



IUPAC
Chemistry and Human Health Division



IFCC
Scientific Division

Subcommittee/Committee on Nomenclature, Properties and Units (SC/C-NPU)

Minutes from the SC-C-NPU meeting in Brussels, 2006-12-03 – 05

Staus: confirmed at SC-C-NPU meeting in Torino, 2007-08-07--07

Item

1. FP opened the meeting December 3rd at 1:30 PM and welcomed the attending persons and listed the apologies received for the meeting.

Present: Ivan Bruunshuus Petersen (IBP) item 11 - 44, Rene Dybkær (RD), Urban Forsum (UF), Xavier Fuentes-Arderiu (XFA), Ulla Magdahl Petersen (UMP), Gunnar Nordin (GN), Françoise Pontet (FP, chair), Gunther Schadow (GS), and Pedro Soares de Araujo (PSA). New members were specially addressed, that is XFA as a former member of C-NPU and GS a new participant. GS shortly described his position at the Riegenstrief Institute, Indiana, US, and his engagements for HL7 and for the Unified Code for Unit of Measure.

Apologies for Henrik Olesen (HO), Daniel Karlsson (DK), Jarkko Ihalainen (JI)
2. The agenda was approved, after renumbering of the items, and with the addition of a report under item 9 on the revised EN12264 and the question of how to report correctly the dilution of a solution under item 43 miscellanies.
3. The minutes from the last meeting of SC-C-Meeting in Paris 2006-04-08 – 10 were approved with minor editorial comments.
4. Report from members
 1. A complete French translation of the terms in the NPU database has been done. The list of properties in the format of an Excel file will be web-published shortly (FP).
 2. Current US project includes LOINC, SNOMED, Unified Code for Units of Measure (UCUM), and the ELINCS project "Developing a National Lab data Standard for EHRs". Recently contacts have been taken with ISO for discussion of the withdrawn ISO 2955:1983 (Information processing -- Representation of SI and other units in systems with limited character sets). In addition it was reported the LOINC system has been approved by DIN for use in Germany (GS).
 3. Attention was drawn to recent publications in CCLM and AQA on 'protometrology' (XFA).
 4. A postgraduate project has been launched at Linköping University, Sweden, describing properties in laboratory medicine from a philosophical point of view (UF).
 5. In Sweden the implementation of NPU codes for practical use has continued – with main focus during 2006 on the field of transfusion medicine (GN).
 6. Denmark intends, together with six countries and College of American Pathologists (CAP), to create a SNOMED Standard Development Organization. A poster on NPU was presented at an October meeting in Copenhagen organized by the EU project Semantic Mining Network of Excellence and the Danish Board for Health and Welfare (UM).
 7. A prototype has been created of a searchable national database for laboratory investigation results. The properties are defined by NPU codes (UM).
 8. In Finland the national coding system is still in use, but Finland is also looking into SNOMED CT. The mapping between NPU and SNOMED CT is therefore of interest. Nomenclature for laboratory properties is also of increasing interest for Russia (in a written report from JI).

5. Membership of the C-NPU/SC-NPU. The IFCC C-NPU holds five titular members XFA, DK, IB, JI, and FP and the consultants UF and RD. The IUPAC SC-NPU consists of all the IUPAC project task group members. A new corresponding member of C-NPU, Christa Cobbaert, Netherlands, is welcomed. Corresponding members are welcome to participate in meetings, on the financial support of their national societies. In addition, Douglas Templeton, IUPAC DC VII, has expressed interest to be updated on our meeting activities.

A complete list of members in the ongoing IUPAC projects has to be created by the secretary.

XFA raised the question on the recruitment process for new project members – e.g. a possible need for a certain degree of geographical representation within the projects. No decision was made.

6. Budget for the current meeting:

Reimbursed from IFCC are: XFA, UF, RD. Reimbursed from IUPAC are GS and GN.
Reimbursed from other sources: UM, IB.

7. Activity report to IUPAC. A SC-NPU activity report for the period August 2005-August 2006 was sent out by FP, after asking contribution from everyone, to Paul Erhardt to be included in the Division VII Annual Report.

8. Reports from JCGM-WG1 (GUM) and JCGM-WG2 (VIM).

JCGM-WG1 is the body responsible for the GUM. Instead of a revision of GUM it was originally decided to publish a series of supplements. The first, dealing with Monto Carlo calculations for measurement uncertainty, will shortly be published as a JCGM ISO document. A second supplement deals with "More than one output quantity" and a third on how to assess conformity. An introduction to GUM will also be published. A possible future revision of the GUM will be discussed. IFCC will have one more representative in WG1 (RD).

