

ANNUAL REPORT

of the
INTERNATIONAL FEDERATION OF CLINICAL CHEMISTRY
(IFCC)
for 1975

The outstanding event of 1975 was the triennial International Congress of Clinical Chemistry (the IXth) held in Toronto, Canada, from 13-18 July, and accompanied by meetings of the Council and a General Assembly of all members of the Federation.

At the meeting of Council on 13 July, all but four of the member national societies were represented and, in addition, a number of invited observers were in attendance. After a general report from the President had been received, Education, Standards, Publications and Finance Committee reports were given.

By election, Council appointed Dr. J. Frei (of Lausanne, Switzerland) as its next President, Dr. R. Dybkaer (Copenhagen, Denmark) Vice-President, Mr. P. M. G. Broughton (Leeds, UK) Secretary and Dr. R. G. Edwards (Adelaide, Australia) to be Treasurer. Council agreed to increase the annual contribution sought from Member Societies from 1 Swiss franc per member of each Society to 4 Swiss francs per member. The venue of the 1981 International Congress was determined: applications had been received from seven countries, and by ballot Austria was finally chosen. Council asked the Executive Board to examine the possibility of evolving a plan for the world distribution of future International Congresses. The South African Association of Clinical Biochemists was elected to membership. Later in the year, the Nigerian Association of Clinical Chemists was elected a member by postal ballot. There are now 34 countries* represented by their national societies as Members of IFCC. The total individual membership from within the national societies is about 14 000 clinical chemists.

A General Assembly, to which all clinical chemists affiliated to the Federation were invited, was held on 15 July. The President gave an account of the Council meeting and the Officers summarised IFCC's activities over the last three years and outlined plans for the coming period.

During the Congress, the **Distinguished Clinical Chemist Award** for 1975 was made to Professor Lorentz Eldjarn of Oslo, Norway. Professor Eldjarn was the third person to receive this triennial IFCC award; the previous recipients being Dr. D. D. Van Slyke in 1969 and Dr. C. P. Stewart in 1972, posthumously. The award was made to Professor Eldjarn for successfully combining outstanding basic and clinical research with extensive contributions for the benefit of the field of clinical chemistry in general, in particular with regard to laboratory organisation, quality control and education at all levels.

Obituary - Professor E. Werle:

Professor Dr. Eugen Werle, Vice-President of IFCC from 1967-1972, died on 11 May 1975. The Federation acknowledges the great contributions he made to its success in its early years.

Executive Board

In between meetings of Council, the affairs of IFCC are conducted by the Executive Board which consists of the principal officers plus co-opted members. To ensure continuity, the Officers elected by Council do not formally assume their duties until the commencement of the next calendar year. Thus whilst this Annual Report indicates the Executive Board composition as it was throughout 1975, a new Board operated from 1 January 1976 and will continue in office until 31 December 1978.

Members: Professor M. Rubin, Washington DC, USA (President); Dr. R. Dybkaer, Copenhagen, Denmark (Vice-President); Dr. J. Frei, Lausanne, Switzerland (Secretary) and Mr. P. M. G. Broughton, Leeds, UK (Treasurer). Professor G. Siest, Nancy, France is co-opted as Assistant Secretary. In addition, the President (currently Professor P. Lous, Copenhagen, Denmark) and Secretary (currently Dr. R. Gräsbeck, Helsinki, Finland) of the Section of Clinical Chemistry of the International Union of Pure and Applied Chemistry (IUPAC) are invited to attend as non-voting members.

During the year the Board met in Geneva (Switzerland), Toronto (Canada) and Pont-à-Mousson (France). Much of its work was preparing for and the organisation of the many meetings, including that of Council, held in conjunction with the Toronto Congress. The Board has also been particularly concerned with reinforcing the co-operation with other international organisations, especially in the fields of standardisation and education. During the Toronto Congress a joint meeting on standardisation was held with the Commission on World Standards of the World Association of Societies of Pathology, the International Committee for Standardisation in Haematology, the Standardisation Committee of the International Union of Immunological Societies, and the Section of Clinical Chemistry of IUPAC.

Since January 1975, IFCC has been recognised as a non-governmental organisation in official relations with the World Health Organisation (WHO). The Federation was represented at the 28th World Health Assembly and the Executive Board meeting of WHO. Several colleagues, actively involved in

*Argentina — Australia — Austria — Belgium — Canada — Chile — Czechoslovakia — Democratic Republic of Germany — Denmark — Ecuador — Egypt — Federal Republic of Germany — Finland — France — Hungary — Iran — Ireland — Israel — Italy — Japan — Mexico — Netherlands — New Zealand — Nigeria — Norway — Poland — Portugal — South Africa — Sweden — Switzerland — Union of Soviet Socialist Republics — United Kingdom — United States of America — Yugoslavia

IFCC activities, have attended technical meetings organised by WHO as consultants or as observers.

