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The time has come for Brazil: translating Competence Based Medical Education into practice by Entrustable Professional Activities (EPAs)*

Tempo do Brasil traduzir para a prática o currículo Médico Baseado em Competência por meio de Atividades Profissionais Confiáveis (APCs) (resumo: p. 13)

Tiempo de Brasil traducir a la práctica el Currículo Médico Basado en Competencia por medio de Actividades Profesionales Confiables (APCs) (resumen: p. 13)

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The medical competencies presented by the National Curriculum Guidelines and the policies to encourage the education of more physicians have popularized themes such as competence and active learning. Distortions in the curricular implementation resulted in a fragmented and reproductive approach of the practices distancing them of the work process. Several Western countries seeking improvement of the Competence-Based Medical Education (CBME), have recently adopted the concept of Entrustable Professional Activities (EPAs) to better translate this benchmark into clinical practice. This article presents the EPAs for Brazilian medical education as a possible solution for CBME accomplishment. The study explores the EPAs, from their concept to their realization. It aims to provide insights for their understanding and analysis of their capacity as a mediator for more qualified training and more responsivity to local health needs, contributing to the literature in the area.

Keywords: Clinical practice. Competency. Curriculum. Entrustable professional activities. Medical education.

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In Brazil, the National Curriculum Guidelines (NCG) call for medical curricula to be committed to a Unified Health System[1,2]. The NCG of 2014 emphasize quality of care and critical thinking as key goals for medical education. This should be approached on the best evidence considering principles of Evidence-Based Medical Education (EBME) and using Competence Based Medical Education (CBME) as framework to convey the needed competencies in a medical program[2]. As result of the government's policies to encourage the graduation of more physicians, the number of medical schools increased to 336 in Brazil, heating the investment market in this niche and popularizing themes such as Active Learning and Competence[3-9]. If on the one hand we face positive transformations[8], on the other hand, the speedy acquisition of material resources and bureaucratic construction for activation of courses with curricula of competence was faster than the qualified preparation of human resources, which was supposed to lead this new context[10-11]. Thus, distortions in the curricular evaluation and implementation have resulted in a fragmented and reproductive approach of the practices with distance from the actual variables of the work process[10-12].

Several Western countries, including: United States, Canada, and Netherlands, are seeking the improvement of CBME, and have recently adopted the concept of Entrustable Professional Activities (EPAs) in the better translation of this benchmark into clinical practice[13-19]. Therefore, this work resumes the care inherent to the implementation of competency-based curricula and discusses EPAs from its concepts to its realization, presenting them as a feasible solution for a readjustment of directions in the design of medical education in Brazil.

Ideas about competencies in the medical profession had emerged first in literature in the seventies and eighties of the last century, they soon became a milestone in the Western medical education. They occupy great prominence in the curricula that, now, guided by competence, should enable the egress to correspond to the desires for empathy, commitment and quality care[20].

Since the late 1990s, national education and health policies, according to Lampert, have been aimed at encouraging qualitative and relevant curriculum changes that respond to social needs and whose success is linked to the reach of their practices in the social context in which they operate. It seeks to formalize the commitment of a generalist medical education that ensures competence for the immediate insertion of the professional in the labor market, whose quality care is focused on health surveillance, teaching-service integration and ability to teamwork[21,22].

Sá and Paixão found converging characteristics in the various concepts of competence: their hybrid, multi-dimensional, complex, mobilizable and transferable constitution, as well as their practical and combinatory nature[23]. The competence-oriented curriculum may differ in its approach from the result-oriented functionalist, the constructivist related to the social construction of competence and the dialogical competence-based curriculum that considers meaningful learning[24], values the student's insertion in the practice scenarios and the development of their autonomy[25]. In this sense, the dialogic framework translates competence more broadly, considering its application to real life, where learning is the result of social interaction[25-28].

In the past 15 years, in our medical schools, the CBME framework, in its different strands, has become widely adopted by Brazilian institutions[1,2] due to its characteristics, which are knowledge, attitude and skills valorization, attention to students and prioritization of results in order to provide excellence in training in the areas of competence in health care management and health education.

