

WORLD HEALTH ORGANIZATION
TECHNICAL REPORT SERIES

No. 160

EXPERT COMMITTEE ON
ADDICTION-PRODUCING DRUGS

Ninth Report

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WORLD HEALTH ORGANIZATION

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GENEVA

1959

EXPERT COMMITTEE ON ADDICTION-PRODUCING DRUGS *

Geneva, 6-11 October 1958

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- Dr N. B. Eddy, Chief, Section on Analgesics, Laboratory of Chemistry, National Institute of Arthritis and Metabolic Diseases, National Institutes of Health (Public Health Service), Bethesda, Md., USA (*Chairman*)
- Dr L. Goldberg, Professor of Research on Alcohol and Analgesics, Karolinska Institutet, Stockholm, Sweden
- Dr G. Joachimoglu, Professor of Pharmacology ; Chairman, Superior Health Council, Ministry of Social Welfare, Athens, Greece (*Vice-Chairman*)
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- Dr B. Lorenzo Velázquez, Profesor de Farmacología de la Facultad de Medicina, Universidad de Madrid, Spain
- Mr J. R. Nicholls, C.B.E., D.Sc., formerly Deputy Government Chemist, London, England (*Rapporteur*)

Representatives of the United Nations :

- Mr G. Yates, Director, Division of Narcotic Drugs, United Nations, Geneva
- Dr A. Lande, Chief of Section, Division of Narcotic Drugs, United Nations, Geneva
- Dr J. Lucas, Chief of Section, Division of Narcotic Drugs, United Nations, Geneva

Representative of the Permanent Central Opium Board and the Drug Supervisory Body :

- Mr L. Atzenwiler, Secretary of these two bodies, Geneva

Secretariat :

- Dr H. Halbach, Chief, Addiction-Producing Drugs Section, WHO (*Secretary*)

** Invited but unable to attend :*

- Dr J. Bejarano, Profesor de Higiene de la Facultad de Medicina, Universidad de Bogotá, Bogotá, Colombia
- Dr H. Fischer, Professor of Pharmacology, University of Zurich, Switzerland

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EXPERT COMMITTEE ON ADDICTION-PRODUCING DRUGS

Ninth Report *

The Expert Committee on Addiction-Producing Drugs met in Geneva from 6 to 11 October 1958.

The Deputy Director-General on behalf of the Director-General of the World Health Organization opened the session and welcomed the members of the Committee, the representatives of the Secretary-General of the United Nations, and the representative of the Permanent Central Opium Board and the Drug Supervisory Body. Dr N. B. Eddy was elected as Chairman, Dr G. Joachimoglu as Vice-Chairman and Mr J. R. Nicholls as Rapporteur.

The Committee observed a minute of silence in memory of Dr P. O. Wolff, formerly Chief, Addiction-Producing Drugs Section, who died in November, 1957.

1. Work of International Bodies Concerned with Narcotic Drugs

The Secretary summarized the report of the thirteenth session of the Commission on Narcotic Drugs of the Economic and Social Council;¹ the relevant resolutions of the Economic and Social Council;² and the

* The Executive Board, at its twenty-third session, adopted the following resolution :
The Executive Board

1. NOTES the ninth report of the Expert Committee on Addiction-producing Drugs ;
2. NOTES the action taken by the Director-General in compliance with resolution WHA7.6 with regard to the notifications forwarded to the Secretary-General of the United Nations ;
3. THANKS the members of the Committee for their work ;
4. AUTHORIZES publication of the report ; and
5. REQUESTS the Director-General to transmit the report to the Secretary-General of the United Nations.