With the active collaboration of WHO, the Federation is setting up a new Expert Group on diagnostic kits and reagents. During the 6th International Symposium on Quality Control in Clinical Chemistry, held in Geneva 23-25 April 1975, IFCC organised a special day for presentation and discussion of international criteria for clinical laboratory materials, diagnostic methods and instrumentation, and of national regulations and international recommendations. The transactions of this Symposium have since been published (Walter de Gruyter - Berlin, New York, 1975). As well as the IXth International Congress on Clinical Chemistry, IFCC has sponsored the 3rd Colloquium on Prospective Biology (6-10 October 1975, Pont-à-Mousson, France) and the 2nd International Symposium on Clinical Enzymology (27-29 October 1975, Chicago, USA).

A new committee, the Congress Committee, has been set up to advise the Board and to assist the organisers of meetings which are sponsored by IFCC. This committee will be asked to take up a proposal made by Council, and referred to earlier, that a study be made of methods of obtaining a more equitable distribution in different regions or zones of the world of international meetings on clinical chemistry which are sponsored by IFCC. The Congress Committee will be assisted in this by zonal sub-committees for Europe, the Americas, Africa and the Near East, and the Far East including Australia.

Finance

A summary of the balance sheet for 1975 is given below. All figures are in Swiss francs (SF). The main item of expenditure was the cost of the meetings held in Toronto and elsewhere, totalling 71 110 SF. The cost of the Newsletter and the Annual Report is included in the figures for the Publications Committee. Several member countries generously made donations to the funds of IFCC during the year and their assistance is gratefully acknowledged. Despite the record expenditure in 1975, it is encouraging to note that income also reached record levels, but there was a deficit for the year of 5 169 SF. The decision of Council to increase the subscription rate to 4 SF per member will provide some extra income in 1976, but additional sources of finance will still be required if the work of the Federation is to continue growing at its present rate.

(1974 for comparison)		1975
	RECEIPTS	
(11 371)	Members' subscriptions	10 818
(0)	Donations from members	10 381
(39 268)	Donations from industry	62 369
(8 893)	Investment and bank interest	8 016
(741)	Refund of taxes	1 457
(0)	Miscellaneous	1 021
(796)	Excess of expenditure over income	5 169
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(61 069)		99 231
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PAYMENTS

(7 862)	Executive Board	17 160
(10 233)	Education Committee	3 002
(14 614)	Publications Committee	15 726
(10 738)	Standards Committee	11 680
(0)	EP on Bilirubin	7 174
(1 570)	Enzymes	7 104
(0)	Instrumentation	829
(0)	Proteins	6 405
(1 449)	Quantities and Units	4 943
(9 794)	Quality Control	9 542
(0)	Reference Values	9 961
(131)	Bank charges etc.	278
(1 500)	Taxes	1 147
(3 178)	Miscellaneous	4 280
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(61 069)		99 231
		<hr/>

Balance in general funds at 31 December 1975
= 138 207 SF

The activities of the Federation during the year would not have been possible without financial assistance from many industrial organisations. The support of the following companies in 1975 is gratefully acknowledged:

- Ames Division of Miles Laboratories (USA)
- BDH Chemicals (UK)
- Laboratoire Biotrol (France)
- Boehringer Mannheim (FRG)
- BD Mérieux (France)
- Clinical Chemical Quality Control (Finland)
- Coulter Electronics (UK)
- Dupont (USA)
- Eel Corning (UK)
- Eppendorf (FRG)
- Greiner Electronics (Switzerland)
- Hoffman-LaRoche (Switzerland)
- Merck (FRG)
- Nestlé (Switzerland)
- Warner Lambert (USA)
- Wellcome Reagents (UK)
- Zyma SA (Switzerland)

Publications Committee

Current members: Professor N.-E. Saris, Helsinki, Finland (Chairman); Dr. J. G. Lines, Cambridge, UK; Dr. D. N. Raine, Birmingham, UK.

Several Expert Panels and the Education Committee are bringing forward recommendations for publication in preliminary or final form. One route of publication is through the IFCC pages of *Clinica Chimica Acta*, under the Editorship of Professor Saris.

The following appeared in 1975:

- (1) The education and training of personnel for clinical chemistry.
M. Rubin and P. Lous,
Clin. Chim. Acta 1975, **61**, F1 - F10.
- (2) Provisional recommendation (1974) on IFCC methods for the measurement of catalytic concentration of enzymes.
G. N. Bowers, Jr., H.-U. Bergmeyer and D. W. Moss,
Clin. Chim. Acta 1975, **61**, F11 - F24.