The Royal College of Physicians and Surgeons of Canada, in its CanMEDS (Canadian Medical Education Directions for Specialists) Project, has published important medical education material that groups in seven roles the medical practices that a competent physician must be able to integrate to meet quality and safety to people's health needs. The document points out key competencies and scope for each function leaving the "medical expert role" as the central and integrative role for the practice of medicine[29].

It is noted at CBME, that the proximity between classroom education and service-based vocational training is a differential that could ensure dynamism, integration between disciplines, professions and emphasizes the longitudinal and permanent knowledge-building aspect[30].

The reality, is therefore, an indispensable scenario in this curriculum approach, contributes to making it critical, reflective and proactive. However, these potentialities, of the CBME may fade in the face of functional curriculum implementations or contaminated by traditional paradigms and current economic model[21,31].

Gonczi, in 2013[32], pointed out naive and partial apprehension of the concept of competence, as responsible for reductionist and behaviorist training, compromising its holistic nature, as well as evaluation processes interfering in the theory and practice integration. While Lindsay warns about the risks of naturalization of the term and the "individualist making" caused by the lack of real context[33]. The procedural reading of the practices was also identified by other authors who, looking for better results, began to question the way in which competencies were being constructed[18,30,32] and its evaluative approaches[28,32,34-38].

In Brazil, there are challenges for the implementation of dialogic competence. The development of competency grids with knowledge, skills and attitudes separated and disconnected from the context of health care, hinders the integration, appropriation of learning and its action in the face of different health situations[32-34]. Another weak point is the student's early interaction in the practice setting, contextualized learning[22,32]. Difficulties stand out in the implementation of the epidemiological-social theoretical approach, in the establishment of pedagogical models that promote interdisciplinarity, the early insertion of the student in the real scenario, favoring teamwork, building autonomy and their humanist, moral and ethical formation[22,39-41].These findings, are exacerbated by the poor local tradition in formative assessment and incipient teacher training programs[10,11,21,22,39,41-43].

Since 2005, the concept and application of EPAs, initially proposed for postgraduate studies, has emerged as new and more promising approach in the CBME's materialization in medical graduation, decoding it, in daily practice, in effective and safe medical care[15,34,36-38,44,45].

In 2014, the Association of American Medical Colleges (AAMC) proposed 13 core EPAs for the achievement of United States (US) competency framework for the medical course and started a pilot study in ten American medical schools that have been adopted this tool and demonstrated the feasibility of its use[19].

The number of EPAs has varied: the Canadian Association of Faculties of Medicine (AFMC) has recommended, since 2016, to overcome the difficulty in assessing the skills foreseen for national curriculum structures, which part does not refer directly to medical activities, the use of 12 APCs to effect the Canadian CBME[17]. In Utrecht, the new CBME is worked through five broad EPAs, while in PROFILES, curriculum guidelines for the Swiss medical course, its fourth chapter presents nine EPAs for medical education in that country[14,46].

Study by Meyer et al.[47] about publications in the literature relating EPAs, medical graduation and evaluation, between 2014 and 2018, located 1089 articles. Of these, 71 were scientific articles. 83.5% of them characterized positively the EPAs. Among the empirical studies (26), the results were positive in 76.7%.

Although with short-term results, two schools in Latin America have successfully adopted EPAs to instrumentalize their CBME as presented at the AMEE (Conference for Medical Education in Europe) Annual Conference 2019 in Vienna[48,49].

Considering consistent experiences such as those cited, the authors conduct this perspective analysis and present the EPAs as a possible solution for better results in the implementation of CBME and qualified and safe care to the population's health needs accepting the ability of EPAs to approximate theory and practice[14,38].

The EPAs are professional practices that should be developed on a daily basis, therefore, in the practice scenarios, under the direct supervision of the teacher, and in immersion with the relations of the care production, interacting with cognitive, technical, humanistic aspects, relational, organizational and management. This is one of the supports used to point it out as a tool aimed at mediating the CBME[13,15,16]. However, as we detail its concept and application, several elements will be pointed out.

