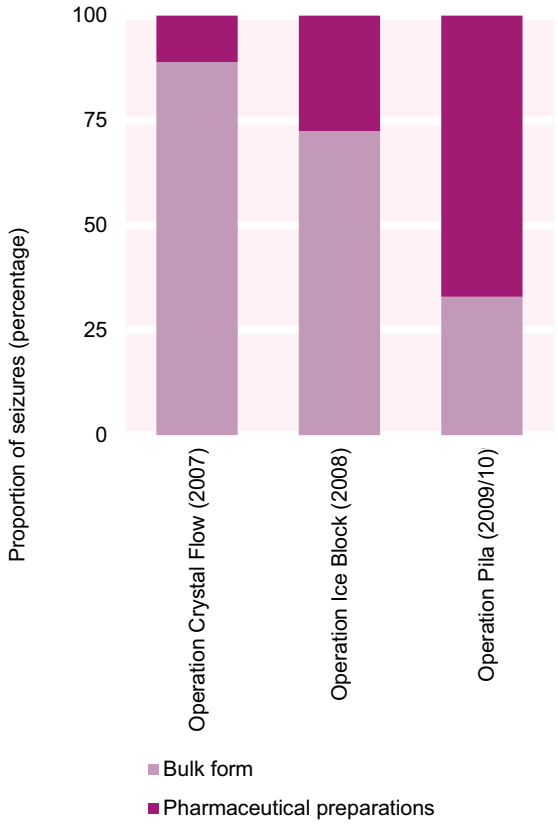
Figure X. Cumulative number of non-scheduled substances reported seized by Governments on form D, 2003-2011



unprecedented increase in the diversification, sophistication and scale of the illicit manufacture of drugs and precursors, enabling those involved in that illegal activity to use manufacturing methods that were impossible to use in illicit settings before.

144. One area that has seen significant growth at a level that was unanticipated during the drafting of the 1988 Convention is the diversion of pharmaceutical preparations containing ephedrine and pseudoephedrine. The same trend is reflected in scientific analysis of methamphetamine end-products, which indicates significant use of pharmaceutical preparations in the illicit manufacture of methamphetamine throughout the world (see figure XI).

Figure XI. Proportion of seizures of ephedrine and pseudoephedrine by physical form reported under Project Prism initiatives, 2007-2010



145. This development, which emerged initially in North America, has most recently reached countries in South-East Asia, where amphetamine-type stimulants have been illicitly manufactured for many years and where the use of ephedrine and pseudoephedrine in bulk has predominated. **Since 2003, the Board has recommended that international trade in pharmaceutical preparations should be monitored in the same manner as the precursors that those preparations contain**. Similarly, in several resolutions, most recently Commission on Narcotic Drugs resolution 54/8, there have been calls for strengthening measures to prevent diversion, while recognizing the need not to impair their availability for medical use. However, the situation is complicated by the fact that in several countries the regulatory entities responsible for the control of pharmaceutical preparations are different from the entities responsible for the control of the precursors that such preparations contain. **Maintaining seamless and effective regulatory controls over both precursor chemicals and pharmaceutical preparations containing those chemicals requires close cooperation between different competent authorities**.

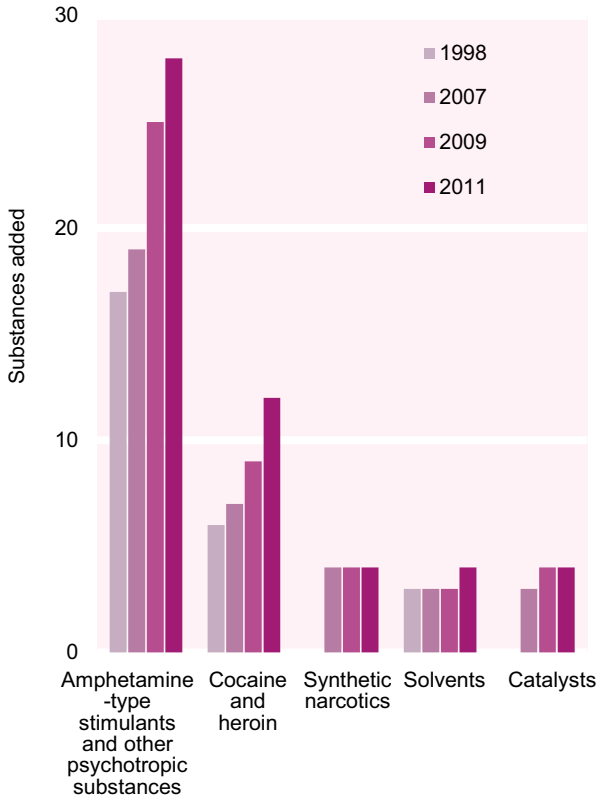
146. From a technical point of view, the PEN Online system allows for the sending of pre-export notifications for pharmaceutical preparations and other preparations. Since 2009, there has been an average of about 28 countries that regularly use the system to notify importing countries of the export of ephedrine and pseudoephedrine. The Governments of the vast majority of those countries send pre-export notifications for those substances in bulk form and in the form of pharmaceutical preparations. The authorities of three countries — Malaysia, Thailand and the United Arab Emirates — have formally requested the Board to be notified of the export of pharmaceutical preparations containing ephedrine and pseudoephedrine to their territory.

