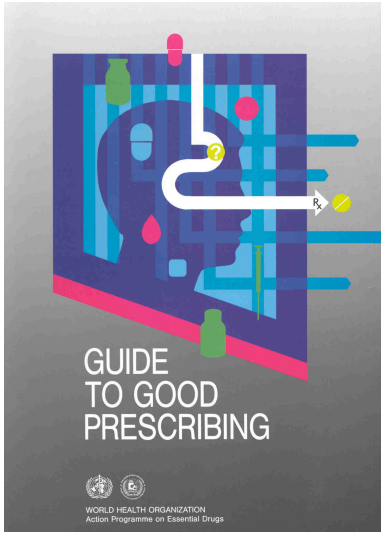
Promoting problem-based pharmacotherapy teaching with the WHO Guide to Good Prescribing



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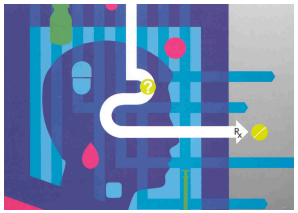
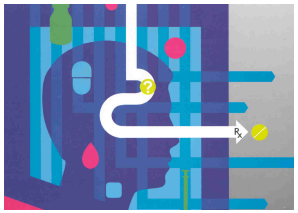


The beginning: 1989

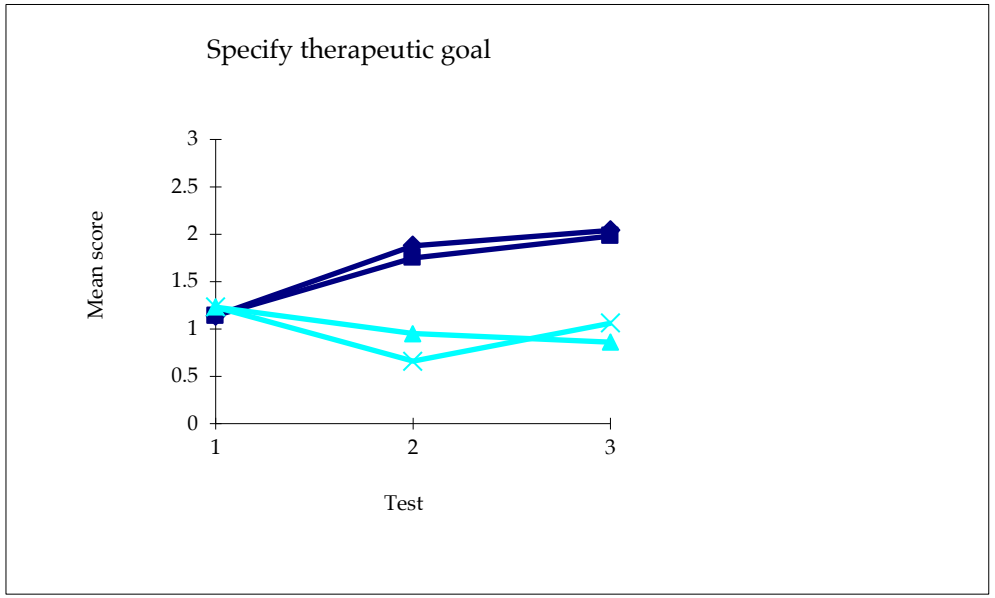
- WHO hears about special way of teaching pharmacotherapy in Groningen (problem-based pharmaco-therapy teaching)
- Key attraction for WHO: The methods teaches students to make their own personal essential medicine list (“P-drugs”)
- The Groningen method was used as the basis for a WHO book: “Guide to Good Prescribing”; first used for field test.