(Resolution EB23.R21, *Off. Rec. Wld Hlth Org.*, 1959, 91)

¹ United Nations, Commission on Narcotic Drugs (1958) *Report of the thirteenth session (28 April - 30 May 1958)* — (*Economic and Social Council. Official Records : twenty-sixth session. Supplement No. 9*), Geneva (Document E/3133—E/CN.7/354)

² United Nations, Economic and Social Council (1958) *Official Records : twenty-sixth session, 1-31 July 1958. Supplement No. 1 : Resolutions*, Geneva, p. 14 (Document E/3169)

reports on sessions of the Permanent Central Opium Board¹ and the Drug Supervisory Body.² Among the items of interest, some of which will be referred to later in this report, particular note was taken of the publication of the "Multilingual list of narcotic drugs under international control",³ which should be invaluable to all concerned in this field. The Committee was pleased to know that it was hoped to keep the list up to date by appropriate supplements, and its members would be prepared to assist in this work.

The value of the "Supplementary information on synthetic and other new narcotic drugs"⁴ was recognized. The Committee emphasized that expressing consumption of drugs in terms of therapeutic doses instead of in gross amounts enabled a more realistic assessment to be made of their relative uses.

The Committee was pleased to note that there was increasing acceptance of the principle, set out in its sixth report,⁵ of making no distinction, for the purposes of control, between the group of natural alkaloids and their derivatives on the one hand and the group of synthetic substances on the other.

2. Morphine and its Derivatives

2.1 Nicomorphine⁶

With reference to a communication from the Government of Austria requesting that the regulations of Article 11 of the 1931 Convention should be applied to nicomorphine, the Committee was of the opinion that since nicomorphine is an ester of morphine, it falls within the description "other esters of morphine" referred to in Article 1, paragraph 2, of the 1931 Convention and must be controlled accordingly. In consequence there was no reason to apply Article 11 of the 1931 Convention to it. Therefore,

The Expert Committee on Addiction-Producing Drugs

RECOMMENDS that its opinion with respect to nicomorphine and its salts be communicated to the Secretary-General of the United Nations.

¹ United Nations, Permanent Central Opium Board (1957) *Report to the Economic and Social Council on the work of the Board in 1957*, Geneva (Document E/OB/13)

² United Nations, Drug Supervisory Body (1957) *Estimated world requirements of narcotic drugs in 1958*, Geneva (Document E/DSB/15)

³ United Nations (1958) *Multilingual list of narcotic drugs under international control* (Document E/CN.7/341)

⁴ United Nations, Commission on Narcotic Drugs (1958) *Supplementary information on synthetic and other new narcotic drugs* (Mimeographed document E/CN.7/339)

⁵ *Wld Hlth Org. techn. Rep. Ser.*, 1956, **102**, 3 (section 1)

⁶ International non-proprietary name proposed for the di-nicotinic acid ester of morphine

2.2 *Normorphine*¹

Referring to the notification of the Government of the United States of America, the Committee was of the opinion that normorphine, because it (1) produces morphine-like effects, (2) will suppress abstinence phenomena of a known morphine addiction, and (3) will sustain a morphine addiction, must be considered to be an addiction-producing drug comparable to morphine, and that normorphine and its salts should fall under the regime laid down in the 1931 Convention for the drugs specified in Article 1, paragraph 2, Group 1, sub-group (a). Therefore,

The Expert Committee on Addiction-Producing Drugs

RECOMMENDS that its opinion with respect to normorphine and its salts be communicated to the Secretary-General of the United Nations.

2.3 *Norcodeine*²

Referring to the notification from the Government of the United States of America, the Committee was of the opinion that norcodeine, because it (1) produces morphine-like effects, (2) will suppress abstinence phenomena of a known morphine addiction, and (3) will sustain a morphine addiction, must be considered to be an addiction-producing drug. The addiction-producing properties of norcodeine are comparable with those of codeine, and the Committee is of the opinion that the degree of control for norcodeine and its salts would be appropriately under the regime laid down in the 1931 Convention for the drugs mentioned in Article 1, paragraph 2, Group II. The attention of the committee was, however, drawn to the "Historical and Technical Study"³ of the 1931 Convention which discusses the placing of a new drug under "the appropriate regime laid down in the present Convention according as to whether it falls under Group I or under Group II". This document states "The wording used in Article 11, paragraphs 3 and 4, implies that only a drug which 'is not itself a drug capable of producing addiction, but is convertible into such a drug' may in future be added to sub-group (b) or to Group II". (In this connexion the Committee would point out that codeine, which the Convention placed in Group II, is now generally admitted to be addiction-producing as well as to be convertible to drugs of greater addiction-producing potency, and

