IFCC GENERAL CONFERENCE
BUDAPEST NOVEMBER 9-11, 2018

IFCC Scientific Division

Achievements, Challenges and Perspectives

Philippe Gillery, MD, PhD

University Hospital of Reims, France
Chair, IFCC-SD

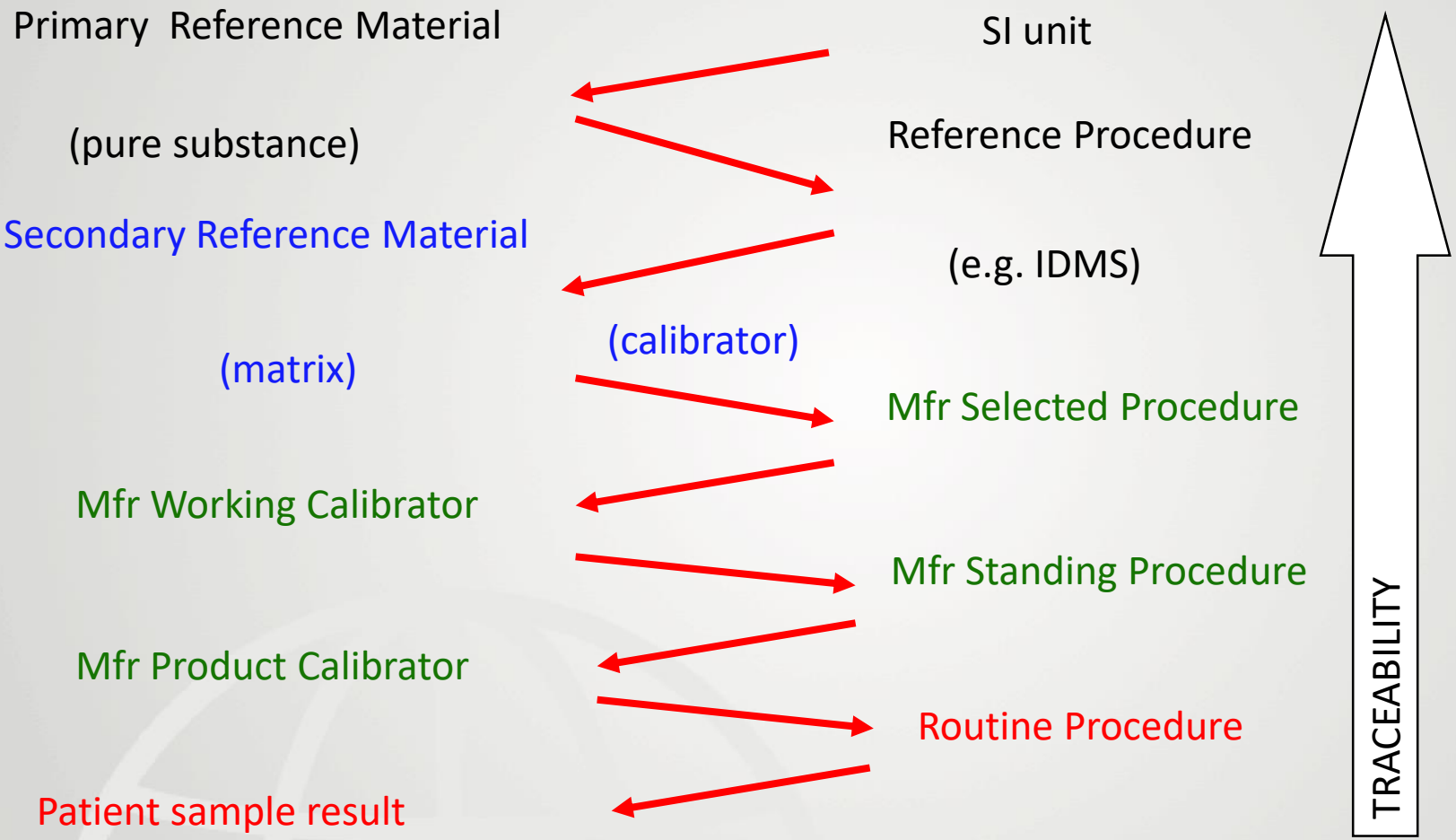
Advancing excellence in laboratory medicine for better healthcare worldwide

