

# Design and Development of the New Preclinical Practice Skills (CPS) Program at the University of Geneva

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## Summary

*In the Fall of 1995, the University of Geneva Faculty of Medicine has started a new integrated Problem-Based Learning curriculum which spans from the second to the fifth year of the six-year curriculum. A new Preclinical Practical Skills (CPS) program runs parallel to 16 problem-based learning (PBL) units from the 2nd to the 4th year. The objectives of the CPS program are to prepare the students with basic clinical skills and competencies necessary before entering the clinical clerkships in the fourth year, as well as other skills necessary to the practice of medicine. This paper provides a description of the content of the CPS program. It describes the working structure implemented to develop the program with the objectives to ensure a progressive acquisition of the various competencies and to emphasize a vertical integration with the problems of the PBL units. Appraisal after the first year of implementation and perspectives for the future are discussed.*

## Introduction

In October 1995, the University of Geneva Faculty of Medicine has started a new integrated Problem-Based Learning (PBL) curriculum designed to span from the second to the fifth of the six-year curriculum. The first year is not presently included in the new program, and the sixth year, an electives year, remains unchanged as well. The new PBL curriculum has been designed to emphasize, among other principles, that the medical training should:

- Orient the training toward community health care priorities.
- Integrate the teaching of basic, clinical and psychosocial sciences.
- Emphasize early acquisition of clinical skills with a more practice-based training.

The new curriculum is divided into 15 problem-based learning (PBL) units and one Integration unit from the second to the middle of the fourth year, followed by 10 medical clerkships from the second half of the fourth year to the middle of the fifth year. The clinical curriculum is concluded with a final Integration Unit. A more detailed description of the overall design of the curriculum is provided in the articles by Vu et al., Baroffio et al. and Perrier et al.<sup>1-3</sup>

Early in the planning of the new curriculum, the Faculty has decided to create a Preclinical Practice Skills (CPS) unit running parallel to the 16 PBL units (Figure 1). The Faculty allocated 2 x 2 hours a week to implement it.

## Objectives and themes of the CPS program

In the traditional curriculum, only history-taking, physical exams skills and some technical procedures were taught in the third and fourth years of the curriculum. The objectives were poorly defined, the seminars were not assessed by students or tutors, and the students were not formally evaluated. Therefore the development of the new CPS program has been a challenging opportunity for the Faculty to greatly extend the teaching of clinical skills, to redefine the objectives and teaching methods, and to implement a formal assessment of the clinical skills.

## Objectives

The objectives of the CPS program are to prepare students with basic clinical skills and competencies necessary before entering the clinical clerkships in the fourth year, as well as other skills necessary to the practice of medicine. The CPS program was designed to ensure a progressive acquisition of the various competencies and to emphasize a vertical integration with the themes and problems of the PBL units.

## Themes

By clinical skills we mean the practical and communication skills that are necessary in encounters with patients. These include (Table 1):

- History-taking and physical examination skills of various organ systems or complaints, which are taught in parallel to the corresponding PBL unit. For example, the neurological examination is trained in parallel to the Perception and Motor Control Unit at the beginning of the 3rd year.
- Communication skills, which are trained by three consecutive and coordinated programs with the objective to ensure progressive acquisition of these skills (Figure 1.). After a four-seminar introduction to the medical interview, the students follow a 10-session program on doctor-patient communications, where the focus is more on how to communicate. Then the students will be exposed to a 4-session program on patient education skills.
- Technical skills in patient care, for example: drawing blood, practising different types of injection, infusion, bandaging, behaving in the operating theatre. Students are also taught fundamental principles of radiology and laboratory procedures, and trained for emergency procedures.
- Issues related to medical ethics, legal and forensic medicine, and history of medicine which are approached from a very practical perspective.

- Community-oriented program covers epidemiology and social and preventive medicine. Students attend workshops on the organization and the functioning of community network services.
- An introduction to ambulatory and primary care program where each student is assigned to a practising physician and follows the same patients over a two-year span.<sup>4 5</sup>
- A one month program in a community setting where the students will work up a particular health problem and participate in the functioning of various community services. A more detailed description of this program is provided in the article by Chastonay et al.<sup>6</sup>

## Organization of the CPS program

The coordination and integration of the numerous themes of the CPS program as well as the number of persons involved in its development required to implement an integrated working structure that we shall discuss in some details.