¹ International non-proprietary name proposed for N-demethylated morphine

² International non-proprietary name proposed for N-demethylated codeine

³ League of Nations, Opium Traffic Section (1937) *Convention for Limiting the Manufacture and Regulating the Distribution of Narcotic Drugs of July 13th, 1931. Historical and Technical Study*, Geneva (Document C.191.M.136.1937.XI)

that the dangers of codeine are due more to its addiction-producing properties than to its capability of being converted into a more powerful addiction-producing drug.)

On the basis of the interpretation quoted, the Committee would at present have no option but to consider that norcodeine and its salts should be treated in the same way as morphine. In view of the implications of such a grouping, however, the Expert Committee on Addiction-Producing Drugs recommends that the Director-General of the World Health Organization consult with the Secretary-General of the United Nations before a final conclusion is reached.

2.4 *Oxymorphone*¹

In its fifth report² the Committee stated that the evidence accompanying the notification with respect to oxymorphone (then described as dihydrohydroxymorphinone) indicated that it had particularly dangerous addiction-producing properties, and a recommendation was made that it was desirable to avoid the manufacture, import and export of oxymorphone. Clinical experience with this drug has shown that its addiction-producing potentiality is less than was anticipated and that it may be considered comparable to morphine. It has also been shown that in some circumstances oxymorphone has medicinal advantage and the Committee is of the opinion that the manufacture, import and export of oxymorphone need no longer be considered less desirable than for other drugs comparable to morphine. Therefore,

The Expert Committee on Addiction-Producing Drugs

RECOMMENDS that its opinion with respect to oxymorphone be communicated to the Secretary-General of the United Nations.

3. Synthetic Substances with Morphine-like Effect

3.1 *Synthetic substances of methadone type*

3.1.1 *Levomoramide*

Referring to the notification from the Government of France, the Committee considered that the present evidence indicates that levomoramide is not free from addiction liability, and is of the opinion that levomoramide and its salts should fall under the regime laid down in the 1931

¹ International non-proprietary name proposed for dihydrohydroxymorphinone

² *Wld Hlth Org. techn. Rep. Ser.*, 1955, 95, 6 (section 5.3)

Convention for the drugs specified in Article 1, paragraph 2, Group I. Therefore,

The Expert Committee on Addiction-Producing Drugs

RECOMMENDS that its opinion with respect to levomoramide and its salts be communicated to the Secretary-General of the United Nations.

3.1.2 *Preparations containing normethadone*

Referring to the request from the Government of Italy for the exemption of two preparations containing normethadone,¹ the Committee considered that the use of these two preparations in normal medicinal doses was not likely to lead to the production of addiction. But these preparations, particularly the syrup, could be taken in much larger and indefinite doses and more frequently than recommended, by children as well as by adults, and in view of the strongly addicting properties of normethadone the use of the preparations in this way could be a factor in addiction. The Committee is aware that preparations containing not more than a specified small percentage of morphine or cocaine are exempted and that long experience has indicated that these limits are adequate. No such experience has yet been obtained with preparations containing normethadone and the Committee considers that it would not be possible at the present time to set a limit of concentration for the exemption of preparations containing normethadone. The Committee is of the opinion that the present request for exemption should not be granted. Therefore,

The Expert Committee on Addiction-Producing Drugs

RECOMMENDS that its opinion with respect to the two preparations containing normethadone be communicated to the Secretary-General of the United Nations.