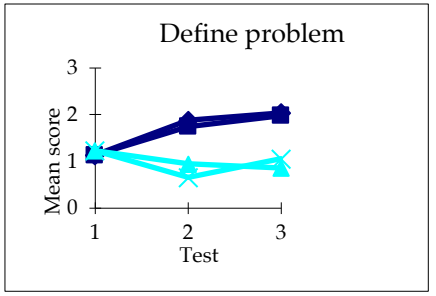


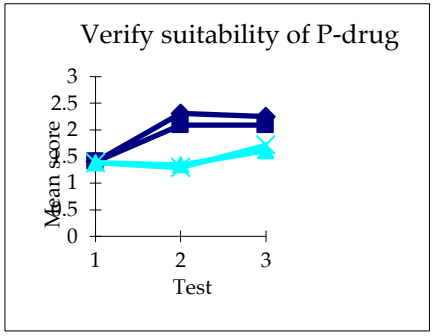
1991-1992: Global Field test with 184 students

Groningen, S.Fancisco, Newcastle, Lagos, Yogyakarta, Delhi, Kathmandu

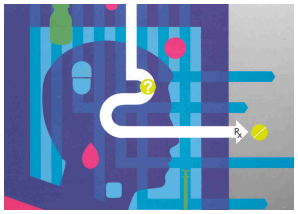
(De Vries TPGM, Henning RH, Hogerzeil HV, et al. Impact of a short course in pharmacotherapy for undergraduate medical students. ***Lancet 1995; 346: 1454-7)***







Retention effect	**1.14**	**1.88**	**2.04**
Transfer effect	**1.14**	**1.75**	**1.98**
Retention effect (controls)	**1.23**	**0.95**	**0.86**
Transfer effect (controls)	**1.23**	**0.66**	**1.06**