International Federation of Clinical Chemistry and Laboratory Medicine

To advance the science of Clinical Chemistry and to apply it to the practice of Clinical Laboratory Medicine

- By identifying technical innovations and diagnostic strategies and assisting the transfer of these to the profession
- By promoting the standardization of laboratory tests and the comparability of patient results through the development of reference measurement systems, or harmonization activities where this is not currently possible
- By establishing standards for scientific and technical aspects of good laboratory practice

Traceability (based on ISO 17511)



The ideal SD roadmap

SD - Executive Committee (SD-EC)

Name	Position	Country	Term	Time in Office
P. Gillery	Chair	FR	1st	2017 01 - 2019 12
C.M. Cobbaert	Vice-Chair	NL	1st	2017 01 - 2019 12
J. Passarelli	Secretary	US	2nd	2018 01 - 2020 12
B. Das	Member	IN	1st	2018 02 - 2020 12
K. Makris	Member	GR	1st	2017 01 - 2019 12
M. Plebani	Member	IT	1st	2017 02 - 2019 12
J.F. Pierson-Perry	Corporate Member	US	2nd	2018 02 - 2020 12
G. Miller	ICHCLR Observer	US		
G. Myers	JCTLM Chair / SD Consultant	US		
H. Schimmel	JRC Observer	BE		
Y. Wang	NIFDC Observer	CW		
C. Burns	NISBC Consultant	UK		
K. Phinney	NIST Consultant	US		

SD - EC in Milano (May 2018)

- Two face-to-face meetings per year
- Permanent exchanges by e-mails or phone calls between SD-EC members, with Chairs, and with internal or external partners
- An invaluable support : Mrs Paola Bramati

Scientific Division : Working parties

Committees	Working Groups
Theme orientated	Task orientated
Appointed Chair plus **four/five elected members** among nominees from national societies and/or corporate members	**Appointed** Chair plus **unlimited members**

Corresponding members nominated by the national societies

Development of New Projects

SD horizon scanning

Third party approach

. Assessment of need
. Determination of priority (ICHCLR)
. Development and submission of formal proposal
. Agreement on terms of reference

Approval by SD and EB
Establishment of WG or C

Work cycle with ongoing review

6 SD Committees

• Nomenclature, Properties and Units (C-NPU) in collaboration with International Union of Pure and Applied Chemistry (IUPAC)	K. Toska (NO)
• Molecular Diagnostics (C-MD)	D.Payne (US)
• Traceability in Laboratory Medicine (C-TLM)	A. Kessler (DE)
• Reference Intervals and Decision Limits (C-RIDL)	Y. Ozarda (TR)
• Standardization of Thyroid Function Tests (C-STFT)	H. Vesper (US)
• Harmonization of Autoimmune Tests (C-HAT)	J. Sheldon (UK)

18 SD Working Groups - 1

• Standardisation of Haemoglobin A2 (WG-HbA2)	A. Mosca (IT)
• Standardisation of Carbohydrate-Deficient Transferrin (WG-CDT)	J. Deenmamode (UK)
• Standardisation of Albumin Assay in Urine (WG-SAU) in collaboration with NKEDP	L. Bachmann(US)
• Standardisation of Pregnancy-Associated Plasma Protein A (WG-PAPP A)	S. Wittfooth (FI)
• Growth Hormone (WG-GH)	E. Lentjes (NL)
• Standardisation of Insulin Assays (WG-SIA) in collaboration with ADA/EASD	A. Saenger (US)
• Standardisation of Troponin I (WG-TNI)	R. Christenson (US)
• Parathyroid Hormone (WG-PTH)	C. Sturgeon (UK)