¹ Two forms of the medical speciality known as "Taurocolo", having the following compositions :

Pills

guaiacol taurocholate	0.065	g
potassium guaiacol glycollate	0.0125	g
fluid extract of balsam of Tolu	0.02	g
redistilled cherry laurel extract	0.0125	g
normethadone	0.0005	g
sodium saccharinate	0.004	g
sugar	0.5	g
aromatized excipient of gum arabic q.s. for 2 g		

Syrup (per 100 ml)

guaiacol taurocholate	3.9	g
potassium guaiacol glycollate	2.0	g
fluid extract of balsam of Tolu	3.0	g
cherry laurel extract	2.0	g
normethadone	0.01	g

3.1.3 Preparations containing dioxaphetyl butyrate

Referring to the request from the Government of Italy for the exemption of three preparations containing dioxaphetyl butyrate,¹ the Committee considered that the use of these preparations at the recommended doses was not likely to lead to the production of addiction. But these preparations could be used in complete disregard of the stated doses, and in this way could be a factor in the production of addiction.

The Committee considered that it would not be possible at the present time to set a limit of concentration for the exemption of preparations containing dioxaphetyl butyrate. Consequently the Committee was of the opinion that the present request for exemption should not be granted. Therefore,

The Expert Committee on Addiction-Producing Drugs

RECOMMENDS that its opinion with respect to the three preparations containing dioxaphetyl butyrate be communicated to the Secretary-General of the United Nations.

3.2 Synthetic substances of other types

- 3.2.1 2-Piperidinomethyl-7-benzoylbenzodioxane
 2-Morpholinomethyl-7-benzoylbenzodioxane
 2-Piperidinomethyl-7-(p-methoxybenzoyl)benzodioxane
 2-Morpholinomethyl-7-(p-methoxybenzoyl)benzodioxane

Referring to the notification from the Government of France, the Committee considered that there was no adequate evidence of any addiction

¹ Three forms of the medical speciality known as "Spasmoxale", having the following compositions:

<i>Tablets</i>	
Amidalgon (dioxaphetyl butyrate hydrochloride)	0.002 g
Benzoxale (N'-pyridyl-N'-benzyl-dimethylenediamine hydrochloride)	0.01 g
papaverine	0.025 g
theophylline	0.025 g
Bromethyl (tetraethylammonium bromide)	0.1 g
amidopyrine	0.1 g
<i>Ampoules</i>	
Amidalgon (dioxaphetyl butyrate hydrochloride)	0.0025 g
Benzoxale (N'-pyridyl-N'-benzyl-dimethylenediamine hydrochloride)	0.01 g
papaverine	0.005 g
theophylline	0.01 g
Bromethyl (tetraethylammonium bromide)	0.15 g
<i>Suppositories</i>	
Amidalgon (dioxaphetyl butyrate hydrochloride)	0.005 g
Benzoxale (N'-pyridyl-N'-benzyl-dimethylenediamine hydrochloride)	0.025 g
papaverine	0.1 g
Bromethyl (tetraethylammonium bromide)	0.25 g
amidopyrine	0.25 g

liability of these drugs and that an opinion must wait until such evidence is available.

3.2.2 *Dimenoxadol*¹

Referring to the notification from the Government of the United States of America, the Committee considered that dimenoxadol (1) produces morphine-like effects, (2) will suppress abstinence phenomena of a known morphine addiction, and (3) will sustain a morphine addiction. Evidence for these three points was derived from experiments in monkeys, but dimenoxadol has also produced morphine-like effects in man. Previous experience has shown that the results in the monkey correlate well with those in man; so that, when the former are unequivocal, they may be accepted as evidence for what is to be expected in man. Therefore, the Committee was of the opinion that dimenoxadol must be considered to have addiction-producing liability in man and that dimenoxadol and its salts should fall under the regime laid down in the 1931 Convention for the drugs specified in Article 1, paragraph 2, Group 1. Therefore,

The Expert Committee on Addiction-Producing Drugs

RECOMMENDS that its opinion with respect to dimenoxadol and its salts be communicated to the Secretary-General of the United Nations.