- (3) Provisional recommendation on quality control in clinical chemistry. Part 1 – General principles and terminology. J. Büttner, R. Borth, J. H. Boutwell and P. M. G. Broughton.
Clin. Chim. Acta 1975, 63, F25 – F38.

The Newsletter, now edited by Dr. J. G. Lines together with Drs. J. Frei and A. H. Holtz as Associate Editors, was published on two occasions in 1975: firstly, preceding the IXth International Congress in the form of a welcome and introduction to the Congress and Canada; and the second which reported both the Congress and the IFCC Symposium "The clinical laboratory from an international viewpoint" referred to earlier. An Annual Report for 1974 was also published.

Education Committee

Current members: Professor M. Rubin, Washington, DC, USA, (Chairman); Professor D. H. Curnow, Perth, Australia; Professor A. L. Latner, Newcastle, UK; Professor P. Lous, Copenhagen, Denmark and Dr. M. Roth, Geneva, Switzerland.

The Committee has completed a monograph which surveys the status of clinical chemistry in 40 countries and makes recommendations concerning the education and training of directors of clinical chemistry laboratories. One chapter of this 200 page compendium was published in *Clinica Chimica Acta* (see above) and the complete document will be available in 1976.

The Committee is now considering curricula for the education and training of senior technologists working in clinical chemistry departments. It is also considering the preparation of educational programmes for quality control, and examining the potential educational value of mechanical and visual aid systems in clinical chemistry.

Committee on Standards

All scientific activities of IFCC are channelled through the Committee on Standards which provides a coordinating role for its Expert Panels and the Office of Reference Materials and Methods. The Committee on Standards also ensures and maintains scientific links between IFCC and the expert groups of other major international organisations.

Each of the Expert Panels, as well as the Committee on Standards itself, met in Toronto around the period of the International Congress. One new Expert Panel (on Instrumentation) was set up during 1975. To assist with the administrative burden related to Expert Panel activities, the Executive Board have agreed to the appointment of Dr. J. Bierens de Haan, Geneva, Switzerland as Assistant Secretary in the Committee on Standards.

The membership of the Committee on Standards is: Professor J. Büttner, Hannover, Federal German Republic (President); Dr. R. Dybkaer, Copenhagen, Denmark (Past President); Dr. A. H. Holtz, Bilthoven, Netherlands (Secretary); Dr. J. Bierens

de Haan, Geneva, Switzerland (Assistant Secretary); Dr. J. Frei, Lausanne, Switzerland; Professor A. L. Latner, Newcastle, UK; Professor P. Métails, Strasbourg, France and Dr. F. W. Sunderman, Jr., Farmington, USA.

At the conclusion of its Toronto meeting, the gratitude of the Committee was expressed to Professor J. Frei, who as a consequence of having been elected President of IFCC, had resigned from the Committee after seven years' service.

EP on Instrumentation: members – Dr. F. L. Mitchell, Harrow, UK (Chairman); Mr. C. Collombel, Lyon, France; Professor R. Haeckel, Hannover, Federal German Republic and Dr. R. G. Nadeau, Wilmington, USA.

The first official meeting of the Expert Panel took place in October at Pont-à-Mousson, France, although unofficial meetings had taken place at the Geneva and Toronto congresses. Priorities in activities have been determined and a start has been made with the preparation of documents giving guidance for drawing up instrument instruction manuals and protocols for equipment evaluation. It is hoped to complete these within two years.

EP on Theory of Reference Values: members – Professor T. P. Whitehead, Birmingham, UK (Chairman until October 1975); Dr. R. Gräsbeck, Helsinki, Finland (Chairman from October 1975); Professor G. Siest, Nancy, France and Dr. G. Z. Williams, San Francisco, USA.

The Panel's document on 'The concept of reference values, provisional recommendations' has been examined by the Associate Members of the Panel and a revised version is being prepared for publication in the IFCC pages of *Clinica Chimica Acta*. The Panel intends that its next documents will be on recommended statistical procedures for the presentation of reference values and standardised methods of blood collection.

Professor Whitehead's resignation as Chairman and from the Panel was received with great regret.

EP on Nomenclature and Principles of Quality Control: members – Professor J. Büttner, Hannover, Federal German Republic (Chairman); Professor R. Borth, Toronto, Canada; Dr. J. H. Boutwell, Atlanta, USA; Dr. R. C. Bowyer, Perth, Australia and Mr. P. M. G. Broughton, Leeds, UK; Dr. J. H. Boutwell submitted his resignation and Dr. R. C. Bowyer joined the Panel during 1975.

