

Opportunities for revival of appreciation for the Anatomical Chemical Therapeutic Classification (ATC) resulting from the implementation of ISO/CEN standards for global identification of medicinal products

*Robert Vander Stichele, Work package Lead WP8, UNICOM Horizon 20/20 Action Program
Presentation held for the WHO Collaborating Centre for Drug Statistics Methodology,*

Oslo, Norway, October 3, 2023



Our dear guest and lecturer today is Professor Robert Vander Stichele

- Physician from Ghent, Belgium, with long clinical practice, combined with research projects, since 1982.
- PhD in medical sciences (2004) and teaching professor in the department of Pharmacology in the University of Ghent.
- Certified clinical pharmacologist (2009)
- His interests are in information on and use of medicines. He is member of the Special Interest Group on Drug Utilization in the International Society for Pharmaco-epidemiology (ISPE) .
- Senior-researcher in the research alliance on “End-of-Life Care”, a consortium of several Universities in Europe (Ghent, Brussels, Amsterdam and Rotterdam).
- Board member of several national and international societies;
 - The International Society of Phthirapterists (ISOP)
 - The European Society for the study of Patient Adherence and Compliance (ESPACOMP).
 - Founding member of the Board of the Belgian Centre for Evidence-Based -Medicine (CEBAM).
- Expert in the European Institute for Innovation through Health Data (I-HD)
- Work package leader for the UNICOM project on Identification of Medicinal Products, working on applications of the new ISO IDMP standards to clinical practice and medical clinical research.
- His publication list comprises more than 200 scientific papers (referenced in Medline and Web of Science).



What is ATC classification of drugs ?

ATC : **A**natomical **T**herapeutic **C**hemical

- The drugs are classified according to “**A**natomy”, **T**herapy (indication / area of use), pharmacology (mechanism of action) and **C**hemical structure
- A hierarchical WHO classification system for medicinal products with five levels (5th level has a 7-digit code, paracetamol N02BE01)

In addition: Unit of measurement **DDD**

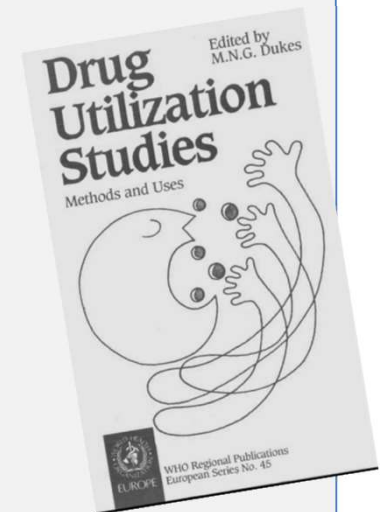
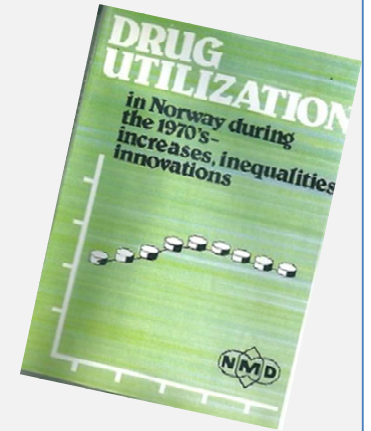
The Defined Daily Dose is the assumed **average maintenance dose per day** for a drug used for its **main indication** in **adults**.

- Linked to the ATC code/route of administration
- DDD is a technical unit of measurement independent of currency/price, pack size, strength

(Paracetamol N02BE01 has a DDD of 3 grams for all three administration routes, O:P:R)
(20 tablets of 500 mg paracetamol equals to $20 \times 0.5\text{g} / 3\text{g} = 3,33$ DDDs)

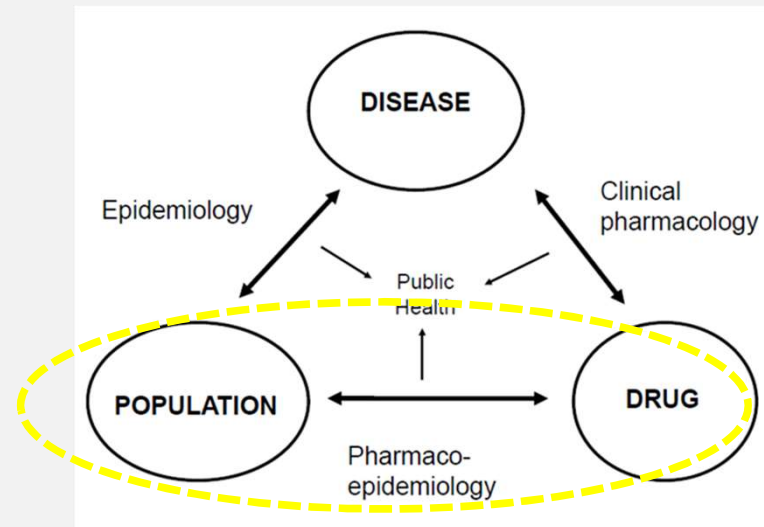
History of ATC / DDD

- Huge increase in drug development after WW2 and drug disasters (particularly Thalidomide) in 50s-60s were prerequisites which necessitated a global system for classification and quantification of drugs.
- An important study by Engel and Siderius; The consumption of drugs 1966-1967 concluded that an internationally accepted classification system of drugs was urgently needed because of lack of data and poor comparability of the available data.
- This was confirmed by a WHO symposium in Oslo in 1969
- ATC/DDD was developed in Norway in collaboration with European researchers in the early 1970s
- 1976, the “Nordic Council on Medicines” decided to publish “Nordic Statistics on Medicines” using the methodology
- 1982, The WHO Regional Office for Europe established the WHO Collaborating Centre for Drug Statistics Methodology at the Norwegian Medicinal Depot in Oslo
- 1996, agreement with the World Health Organisation in Geneva concerning the global activity of the Centre. The centre has been placed in the Norwegian Institute of Public Health since 2002



New science fields advanced studying different aspects of drug use in the population

The very interconnected science fields of **pharmacoepidemiology** and **Drug utilization studies** evolved.



The objectives are studying medical, social, and economic aspects of drug use in large numbers of people

Visions and ambitions of the ATC/DDD system

“International language for drug utilization monitoring and research”

- To serve as a tool for **drug utilization monitoring and research** in order to improve quality of drug use
- To be a **standard** hierarchy for drug classes
- Using International Non-proprietary Names (**INN** name) as basis for 5th level naming when possible

How and where is ATC is incorporated in different systems in Norway and in equivalent systems in other countries

Examples from Norway:

- Norwegian Prescribed Drug Registry and Wholesaler-based drug statistics
- Norwegian Product Register (Farmalogg) a coop. between many stakeholders
- Prescribing support system (FEST) administered by the Norwegian Medicines Agency
- National Health registries and data bases
- Electronic Patient Records in primary and secondary health care
- Medicine catalogue (Felleskatalogen)
- Norwegian medicine handbook (NLH)

(And internationally: Medicinal dictionaries e.g., WHODrug Global and international drug textbooks such as Martindale)

ATC/DDD has served to its purpose for almost 5 decades

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