The concept of EPAs is based on single EPAs, which together build the real-life tasks done by a profession. Each EPA represents an activity, or unit of practice, of what the physician should accomplish as a component of his professional duty. ten Cate[34] defined that EPAs:

> 1 are part of essential professional work in a given context; 2 must require adequate knowledge, skills and attitude, generally acquired through training; 3 must lead to recognized output of professional labour; 4 should usually confined to qualified personnel; 5 independently executable; 6 should be executable within a time frame; 7 should be observable and measurable in their process and their outcome, leading to a conclusion ('well done' or 'not well done'); and, 8 should reflect one or more of the competencies to be acquired. (p. 1177)

The EPAs are intimately connected to the context of the clinical work, to the society where it is inserted and to the health needs of the local population. Therefore, EPAs happen in real life, in the world of work, and in coping with the challenges that the day-to-day imposes on the profession exercise[34,36-38].

When considering the reality and dispensation of health care, the development of EPAs allows a holistic look with a wide range of learning opportunities that involve the care of the individual, family and community, the work process, health services, public policies and social commitment[36,50].

Now, how does the EPA concept enable a medical student to accomplish a professional task while preserving the patient's integrity, the effectiveness of the action and the acquisition of knowledge, skills and attitudes in his own learning time process?

In this concept, EPAs have two more important key characteristics in addition representing a professional activity: for its realization is mediated by a trust attribution (entrustment decision) made by the supervisor and the last point is that the EPA practice requires supervisor feedback in form of different levels of supervision[37].

The entrustment decision considers the capacity of the student to perform procedures and to take decisions independently, but is time-guided, depends of various factors and tends to respect the student learning curve in a constructive friction way. The four important aspects that may influence the decisions are: 1- the conditions of the student; 2- the personality of the supervisor; 3- the environment and circumstances (e.g., the time, place, facilities, team and patient) in which the activities are executed; and 4- the nature and complexity of the activity[51].

Therefore, while the process will be mediated by the decision-making of the supervisor, in the face of his perceptions on the situation, the patient, the student and when to entrust to the student certain activity, the student will be responsible for his/her decision: if he/she can take it independently or, if and when, he/she shall ask for help[52,53].

The assessment potential of the EPAs is complemented with the supervisor presence and supervision.

With the entrustment decisions is necessary to reach the supervision level for the EPA practice. ten Cate[37] described five level of supervision:

> Level 1: the learner is allowed to be present and observe, not to enact an EPA.
> Level 2: the learner is allowed to execute the EPA with direct, pro-active supervision, present in the room.
> Level 3: the learner is allowed to carry out the EPA without a supervisor in the room, but quickly available if needed, i.e. with indirect, reactive, supervision.
> Level 4: the learner is allowed to work unsupervised.
> Level 5: the learner is allowed to provide supervision to more junior learners. (p. 98)

The exercise of EPAs is linked to the close student follow-up by a supervisor along the way and can be evaluated many times and by different supervisors[50].

According to ten Cate[37],

> An essential component of training is the regular transfer of responsibilities, if the situation allows for it. A supervising physician does this when she feels that the skills of the learner at that time match the complexity of the patient, and the risks in doing this are acceptable. These are called "ad- hoc entrustment decisions". (p. 96-7)

In this relationship, a bonding of trust and accountability is built between students, professors and patients. Thus, during the encounters, we contrast the construction of the evaluation as a unique process where the empathy is another aspect to be appreciated[54].

The use of EPAs over time already established in the training of resident physicians has also demonstrated in the undergraduate courses to promote the qualification of the practice, responsible and safe insertion of the student in the services and promotion of a process of highly sensitive evaluation[13-16,19,32,33,45,55,56.] It provides the formative, longitudinal approach with continued construction of independence and, the autonomy of the student based on trust, acquisition of skills for the practice exercise and responsibility[50-53,57.] At this point, the summative characteristic of the EPAs is linked to the moment when the supervision is no longer more required[19,37,56,58]. However, this condition only persists when the student keeps on doing the activity[37.]

The student's interaction with the work process is provocative and puts him/her in front of the patient's demands and the need for teamwork. It highlights here the potentiality of new and unfamiliar situations for student development[59.]

In this scenario, a recommended practice is the Entrustment-Based Discussion, a conversation between the supervisor and the student about 15 minutes after the completion of an EPA where key aspects related to doing and the context are discussed and re-meaning[60].

This close proximity between teacher-student-service and patient, the supervisor's immersion into the praxis, in the real world, creates a positive feedback to the qualification of the teaching and the service for the mutual benefit of both.