JCGM-WG2: Seven organisations have been represented in the revision of VIM. The final draft of VIM 3rd edition is currently open for voting, and the final outcome of the voting is not yet known (FP).

9. New standards:

The revised EN1614 (Health Informatics – Representation of dedicated kinds of property in laboratory medicine) is now accepted and published. DK will inform ISO/TC 212 of an unfortunate printing error in figure 1.

GS raised the issue why 'the unit' is included in the NPU code and not separated from the description of the property as in the LOINC system. Without a thoroughgoing discussion of the reasons behind, it was expressed that the publication of EN1614 will help to clarify some of the remaining discrepancies between the LOINC and NPU systems.

The standard EN12264 - Categorical structures for systems of concepts - is now published. RD pointed out that this second edition standard is 'a vocabulary' rather than 'a concept system'.

10. The project 'Codes for dedicated kinds of property in clinical physiology'. Nothing new to report. Anders Thurin, chair of the project group, has circulated a first draft and further work has to be further pushed.
11. The suggested 'botanical name project' (working name). The revision of names and codes for the allergens used in NPU, will be taken care of in the ongoing CLSI project, with IB as a consultant. The remaining entries in the NPU database that include names of plants, fungi and metazoa should be given systematic names. PSA will lead the project with IB and XFA as task group members. Paul Ehrlich should be asked to participate. Also for financial reasons it is important to proceed with this into a formal project.
12. Project 'Flow-cytometry and CD markers'. It was pointed out that the focus of the project is on 'CD markers' rather than 'flow cytometry' as a technique. XFA volunteered to write a draft together with a colleague to be circulated within the group. In the future 'cytogenetics' might be considered for a similar project.

13. Data base hosting proposals. After contacts during 2005, CLSI has refused to host the database. IFCC has asked SC-C-NPU for more information about the resources needed for hosting. It was discussed that the hosting of a publication database will not be very expensive, either on IFCC and/or IUPAC web servers, or through a commercial web hotel provider for a roughly cost estimation of 500 €. Conversion and adaptation of the current database to a web publication database can be estimated to roughly 5 000 €. Major efforts will be needed for the continuous updating and management of the content of a generic database, which might need annual resources of maybe 50 000 €?

It was shortly discussed how cost for the database could be divided between IFCC and IUPAC, and if the content should be published on one or both organisations websites. Also discussed was the need for a short paper describing the essentials of the differences between the LOINC and the NPU system, in the light of EN1614. Some of the committee members were rather pessimistic to the possibilities to raise the necessary funding for the project and XFA even pondered upon the possibilities for cooperation with the LOINC-consortium.

UF promised to draft a letter as an answer to the questions from IFCC and IUPAC.
14. Abbreviations for acid base parameters for use on instrument displays and printouts. The matter has been discussed before (see e.g. minutes from Rome meeting Oct 2005). General requirements in the IUPAC Green Book and Gold Book should be followed. After further discussions it was decided to propose an IFCC-project together with WG-SEB and corporate members concerning short or trivial names for properties used on instrument displays and also for possible use in tables and figures etc. GN will draft a letter to IFCC.
15. Update on the proposal for the new name and unit for HbA1c. A supportive letter has been sent to Jocelyn Hicks through SD president Mauro Panthegini. Nothing to report from the prolonged IFCC voting process. The current position taken by ADA (The American Diabetes Association) seems to be 'a fight on another target'. The possibilities for SC-C-NPU to publish an explanatory version of the NPU proposal, e.g. as a letter to the editor of Clinical Chemistry, were discussed.
16. Website updates. A complete pdf-files of all C-NPU publications are now stored at IUPAC website. The IFCC website has links for the publications to the Danish server at Sundhedsstyrelsen.

The secretary was asked to keep a complete record of all publications, including the early publications by George Féraud.
17. Coding scheme for harmonizing transfer of clinical laboratory information in Europe. An application to the 7th framework of the EU has been planned. HO has drafted an application for the Danish 'EuroCenter'. It might, as an alternative, be possible to embed the project into a current EU project housed at Linköping University. UF will investigate these possibilities further. Both IFCC and IUPAC are informed about the plans and strongly approve them. So far XFA and FP have shared the documents for the project. At this meeting, however, XFA declared to decline from the project.
18. Revision of the Urinary calculi manuscript. Contacts have been established to Scandinavian centres for urinary calculi, for updating with the concepts in use today.
19. Status of the toxicology paper. IB has circulated his and RD comments to the believed 'prefinal' version of the manuscript. This pre-final version seems to already have been published by IUPAC, and for this reason it is not clear for the SC-C-NPU how to act in order to have the final version corrected. It was decided that FP immediately provides Jack Lorimer with the proper version of the manuscript.
20. Revision of the manuscript for function examinations. (IUPAC project 2001-067-1-700) The work will be further delayed. Today the NPU database covers the most common functional examinations. The scope of the manuscript might also be extended to cover other commonly used 'calculated properties' such as estimates of glomerular filtration rate (eGFR) and Body Mass Index (BMI). GN will collect the existing NPU entries with the help of IB.

