

# Problem-based learning in primary care at University of Ribeirão Preto (UNAERP) in Brazil

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## Dear editor

We read with great interest the excellent paper by Pruitt et al<sup>1</sup> who presented a problem-based learning (PBL) approach to system-based practice medical education. Because a PBL medical teaching approach in primary care is rare, we would like to report our experience on this strategy as well.

We have been using the PBL method in our medical course before the clerkship since 2003. In view of the fact that pre-university education is deficient and totally lecture-based,<sup>2</sup> we have had to make some changes to adapt PBL to our educational reality, mainly testing application (multiple-choice questions) before, and some lectures following, the reporting phase of tutorial sessions.<sup>3,4</sup> However, we had not used PBL in primary care until 2016.

In Brazil, the Unified Health System provides universal health coverage for more than 170,000,000 people in a public decentralized and hierarchical network of primary, secondary, and tertiary health care services. A key part of this increasing access to health care is the Family Health Program (FHP). Unfortunately, the system is underfunded, and the health professionals are not sufficiently prepared to work in such a complex health system. Because of this, we have been implementing system-based practice in our medical course in a PBL environment since 2016.

From the first to the third year, once a week, small groups of medical students perform low-complexity consultations and home visits in FHP units supervised by experienced preceptors. Students record and present the clinical cases at the analyzing phase of a tutorial session. Trained tutors guide the students in clinical discussion according to the PBL steps, and the students establish the learning goals for the self-directed study. Two weeks later, in the reporting phase, the case is re-examined and a care plan (CP-1) drawn up.

The following week, students in small groups return to the FHP unit to discuss the purposes with the healthcare team workers and an adjusted version of the care plan (CP-2) is obtained and applied to the patients and families. Each learning circle starts from the first attendance or home visit when the needs of the patient and families are identified, and finishes on the second attendance when CP-2 is applied. Students' cognitive assessment is performed through a multiple-choice test before the reporting phase, and formative assessment is performed at the end of each tutorial session, including self-assessment and feedback.

After 1 year of working with this learning approach, we believe that this structured reflective practice is more appropriate to develop clinical reasoning than the traditional

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case discussion. The students prefer this approach because it allows them to put their acquired theoretical knowledge in practice. Furthermore, by applying the method PBL to primary care teaching, i.e, providing specific content in a real case-problem, critically reflecting on the problem at hand, and working in the place where they will develop their medical activities in the future, we feel that we are preparing the students to offer a high value, cost-conscious care service.<sup>5</sup>

We think that system-based education with a PBL approach would prepare the future doctors to face the challenges of the Brazilian Health System.

### Author contributions

All authors elaborated, designed, drafted, revised, and approved the final version of the manuscript.

### Disclosure

The authors report no conflicts of interest in this communication.

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## Authors' reply

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## Dear editor

We are grateful to Romão et al for their comments about our recently published manuscript outlining the development of the health systems curriculum.<sup>1</sup> We read with interest that Romão et al have recently implemented problem-based learning (PBL) strategy in primary care clerkship (PCC). We have employed a similar approach at the PCC of our University of South Florida Lehigh Valley Health Network campus, which is also a longitudinal clerkship offered concurrently with other traditional clerkships in blocks. The longitudinal clerkship gives the students an opportunity to experience the ways in which primary care physicians connect with patients over time. Students are assigned to the same faculty member longitudinally at each site (Family Medicine, Internal Medicine, and Pediatrics). This helps the students establish a relationship of trust and mutual respect with their assigned attending faculty, which permits them to take on greater responsibility as the year progresses. The longitudinal PCC complements the traditional block clerkships. Our students benefit from the enhanced physician and patient contact due to the longitudinal nature of the PCC and benefit from the unique educational practices that are challenging to come by in traditional block clerkships. Some other medical schools have employed a similar strategy with encouraging outcomes.<sup>2,3</sup>

Additionally, in our SELECT pre-clerkship curriculum, we have been using an interprofessional education (IPE)

approach where medical students work with pharmacy and nursing students as a team. The students begin to solve a hypothetical case using PBL approach in a team (small group) during their first session and then interact with a standardized patient (an actor/ actress portraying the patient in the case). The case has value-based patient-centered care and health system curriculum components. The students collaborate as a healthcare team and discuss the management plan with the standardized patient. Lastly, but most importantly, students and faculty preceptors visit and interact with a real patient suffering from a similar disease to understand health system issues the patient faces in the real world. Students receive a formal feedback in person from faculty preceptors of medicine, pharmacy, and nursing. Students appreciate these IPE sessions as they can better relate to the patient in their personal environment. We share high student satisfaction cited by Romão et al in this respect.

In the SELECT clerkship curriculum, students are also given problem-based learning exercises to expand their knowledge of health systems. For instance, in their medicine clerkship, they get an assignment to analyze the testing done in the first 24 hours of a hospital stay on one of their patients. The prompts for the exercise include evaluation of what tests were chosen, what alternatives were available, what was the sensitivity/specificity of the tests ordered, and was there something more cost-effective that could have been ordered. They get a similar exercise based on super-utilizer patients in their PCC.

As outlined in our recent manuscript, we have employed a PBL approach to teaching health systems curriculum incorporating health care system topics of the USA and around the globe.<sup>1</sup> We would encourage Romão et al if they have not already done so, to apply a PBL approach to health systems curriculum to evaluate the performance of Brazil's Unified Health System, the need for improvement in cost, quality, safety, and access, and the role of the physician in health system transformation.

## Disclosure

The authors report no conflicts of interest in this communication.

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