147. Pursuant to Economic and Social Council resolution 1996/29, the Board established already in 1998 a list of non-scheduled substances that are likely to be diverted from legitimate trade in order to be substituted for, or to be used together with, substances in Table I or II of the 1988 Convention, or that are likely to be used in the illicit manufacture of drugs that cannot be manufactured using the precursors controlled under the Convention. The list, known as the limited international special surveillance list of non-scheduled substances, is aimed at assisting Governments, in partnership with industry, in targeting non-scheduled substances in a flexible manner, preventing their use in the illicit manufacture of drugs and, at the same time, being sensitive to the requirements of legitimate trade. The number of substances on the list has doubled since 1998 — from 26 to 52 (see figure XII).

148. In addition, individual Governments have introduced regulations for additional substances not under international control. The Board is aware that 48 countries, in addition to 27 European Union member States, have established some form of control over a total of 150 substances that are not included in Table I or II of the

1988 Convention or on the limited international special surveillance list of non-scheduled substances. Governments' responses to this newly emerging situation are varied. While some Governments have expanded their control measures to include the new substances on a substance-by-substance basis, others have responded by enacting legislation allowing them to proactively counter such new developments. Others have turned to practical solutions based on voluntary cooperation by industry. **In order to properly address these developments, it will be necessary for Governments to share their experiences with each other. The Board is currently reviewing the various approaches implemented by Governments.**

Figure XII. Substances included on the limited international special surveillance list of non-scheduled substances, grouped by use, 1998-2011
(As at 1 November 2012)



D. Role of the Internet: unregulated sale of precursors

149. The use of the Internet for trading in precursors may justify a more in-depth analysis, considering the different forms of legitimate trade through the Internet and the modus operandi of those using the Internet for unlawful purposes. The issue was addressed in 2000 by the Commission on Narcotic Drugs in its resolution 43/8. **There is a need to enhance the exchange of experiences and lessons learned by Governments experimenting with different approaches in order to decrease the likelihood of the Internet becoming a major vehicle for the unregulated supply of precursor chemicals.**

E. Conclusion

150. There are a range of tools already available to Governments to control diversion. However, the use of those tools continues to be uneven, providing opportunities for trafficking organizations to circumvent existing legislation. Such trends could be better addressed by proactive cooperative measures, such as voluntary cooperation with industries and acting in the spirit of the 1988 Convention (i.e. preventing diversion). A key element in this concept is intragovernmental cooperation between the various agencies involved in precursor control. In addition, as successes in reducing diversion from international trade have resulted in trafficking organizations increasingly obtaining precursors through diversion and subsequently smuggling the precursors across national borders, efforts to counter such smuggling should also be stepped up, as part of an integrated strategy in which law enforcement efforts and regulatory efforts complement each other. The starting points for new approaches are varied, as the previous paragraphs have highlighted. This also implies a willingness to reconsider currently underutilized tools, as well as a readiness to recognize that new challenges may require new solutions.

V. Recommendations

151. The Board has decided to provide Governments with another tool for preventing the diversion of and trafficking in precursor chemicals — the Precursors Incident Communication System (PICS), a secure online communication platform. PICS was launched in March 2012; since then, its use and the number of registered Governments and reported incidents have been rapidly expanding. **Governments are encouraged to register with PICS multiple focal points in appropriate law enforcement, drug control and regulatory agencies to enable them to be alerted to rapid changes in trafficking in chemicals and the modi operandi used by traffickers and to enable follow-up investigations and communication to take place.**