21. Internationally agreed terminology for examinations in scientific communication (IUPAC proj. 2004-023-1-700). A draft has been circulated. It was pointed out that the project title might be deceptive. The scope is to describe how to define properties for which examination results are to be presented on the nominal scale. Primarily the project must be upgraded by the VIM 3rd edition and restructured. Comparison should also be done with the IUPAC website presentation of the project.
- Task group members are GS, RD, UF, FP, GN. Input regarding the structure is expected within 6 weeks (2007-01-15) to FP.
- During the discussion it was pointed out that nominal scale values can be adopted and changed depending on the description of the property, such as color of red wine, deepness of red color, presence of color etc.
22. Mapping of IFCC-IUPAC laboratory coding system to SNOMED CT (IUPAC proj. 2006-008-1-700). The project description has recently been updated. UM reported on the ongoing project. Notably 'observables', and not 'procedures', are mapped between NPU and SNOMED CT.
23. Securing and structural updating of information in the NPU coding system and its environment (IUPAC proj. 2006-012-1-700). As for the preceding project, a project brainstorming has been performed by all task group members for both projects during a meeting in Copenhagen on October 4th, 2006. Working schemes and charts have been set up.
24. FP reported from the IUPAC DC meeting in Brussels.
- The General Assembly (GA) will be held in Turin in conjunction with the IUPAC Congress August 2007 4th – 12th. All SC are expected to prepare a minimum of one (maximum three) poster to be presented at the GA. A printing cost of 70 – 100 \$ can be covered by IUPAC.
- During the congress, time is allocated for the symposia organised by the sub-committees. Each symposium should contain one 45 min keynote lecture from a well-known speaker and a second lecturer from SC-NPU. Suggestions of speakers shall be forwarded to FP. The preferable time for a SC-NPU symposium is the afternoon Tuesday August 7. FP will contact the organizing committee as soon as possible. The congress fee, 120 € should be asked for to be waived for SC-NPU.
- Paul Erhardt shall have the written SC-NPU activity report at the latest in June 2007.
25. Elections 2008 for IUPAC Division VII Committee.
- UF has been asked by Tom Perun to be a member of the election and PR subcommittee.
- The division committee consists of 10 members plus president and vice president. FP is a member as a SC-chairman. Three new members to be elected before the General Assembly 2007. Candidates to be provided for the election committee (chaired by Tom Perun) before January 2007. The voters are the national representatives and SC-members.
- UF volunteered to pen a letter asking candidates to step forward.
26. The activity for promotion of SC-C-NPU. The promoting project will be voted on by the DC after having passed the reviewers.
- The revision of the Silver Book is an important project and supported by DC. XFA volunteers to participate in the work. Georges Féraud was also suggested as revision group member.
- FP produces a poster on NPU for the IFCC-FESCC meeting (EURO MEDLAB) – in Amsterdam June 3rd -- 7th 2007.
- XFA arranges the traditional discussion meeting on informatics in Barcelona in March. The LOINC-system will be defended at the meeting, and NPU should therefore also be presented. GN volunteered.
27. Representation of results with SNOMED CT. In the absence of DK, responsible of this point, this item was deferred.
28. Type of scale and the NPU database. Currently, information about the type of scale is not included in the database. For various reasons it adds valuable information, and it was agreed that 'scale' has to be included in the model for the new database.