18 SD Working Groups - 2

• CSF Proteins (WG-CSF)	J. Gobom (SE)
• Standardization of Bone Marker Assays (WG-BMA)	E. Cavalier (BE)
• Commutability (WG-C)	G. Miller (US)
• Immunosuppressive drugs (WG-ID)	C. Seger (CH)
• Apolipoproteins by mass spectrometry (WG-APO MS)	C. Cobbaert (NL)
• Pancreatic enzymes (WG-PE)	D. Grote-Koska (DE)
• Fecal Immunochemical Testing (WG-FIT)	S. Benton (UK)
• Cell free DNA and related biomarkers (WG-cfDNA)	R. van Schaik (NL)
• Standardization of Procalcitonin assays (WG-PCT)	V. Delatour (FR)
• Vitamin D Standardization program (WG-Vit)	C. Sempos (US)

Strategic plan 2017 - 2019

1. **Keep and amplify the high level of involvement of IFCC-SD in the field of standardization / harmonization**

2. **Keep and amplify the visibility of IFCC scientific activities inside and outside IFCC**

3. **Prepare the future**

What has been done / is in progress ?

1. **Keep and amplify the high level of involvement of IFCC-SD in the field of standardization / harmonization**

- Continuation and/or completion of ongoing projects : **see the presentations of this SD session**
- Picking up measurement priorities :

  Close cooperation with ICHCLR : an ICHCLR observer in SD (G. Miller)
- Identification of new areas :
  - Molecular Biology and Proteomics
    - WG-cfDNA
  - Other areas of Laboratory Medicine
    (*e.g.* Immunology, Pharmacology, Hematology)
    - **Autoimmune tests (WG ⇨ C)**
    - **Drugs (WG-ID)**
    - **Fecal Hb immunotesting (WG-FIT)**
    - Hemostasis (see C. Cobbaert's lecture)

1. **Keep and amplify the high level of involvement of IFCC-SD in the field of standardization / harmonization (continued 1)**

   - **Committees : Keep a sustained activity in these theme-oriented groups of major strategic interest for IFCC**

     - **C-NPU** : Links with other international organizations (IUPAC)
     - **C-MD** : Creation of an IFCC network / identification of new tests / new diagnostic strategies worldwide

       A change : merging between C-MD and TF-Pharmacogenomics (see D. Payne's lecture)

     - **C-TLM** : Maintenance of IFCC networks (*e.g.* HbA_{1c})
     - **C-RIDL** : New approaches for establishment of reference values and decision limits / Involvement in CLSI activities
     - **C-STFT** : Important advances in standardization / harmonization and clinical outcomes
     - **C-HAT** : Challenges in new fields (see J. Sheldon's lecture)

1. **Keep and amplify the high level of involvement of IFCC-SD in the field of standardization / harmonization (continued 2)**

- **Working groups : Carefully check the creation / evolution / productivity of WGs on specific tasks for limited lifetime**
  - Analytical work completed : WG-CDT
    Implementation of the IFCC reference method
  - Near to achievement : WG-HbA2 (see A. Mosca's lecture)
  - New scientific items : eg WG-PAPPA, WG-PCT, WG Apolipoproteins by MS
  - Collaborative WGs : eg WG HbA_2 (ISTH), WG-SAU (NKPED), WG-SIA (ADA/EASD), WG-BMA (IDF)
- Ensure a dynamic process
  - WGs to close and/or transform : WG-HAT to C-HAT
  - WG-PTH + WG-VitD + WG-BMA ⇨ Committee on bone metabolism (2019) (see E. Cavalier's lecture)

2. Keep and amplify the visibility of IFCC scientific activities inside and outside IFCC

- **Active participation in all IFCC and regional federation meetings : Systematically done (if topic selected…)**
- Regular preparation of a special issue of the official IFCC journal every 2 to 3 years (last achievement : 2016 in CCA)

⇨ next in 2019 -2020

- Participation in **scientific meetings** of clinical societies in areas covered by SD (eg endocrinology, immunology, cardiology)
- **Participation and reinforced relations with partners (BIPM, NMIs, WHO), focussing on specific expertise areas of SD**

A major goal !