3.2.3 *(-)-3-Hydroxynormorphinan*

2'-Hydroxy-2,5,9-trimethyl-6,7-benzmorphinan

3-Allyl-1-methyl-4-phenyl-4-propionoxypiperidine

Regarding the notification from the Government of the United States of America with respect to these three substances, the Committee decided to defer action.

4. Abuse of Non-opiate Analgesic Mixtures

The attention of the Committee was drawn to certain mixtures, containing phenacetin and other agents such as aminophenazone, caffeine and a sedative, which are potentially habit-forming and which under conditions of excessive use have presented characteristics approaching those of addiction. Their prolonged use and potential misuse should be followed closely for an eventual valuation of their effect on public safety.

¹ International non-proprietary name proposed for dimethylaminoethyl 1-ethoxy-1,1-diphenylacetate

5. Non-addicting Antitussives

The Committee discussed the steadily increasing consumption of codeine and dionine as reported by the Permanent Central Opium Board¹ and the Drug Supervisory Body² which it does not seem possible to account for solely by population increases. It may be due largely to the increasing use of codeine in analgesic mixtures, but partly also to the use of codeine and dionine as antitussives. In this connexion, the Committee would draw attention to the development of methods for the evaluation of antitussive action, through which it has been demonstrated that such action can be produced by agents which are neither analgesic nor addicting. Outstanding examples are noscapine³ and dextromethorphan. Other non-analgesic substances (including possible non-analgesic optical isomers of analgesic synthetics) are likely to possess similar action. Investigation and use of non-addicting antitussives should be encouraged, with a view to helping the prevention of drug addiction.

6. Measurement of Tolerance and Physical Dependence in Clinical Practice

The Committee received a report on the employment of a new technique to determine the development of physical dependence when analgesics are used in the treatment of chronic pain (see Annex 1 for a summary of the report). Periodic administration of nalorphine in fixed relation to an analgesic dose was the tool, and the drugs compared were morphine, oxymorphone, and anileridine. The Committee considered the work of very great importance as a complement to the Lexington addiction liability studies on post-addicts and was pleased to learn that the new method will also be employed in the study of other analgesic drugs.

7. Classified Information on Narcotics

The Committee was informed that, as an outcome of its interest in a centralized source of information on addiction,^{4, 5} work on the collection of material under the above heading had begun. Further details of its collection and availability are to be found in Annex 2 to this report.

¹ United Nations, Permanent Central Opium Board (1957) *Report to the Economic and Social Council on the work of the Board in 1957*, Geneva (Document E/OB/13)

² United Nations, Drug Supervisory Body (1957) *Estimated world requirements of narcotic drugs in 1958*, Geneva (Document E/DSB/15)

³ International non-proprietary name proposed for narcotine

⁴ *Wld Hlth Org. techn. Rep. Ser.*, 1957, **116**, 11 (section 11)

⁵ *Wld Hlth Org. techn. Rep. Ser.*, 1958, **142**, 11 (section 9)

8. Unification of Chemical Nomenclature for Narcotic Drugs

In view of the procedure now in regular operation for the coining of proposed international non-proprietary names for narcotic drugs, the Committee considered that such names should always be used to designate these drugs. Where it was necessary to use a chemical name, the nomenclature adopted should be identical with that placed opposite the international non-proprietary name in the published lists¹ or consistent with the principles which have been applied to other drugs in these lists if no such name had been published.

In this connexion, the "Multilingual list of narcotic drugs under international control", and any supplements thereto, may be of assistance in finding the appropriate chemical nomenclature of a drug known by another description.