Accepting the integration of competencies in the clinical environment as necessary for the medical qualification, we are led to further consider the applicability of the EPAs in the Brazilian medical curriculum[18,50]. The practical essence of the EPA and its relational aspect makes it represent the real dimension of the medical practice in the context in which it is placed and accredits its mediation of CBME[56]:

> [...] trainees in health care are part of a team and a wider organizational structure. Decisions pertaining to the division of labour in this organization include trainees. Many of these decisions involve entrustment of professional activities, and therefore implicit judgments about competence. These elements force us to view medical training and assessment of competence within the context of the interplay between individual ability and the clinical environment[50]. (p. 674)

Thus, the design of the EPAs must be constructed from the different realities from which it is inserted, assuring its belonging and results. It is not an adaptation but an effort in the identification and description of professional tasks that meet the needs of the community while advancing in the scientific and humanistic references[50].

The full implementation of the EPAs with the team will favor, through critical and dialogic practice, the improvement and constant development of health care[50]. This reflective culture that goes beyond the walls of the academy, follows the reference of permanent education of the National Policy of Permanent Education in Health (NPPEH)[61] and shall include teachers, students and a multiprofessional team.

In Brazil, the EPAs would contribute to the improvement of the CBME, the evaluation process, and professional training as a whole, in order to improve the health work process itself[62].

In conclusion, the exposed material supports us to recognize and suggest EPAs as an excellent possibility to decode CBME to practice, to promote a realistic learning, attending the integral care dimension in workplace, with team engagement and under a qualified assessment processes.

The potential of the EPAs, when based on the local/regional reality, goes beyond the professional qualification, aligning them well with the NCG[1,2] and NPPEH[61] and promoting advances in training and services. Nevertheless, care must be taken so that its adoption is not made by transposition incurring reductionism but grounded in the environment where it will be experienced.

Many authors advocate the elaborating of EPAs and guide their construction by providing material for accurate and genuine production[14,19,50,56,58,63]. So, the time has come for Brazil to develop its own EPAs to better implement CBME, meeting their needs and social reality.

Authors' Contributions

All authors had actively participated in all stages of the manuscript preparation.

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As competências médicas apresentadas pelas Diretrizes Curriculares Nacionais (DCN) e as políticas de incentivo à formação de mais médicos popularizaram temas como aprendizado ativo e competência. Distorções na implementação curricular resultaram em abordagens fragmentadas e reprodutivas das práticas com distanciamento do processo de trabalho. Vários países ocidentais, ao buscarem o aprimoramento da Educação Médica Baseada em Competência, adotaram as Atividades Profissionais Confiáveis (APCs) na tradução bem-sucedida desse referencial para a prática clínica. Este estudo perspectivo apresenta as APCs no âmbito da educação médica brasileira como possível solução para a melhor efetivação do Currículo Médico Baseado em Competência (CMBC). O estudo descreve as APCs, de seu conceito à realização; provê subsídios para seu entendimento e análise de sua capacidade em mediar uma formação médica mais qualificada e responsiva às necessidades de saúde locais; e contribui com a literatura brasileira na área.

Palavras-chave: Competência clínica. Competência profissional. Currículo. Atividades profissionais confiáveis. Educação médica.

Las competencias médicas presentadas por las Directrices Curriculares Nacionales y las políticas de incentivo a la formación de más médicos popularizaron temas tales como aprendizaje activo y competencia. Distorsiones en la implementación curricular resultaron en abordajes fragmentados y reproductivos de las prácticas con distanciamiento del proceso de trabajo. Diversos países occidentales, al buscar el perfeccionamiento de la Educación Médica Basada en Competencia, adoptaron las Actividades Profesionales Confiables (APCs) en la traducción exitosa de esas referencias a la práctica clínica. Este estudio perspectivo presenta las APCs en el ámbito de la educación médica brasileña, como posible solución para la mejor efectuación del Currículo Médico Basado en Competencia (CMBC). El estudio describe las APCs, desde su concepto hasta su realización, proporciona subsidios para su entendimiento y análisis de su capacidad para mediar una formación médica más calificada y responsiva a las necesidades de salud local y contribuye con la literatura brasileña en el área.

Palabras clave: Competencia clínica. Competencia profesional. Currículo. Actividades profesionales confiables. Educación médica.

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