### Working groups of the CPS themes

Each theme of the CPS program is supervised by a director who lead a working group. This group is responsible to elaborate the objectives, teaching methods, and evaluation of a series of seminars. They also write a booklet for each seminar which describes the specific objectives of the seminar and provides guidelines to the tutors. The director also recruits the tutors.

### The Committee of the CPS program

The CPS Committee meets every three weeks and is composed by the directors of the CPS program themes. The Committee reviews the programs, the booklet of the seminars, the program evaluations, and supervises the integration of the CPS program with the PBL units. The membership directors of the CPS themes in the Committee has several advantages:

- It ensures discussion among faculty members from different fields which is very helpful for the design of the program and facilitates the consensus on the overall program.
- It allows to identify more easily the missing or redundant objectives.
- It facilitates an horizontal integration of the program as well as a progressive acquisition of skills.

### Integration with the PBL units

To coordinate the CPS program with the PBL units is one of the most interesting challenge of this new curriculum. As it is for the CPS program, each PBL units is developed and reviewed by a specific working group. Both the PBL units and the CPS program are supervised by the Committee of the 2nd and 3rd year curriculum. This Committee is composed of the directors of the PBL units and various representatives of transversal disciplines of the curriculum. To aim at a good coordination between the PBL units and the CPS program, a three steps procedure has been implemented. In a first step, the CPS Committee and the PBL units review separately their program based on the students' and tutors' evaluation at the end of each unit, and the

students' test results. In a second step, an annual plenary session is planned to ensure direct contact between the members of the PBL units working group and the directors of the CPS themes running parallel to this unit. This step allows to identify missing or unnecessary redundant objectives, to better coordinate the objectives, to choose the best sequence possible between the PBL problems and the CPS seminars, and to schedule the different teaching activities well in advance. In a third step, the Committee of the 2nd and 3rd year curriculum organizes an annual plenary session for each PBL units. Both PBL unit working group members and CPS themes directors of the specific unit are invited to present their program. The Committee review and verify by unit the quality, the relevance, and the coordination of PBL problems and CPS seminars.

## Evaluation

At the end of each unit, the students fill out an evaluation form for each seminar. They also give an oral overall evaluation of the program at the end of each module. As for the PBL units, the students are formally evaluated for the CPS seminars at the end of each module (twice a year). The CPS program is evaluated by a 2-hours multiple-choice and short-answer written exam and a 2 hours multiple-station exam with standardized patients.

## Appraisal after the first year of implementation

### Program evaluation

All seminars have been formally assessed by the students. With very few exceptions, the seminars have been highly rated. The students found them well organized, the topics interesting, and the tutors stimulating and enthusiastic. Evaluation by the tutors was also generally positive. They found the students motivated and the seminar booklets useful. Some problems have been identified by the tutors. Clinicians found the objectives of some history-taking and physical examination seminars not adapted to the level of 2nd year medical students. Several tutors found that they were not well-trained for leading the seminars, especially they found themselves uneasy with role playing and some issues related to group dynamics. To coordinate the CPS program with the PBL units has been a challenge that has not been fully solved yet. One of the main reason is that the introduction of clinical skills teaching in the second year, a preclinical year, was a major change compared to the traditional curriculum. This early exposure to clinical skills has been appreciated in various ways by both basic scientists and clinicians. There was some anxiety from basic scientists that the preclinical curriculum became too clinically oriented. Clinicians raised doubts that students can learn clinical skills before mastering basic sciences. The three steps approach described above has been designed to foster communication between faculty members involved in the different part of the overall program. We hope that this working structure will effectively improve coordination and will progressively meet expressed concerns.

## Students' evaluation

Students performed very well at the written and multiple-stations exams. According to the supervising clinicians, students demonstrated an unusual ability to integrate history-taking, communication and physical examination at such an early stage of their medical training. Variable performance on some items of the multiple-station exams allowed us to identify unwanted differences of teaching among tutors. It also provided us with objective data to better clarify the level of competence that we expect at this stage of the medical training.

## Perspectives for the future

Despite the generally favourable reaction to the program, some points merit further revision. There was a sense that the program suffered from a « coveritis » syndrome. Based on the evaluation of the first year implementation, learning objectives will be revised and adjusted to the level of the students. Finally additional faculty development workshops are presently planned to address various aspects of groups dynamics and teaching methods.

## References

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