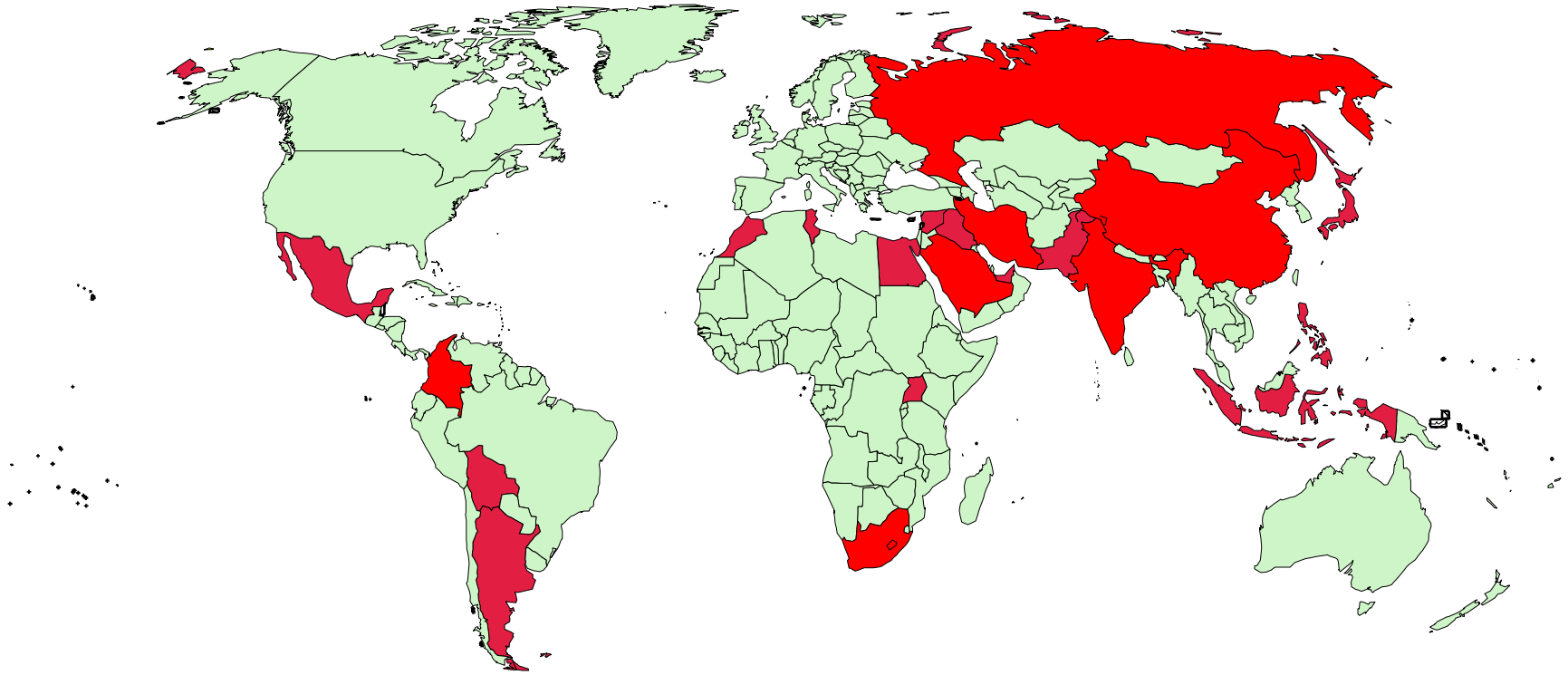
Promoting the Guide to Good Prescribing

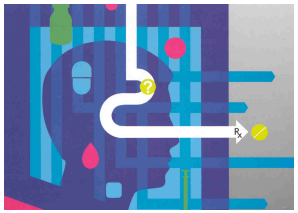
1991-1992	**Global field test**
1994	**Guide to Good Prescribing issued**
2-w training courses	**Groningen (1995-2000)**
	Cape Town (1996,1997, 2000)
	La Plata (1999, 2000, 2001)
	Manila (2001)

Current languages

Albanian, Arabic, Bengali, Bosnian, Burmese, Catalan, Chinese, English, French, German, Indonesian, Italian, Japanese, Mongolian, Portuguese, Romanian, Russian, Serbian, Slovakian, Spanish, Turkish, Vietnamese

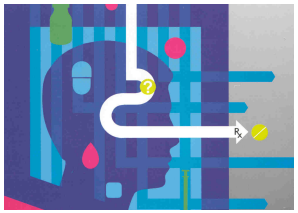
National courses, 1995 - 2002





Logical framework

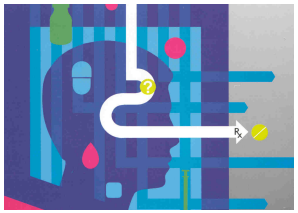
1. **Define patient's problem**
2. **Specify therapeutic objective**
3. **Chose (drug)treatment**
   a: Define your P-drugs (personal formulary)
   b: Verify suitability of your P-drug in this case
4. **Write prescription**
5. **Give information, instructions and warnings**
6. **Monitor (and stop?) the treatment**



Teacher's Guide to Good Prescribing Overview (1)

Part 1: How to teach pharmacotherapy with the GGP

- The role of the teacher
- How to formulate learning objectives
- How to make good patient examples
- Teaching notes to each chapter
- Developing critical appraisal skills
- Application in primary care settings



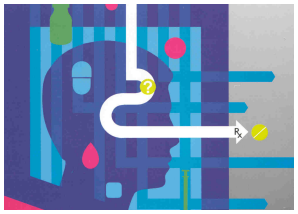
Teacher's Guide to Good Prescribing Overview (2)

Part 2: How to assess students, teachers and the course

- How to assess the students
- How to assess the teachers
- How to assess the impact of the training

Part 3: How to mobilise support

- How to mobilise support for problem-based pharmacotherapy teaching



Part 1 * Part 2 * Part 3
How to construct good patient examples (A. Smith)

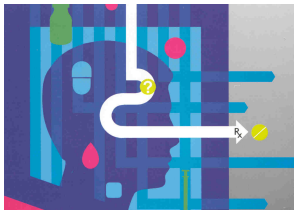
Select the most appropriate drug for this patient:

A 23-year old woman has had three witnessed grand mal convulsions. No lesion is demonstrated after full investigation. There is a strong family history of epilepsy.