The recommendations of this Panel are being produced in six parts;

1. General principles and terminology
2. Assessment of analytical methods for routine use
3. Calibration and control materials
4. Internal quality control
5. External quality control
6. Quality requirements from the point of view of health care.

The first of these was published in mid-1975 in the IFCC pages in *Clinica Chimica Acta* (see earlier).

EP on Proteins: members – Professor J. R. Hobbs, London, UK (Chairman); Dr. N. Harboe, Copenhagen, Denmark and Dr. Th. Peters, Cooperstown, USA.

Agreement has been reached within the Panel on standardisation of serum total protein measurement using the biuret procedure published by Doumas (Clinical Chemistry 1975, 21, 1159) using bovine serum albumin for calibration standard. Despite the recognised imperfections of this assay, the Panel believes that serum total protein measurements will continue to be made for some years. Serum is being calibrated for a number of individual protein constituents and when complete, will provide a useful basis for standardisation of results on a world basis.

EP on Enzymes: members – Dr. D. W. Moss, London, UK (Chairman); Professor H. –U. Bergmeyer, Tutzing, Federal German Republic; Dr. G. N. Bowers, Jr., Hartford, USA and Dr. M. Hørdér, Aarhus, Denmark.

The Panel's report 'Provisional recommendation (1974) on IFCC methods for the measurement of catalytic concentration of enzymes' was published in the IFCC pages of Clinica Chimica Acta (see earlier) during 1975. It seems likely that the Panel's selection of 30 °C as the preferred reference and assay temperature for enzyme assays will be adopted on a world basis. Agreement on the status and nomenclature of enzyme units still remains to be resolved with the EP on Qualities and Units.

EP on Quantities and Units: members – Dr. R. Dybkaer, Copenhagen, Denmark (Chairman till September 1975); Dr. R. Zender, La Chaux-de-Fonds, Switzerland (Chairman from September 1975); Professor R. Herrmann, Giessen, Federal German Republic; Mr. J. Chr. Rigg, Wageningen, Netherlands and Professor O. Siggaard-Andersen, Copenhagen, Denmark. Dr. B. H. Armbrecht, Baltimore, USA, Dr. K. Jørgensen, Copenhagen, Denmark and Professor P. Métais, Strasbourg, France are no longer members of the EP but continue to be associated with its work through their Associate Membership of the IUPAC Commission on Quantities and Units in Clinical Chemistry which otherwise has identical composition.

The final Recommendations (1973) 'Quantities and units in clinical chemistry' and 'List of quantities',

which had been approved by IUPAC and published (Pure and Applied Chemistry 1974, 37, 517 and 547), were submitted to the IFCC Council at Toronto 1975. The Council voted (15 against 14) to refer the two documents back to the Expert Panel for further consideration so that the problem of quantities and units in enzymology be resolved by further consultation between the Expert Panels.

A document on the general kinds of quantities used in optical spectroscopy (e.g. wavelength, transmittance, absorbance) is fairly advanced and three other documents on spectrometry are being considered. An advanced (sixth) draft of some properties that are functions of time, i.e. the rate of changes in amounts of components in systems due to transformation, absorption or excretion, is now under discussion with interested groups in IUPAC.

EP on Bilirubin: members – Professor B. H. Billing, London, UK (Chairholder); Dr. E. Hegesh, Rehovoth, Israel; Dr. R. Schaffer, Washington, USA and Dr. C. L. J. Vink, Eindhoven, Holland.

A report on the nomenclature of bilirubin, its covalently-bonded derivatives and protein-bound forms is being prepared for publication as a provisional recommendation in Clinica Chimica Acta. It is proposed that the terms Bilirubin, Bilirubin Esters and Bilirubins (or Total Bilirubin) should be used instead of unconjugated ('indirect') and conjugated ('direct') bilirubin. Situations in a protein matrix in which the terms 'unbound' and 'bound' bilirubin should be used are also defined.

Office of Reference Materials and Methods: Secretary, Dr. S. S. Brown, Harrow, UK.

The main function of the Office is the coordination of international effort in the development of reference materials and methods. The office exchanges information with other international bodies seeking to promulgate such methods or materials, and maintains active liaison with individuals, laboratories or organisations working in appropriate fields.

Footnote: a more extensive but informal account of the activities of the Expert Panels was published in Newsletter No. 13 and the Office of Reference Materials and Methods work was fully reported in Newsletter No. 14.

The aim of this Annual Report is to inform readers about IFCC and to stimulate interest in its work. The Executive Board is always willing to receive comments and suggestions about the work and aims of IFCC.

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