9. Carriage of Narcotic Drugs in First-Aid Kits of Aircraft Engaged in International Flights

The Committee's attention was directed to the discussion on the above subject appearing in the report of the thirteenth session of the Commission on Narcotic Drugs² and to the relevant resolution of the Economic and Social Council.³ The Committee considered that such carriage might be permitted provided that (1) there was evidence of the medical need for narcotics in the circumstances of air travel, and (2) an adequate system of control could be ensured.

10. Proposed Single Convention on Narcotic Drugs

The Committee received the third draft⁴ and welcomed the opportunity to make the following comments.

10.1 *Schedules and scope of control*

Realising that the United Nations Secretariat must draw up the schedules on the *status quo*, i.e., in accordance with current Conventions and

¹ Lists of international non-proprietary names are published from time to time in the WHO Chronicle and — in the case of narcotic drugs — by the Secretary-General of the United Nations as an addendum to the annual Report of the Division of Narcotic Drugs.

² United Nations, Commission on Narcotic Drugs (1958) *Report of the thirteenth session (28 April - 30 May 1958)* — (Economic and Social Council. *Official Records: twenty-sixth session. Supplement No. 9*), Geneva, p. 14 (Document E/3133—E/CN.7/354)

³ United Nations, Economic and Social Council (1958) *Official Records: twenty-sixth session, 1-31 July 1958. Supplement No. 1: Resolutions*, Geneva, p. 15 (Document E/3169)

⁴ United Nations, Commission on Narcotic Drugs. *The Single Convention on Narcotic Drugs (third draft)* (Mimeographed document E/CN.7/AC.3/9)

subsequent recommendations of the World Health Organization and the Commission on Narcotic Drugs, the Committee believed that the composition of the schedules should be most carefully reviewed before they become an established part of the new Convention. It would draw particular attention to (1) the need for distinction in the degree of control on the basis of the degree of addiction liability instead of on the basis of addiction liability *versus* convertibility, (2) the desirability to delete from the list of exempted preparations¹ those which are today virtually obsolete, and (3) the seriousness of placing substances in Schedule IV because of a possible hampering effect on medical practice. The consideration in (3) should be risk to public health *versus* outstanding therapeutic advantage.

With respect to changes in the scope of control, the Committee believed that any addition or deletion of an item in a schedule should first be considered by the World Health Organization, and any action should be in accordance with the advice and recommendation of that Organization. If for non-medical reasons the Commission on Narcotic Drugs proposed that other action should be taken, the matter should be referred back to the World Health Organization before a final decision was reached.

10.2 *Treatment of drug addicts*

The Committee believed that drug addiction, whatever its incidence, is always a serious problem which should be handled medically, as outlined by the report of the Study Group on Treatment and Care of Drug Addicts.² It is desirable to make treatment compulsory in the sense that it should always be undertaken, but the Committee believed that the treatment need not necessarily be in a closed institution.

¹ League of Nations, Health Organisation (1932) *Recapitulatory list of preparations exempted from the provisions of the 1925 International Opium Convention by application of Article 8 of that Convention*, Geneva (Document C.114.M.54.1932.III)

² *Wld Hlth Org. techn. Rep. Ser.*, 1957, 131

Annex 1**THE RATE OF DEVELOPMENT
OF PHYSICAL DEPENDENCE AND TOLERANCE TO ANALGESIC DRUGS
IN PATIENTS WITH CHRONIC PAIN: COMPARISON OF MORPHINE,
OXYMORPHONE AND ANILERIDINE****A Summary¹**