29. The preferred priority of reference authorities for elements used in the NPU database. Currently the following primary code sources are used: ATCC (bacteria), CAS (chemical compounds), E.C. (enzymes), Hugo (genes), ISBT (Erythrocyte antigens and antibodies), NCCLS (allergens), WHO (reference materials). As a secondary code source MeSH is used for items not found in any of the primary code sources. UMLS is a tertiary code source for items not found in MeSH. In case no term code is found in any of the listed sources, a code is defined for the purpose within the system (QU).
30. Data model for a new database. The model for the current generic database was presented for discussion. Clearly an information model has to be defined before a new data model can be defined. The impact of SNOMED should also be considered for the future work. GS also brought the attention to the advantages by using Lexical Grid technique for distribution of the information.
31. Consensus rules for prefixes. Units, including prefixes, for the quantities defined in the NPU are suggested according to basic ISO rules in order to give measurement values normally in the range 0.1 -- 999. In some cases double entries are needed in the system, where quantities are being measured for different purposes, e.g. monitoring of low dose compared to high dose regimens of the drug methotrexate. In the new database model, quantities distinguished solely by measurement unit could be related.
32. Codes for properties that are defined by algorithms. Reported properties in health care are sometimes defined by algorithms, e.g. Body Mass Index [body mass(kg)/height(m)² or BMI]. Using the NPU syntax it is not clear if either 'Body Mass' or 'Mass Index' should be regarded as the component of the property, and how to identify authoritative sources for the definition of these types of kinds-of-properties. There is no simple way to explain algorithms in the current database. It was agreed that properties can be defined by algorithms but no definite decision was made on how to handle Body Mass Index in the NPU system.
33. Codes in NPU for quantities without internationally agreed unit. Under item 31 were discussed quantities distinguished by measurement unit. A special case is the arbitrary substance concentrations where the measurement result is given by 'arbitrary units/l'. The unit defined locally, or 'non-internationally', might have to be used with a prefix in order to fulfil requirements for the value range. The question raised is whether arbitrary substance concentrations, with different unit prefixes, can be regarded as different quantities, or should be handled as an exception from the ordinary prefix rule discussed under item 31? The exhaustive discussion and decision were postponed.
34. The kind-of-quantity for growth hormone. The European Journal of Endocrinology has decided [*Eur J Endocrinol* 155(1): 1-2] to report only results from measurement of growth hormone expressed as mass concentration with the unit 'µg/l'. The matter was discussed, and it was concluded that with the lack of isoforms for GH and if the content of GH in reference substance is corrected for any impurity, the expression of the mass concentration is formally correct. The quantity should therefore be included in the database.
35. Nomenclature for free T4. C-SC-NPU has been addressed by a question from the IFCC WG for Standardisation of Thyroid Function Tests (WG-STFT). The C-SC-NPU recommendation has been forwarded to the chair of the WG chair, Linda Thienpont.
36. Nomenclature for carbohydrate deficient transferrin. C-SC-NPU has been addressed by a question from the IFCC WG for Standardisation of Carbohydrate-Deficient Transferrin (WG-CDT) regarding a proper term for transferrin molecules with different sialic acid residues. The term 'glycoform' was considered too general, and therefore a new and specific term for the purpose, such as 'sialic isoforms' or 'sialisoforms'. The proposal will be forwarded to the WG chair Anders Helander.
37. Can 'P—Triiodothyronine-reaction; arbitrary saturation (procedure)' be a NPU entry? The discussion and decision was postponed.
38. Codes for screening compared to confirmation investigations. The NPU database contains separate code entries for screening and confirmation investigations, e.g. for infectious diseases. The need to distinguish between properties for screening and confirmation purposes in the database is questioned. As an alternative it might be sufficient to distinguish reported results through unique procedures? Compare discussions under item 31 and 33. The discussion and decision was postponed.

39. How to report result from a 'non-examination'? During the implementation of codes for transfusion medicine in Sweden, the question has been raised of what is to be considered 'a result of an examination', if the result is not a measure value. Results might e.g. be impossible to achieve due to interfering substances, and requested investigations might for known biological reasons not be performed by the laboratory. The outcome of the discussion in SC-C-NPU was that this type of outcome of a request can be informative and should be regarded as a result of a requested investigation. On the other hand, if the investigation is not performed due to administrative reasons – e.g. missing sample, or obviously unintended request – the information ought to be kept outside the NPU system.
40. The NPU database contains currently double entries for drugs of abuse, distinguished by different procedures, either an "International Olympic Committee (IOC) procedure" or another procedure. The double entries were suggested to be deleted. Compare discussions under item 31, 33 and 38. The discussion and decision was postponed.
41. Proper nomenclature for rheumatoid factors. The discussion and decision was postponed.
42. Next SC-C-NPU meeting will be in conjunction with the General Assembly in Turin August 5th - 7th.
43. Miscellanies. SC-C-NPU has been addressed with a question on the recommended way to report dilutions of solutions. The requester, Thiago Veiga, São Paulo, Brazil, has been referred to ISO 15193:2002 for the recommended syntax.

Due to limit of time, all the postponed items on the agenda were left to further discussion and decision primarily via e-mail.
44. The meeting closed on December 5th at 01:00 PM.

[Gunnar Nordin 2007-01-21]