Straightforward case, but may be complicated by oral contraceptives. Group may decide to prescribe phenytoin

A 23-year old pregnant woman has had three witnessed grand mal convulsions. No lesion is demonstrated after full investigation. There is a strong family history of epilepsy

NB: Consider risk of teratogeneticity of anticonvulsants

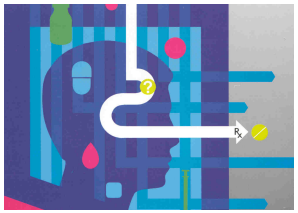


Part 1 * Part 2 * **Part 3**

How to mobilise support (Hogerzeil)

Arguments in favour of problem-based learning:

- **Good teaching is based on learning objectives**
- **Pharmacotherapy is more than knowledge; it is a skill**
- **Drugs change; current knowledge is not enough for life**
- **Students love problem-based learning**
- **Problem-based pharmacotherapy now can lead to a problem-based curriculum later**

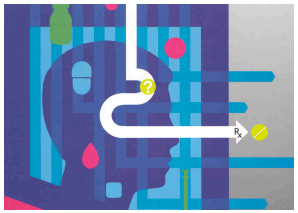


Part 1 * Part 2 * **Part 3**

How to mobilise support (Hogerzeil)

Arguments often used against problem-based learning:

- **Scientific knowledge about drugs is important for students**
- **We cannot change to a full problem-based curriculum**
- **There is no time in the curriculum**
- **There are not enough teachers for small-group teaching**



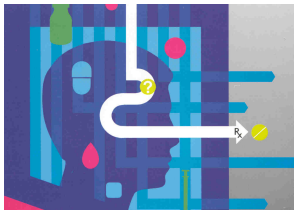
Part 1 * Part 2 * **Part 3**

How to mobilise support (Hogerzeil)

Strategy to change:

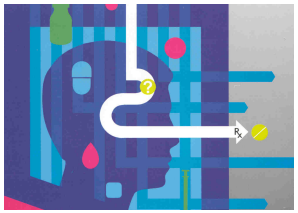
1. **Study the subject (attend one of the PBPT courses)**
2. **Inform colleagues; obtain permission to try something**
3. **Start optional/elective PBPT sessions**
4. **Evaluate these sessions; record student satisfaction**
5. **Expand and adjust the programme as you go**

NB: Students are your best supporters!



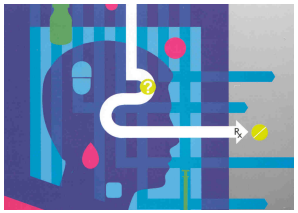
New developments

- After 2000: Australian Prescriber Service included work on basic curriculum (initiated by A. Smith)
  - 12 patient cases for undergraduates, linked to Australian materials
  - 6 patient cases added for registrars
  - Six-step method used by 8/9 medical schools in Australia
- 7/8 medical schools in The Netherlands use the 6-step method (called “P-scribe”) – with common electronic pool of patient cases for self-study



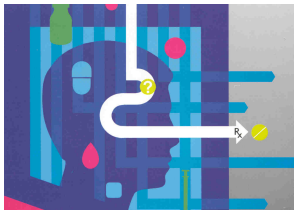
New version of GGP needed?

- **Sections that need updating:**
  - **Introduction (taxi driver with cough, codeine)**
  - **Evidence-based selection**
  - **How to get independent information**
- **But is it needed?**
  - **WHO has done its advocacy; goal has been achieved**
  - **Problem-based Pharmacotherapy Teaching has clearly started to live its own life**
  - **WHO is not strong in further development of training methods; should be done by universities themselves**



Are early opposition arguments still valid?

- **Personal formulary vs global guidelines:**
  - Guidelines International Network (GIN) current consensus: global evidence is universal but leads to different national guidelines (national preferences, prices influence final choice)
  - Solution: Teach students access to global evidence and national guidelines, teach them how these were achieved, and teach them to make their own personal choice within those guidelines (both for personal formulary and for the patient)
- **Western teaching methods cannot be imposed on low- and middle income countries; this is too difficult for them**
  - This argument was considered false in 1994 and still is. All universities strive for highest standards.



Possible future:

- Further development of central database / website of patient cases, accessible by other universities
- Update of GGP, but only in electronic version?
  - Review of general introductions used by various universities, combination of key points into one “generic” introduction of the concept?
  - Some sort of student self-learning manual?
- But question remains: Is it needed? Which problem are we trying to solve?