2. Keep and amplify the visibility of IFCC scientific activities inside and outside IFCC (continued)

Participation and reinforced relations with partners (BIPM, NMIs, WHO) involved in standardization

A major goal : Why ?

- **Successes in standardization : but for how many tests ? And how many have still to be standardized / harmonized ?**
  - ⇨ **Necessity of a global approach** involving :
    - Regulators
    - NMIs
    - Professional / Scientific Societies and Academies
    - IFCC Executive Board and Scientific Division
    - Individual Laboratory Professionals
- **Concrete actions :**
  - New contacts established with NMIs and BIPM
  - Project of a specific seminar for concretely « designing the future »

2. Keep and amplify the visibility of IFCC scientific activities inside and outside IFCC (continued)

- Participation in **IFCC structural changes** :
  Ensuring synergy with the newly created ETD
  Merging Cs/TFs
- **Increased interactions with other IFCC divisions or task forces** for identifying new markers suitable for standardization / harmonization, in cooperation with **corporate members** (importance of clinical relevance and interest for effective implementation of the tests in clinical laboratories)
  [e.g. Markers of diabetes (AGEs) : C-EUBD (EMD)

Common project SD-EMD under study : creation of a joint WG on Continuous Glucose Monitoring

3. Prepare the future

- Ensure the **maintenance of IFCC networks** (cf C-TLM)
- Reinforced links with **NMIs**
- **Focus SD activities on new areas** of clinical chemistry and laboratory medicine **and increase efficiency of the standardization approaches** (see C. Cobbaert's lecture)
- **New topics** : WG-FIT / WG-cfDNA / WG-ID
- Select and involve **new members** in SD Cs and WGs (key actors getting older or retiring, new skills required in new areas of interest) Effort started in the new nominations
- Promote the involvement of Young Scientists in SD activities with EB support

Current project : a Young Scientist as full member of SD WPs ?

Strategic plan 2017 - 2019

1. **Keep and amplify the high level of involvement of IFCC-SD in the field of standardization / harmonization**

2. **Keep and amplify the visibility of IFCC scientific activities inside and outside IFCC**

3. **Prepare the future**

Many actions realized or in progress!

SD session at the 2018 IFCC General Conference

- **5 hot topics :**
  - The urgent need of holistic standardization approaches: a typical case study (PT/INR) - Christa Cobbaert
  - IFCC involvement in harmonization / standardization of autoimmune tests: challenges in a new field of investigation - Joanna Sheldon
  - Standardization in Molecular Diagnostics : outcomes and perspectives - Debs Payne
  - Standardization of HbA_2: a long way to succeed - Andrea Mosca
  - Thematic approaches: the example of bone metabolism - Etienne Cavalier

SD session at the 2018 IFCC General Conference

- The urgent need of holistic standardization approaches: a typical case study (PT/INR) - Christa Cobbaert

Times are changing : efficiency must be improved globally!

SD session at the 2018 IFCC General Conference

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- IFCC involvement in harmonization / standardization of autoimmune tests: challenges in a new field of investigation - Joanna Sheldon

A new field with specific issues

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- Standardization in Molecular Diagnostics : outcomes and perspectives - Debs Payne

Restructuration for addressing all needs
in Molecular Diagnostics worldwide

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Eventually a "metrological" answer to
an international need in public health

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From analytical questions to
a structured answer to clinical needs

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IFCC-SD : "Scientific approaches"
at the service of all IFCC members around the world

Scientific Division : A tool for every IFCC member

IFCC-SD : Scientific "approaches“ focussed on topics concerning all IFCC members around the world

Becoming involved in the work of SD is desirable: every IFCC member society (scientific or corporate) is qualified to:

- Nominate members for positions on SD-EC or C’s
- Nominate a corresponding member in every C or WG
- Participate in a WG
- Propose a new WG or C
- **Promote young scientists (A DUTY!)**

SD - EC - Thank you!

Thank you !