Using selected patients with neoplastic disease, having sufficient pain to warrant continuing opiate administration, a scheme was evolved, using nalorphine as a tool, to demonstrate successfully the development of physical dependence (addiction) in ordinary clinical practice, and to evaluate the rate of development of such physical dependence. The drugs employed in the study were morphine sulfate, oxymorphone (14-hydroxydihydromorphinone) hydrochloride, and anileridine (1-[2-(*p*-aminophenyl)-ethyl]-4-phenylpiperidine-4-carboxylic acid ethyl ester) hydrochloride. They were given multiple code numbers, randomized on a double blind basis, and administered subcutaneously. The amounts used and the intervals between administrations, were just sufficient to control pain. Also, the initial dose was based on previously determined equal analgesic potency, 10 mg for morphine sulfate, 1.0 mg for oxymorphone hydrochloride and 24 mg for anileridine hydrochloride per 60 kg of body-weight. In the majority of patients this dose was adequate initially; the dose was increased only as necessary for pain relief, and the period of administration varied from two to twelve weeks. Seventeen patients were continued for such periods on morphine, fourteen on oxymorphone and sixteen on anileridine.

Weekly pain relief scores were recorded as a check on adequacy of pain relief, and a careful record was kept of narcotic administration — both individual dose and daily amount — as a check on the development of tolerance. Most but not all patients developed tolerance to each drug during the period of observation, probably to a greater extent with oxymorphone and anileridine than with morphine.

Before coded medication was started, and at two-week intervals during such medication, each patient was given subcutaneously one milligram of nalorphine followed 25 minutes later by a second dose of two milligrams to detect the existence of physical dependence by precipitation of characteristic abstinence signs. This was checked by the administration of a placebo under the same conditions in alternate weeks.

¹ The full report will be published in *Bull. Narcot.*, 1959, **11**, No. 1. A shorter version in French will appear in the *Bulletin of the World Health Organization*.

Physical dependence was detectable by the "allyl test" (nalorphine administration) usually in two to four weeks with morphine and in about four weeks with oxymorphone or anileridine.

While the administration of nalorphine during chronic narcotic administration may cause some discomfort and occasionally provoke the recurrence of pain, it can be used successfully to indicate the development of physical dependence on the narcotic.

Annex 2

CLASSIFIED INFORMATION ON NARCOTICS

Two years ago, the Expert Committee on Addiction-Producing Drugs¹ commented upon the desirability of having available a centralized source of information on drug addiction, if possible in the form of abstracts of published papers. A year later,² the Committee was informed of the possibility of establishing such a collection of information, because support had been afforded by the National Institute of Mental Health, Bethesda, Md, USA, the intent being to deal with all aspects of addiction-producing and habit-forming drugs, including relevant experimental, clinical, and statistical data.

It has been found that a complete abstracting service is not possible, at least at the present time. However, work has begun on the collection of all available information (reprints, official documents, manuscripts, abstracts, etc.). This material will be entered bibliographically on a Keysort card. Also, according to an established code, the items of information (drugs described, drug effects, modifying factors, tolerance, habituation and addiction) in each piece of collected material will be indicated on the card together with the relevant code numbers. These code numbers will be punched on the margin of the card to facilitate the finding of data on a particular subject.

The collected documents are being kept at the National Institutes of Health, Bethesda, Md. As a contribution to this collection, it is hoped that the members of the Expert Advisory Panel on Addiction-Producing Drugs, or any others interested, will make available to the Chief, Section on Analgesics at the National Institutes of Health, either directly or through

¹ *Wld Hlth Org. techn. Rep. Ser.*, 1957, **116**, 11 (section 11)

² *Wld Hlth Org. techn. Rep. Ser.*, 1958, **142**, 11 (section 9)

the Chief, Addiction-Producing Drugs Section, World Health Organization, copies of their own papers in the field of narcotics and any other material, duplicate reprints, etc., which they can spare.

The main file of Keysort cards will be prepared and kept at Bethesda. A duplicate set of the index cards will be kept in the Addiction-Producing Drugs Section, World Health Organization, Geneva. Photocopies from which Keysort cards may be prepared as well as photocopies of original material will be furnished on request, as far as possible, the purpose being not only to establish the collection, but also to facilitate its availability.

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