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Postgraduate training and education:
which perspectives at horizon 2030?

Arnaud Perrier
Medical director, Geneva University Hospitals
Professor of Internal Medicine

MedEd Symposium, ISFM
Bern, September 23, 2020

Disclaimers and acknowledgments

Ich bin kein Pädagoge…

- No conflicts of interest
- Thanks to Pr Mathieu Nendaz for many fruitful discussions and selected readings!

Postgraduate training should…

- Help young doctors to **become physicians** (*is* vs. *does*)
- Be clear about what it is to be a **good doctor** (in a changing environment with new health professions)
- Be dispensed by **teachers and mentors trained** to promote self-reflection and assessment
- Be **interprofessional**
- Be **individualized**, needing early career choices
- Be dispensed in a **safe and health-promoting environment** for residents
- **Match needs of society** (number and type of physicians corresponding to needs in academic and non academic hospitals, and in the community)

The main thing I remember from my early years exposed to medical education…

Improvement

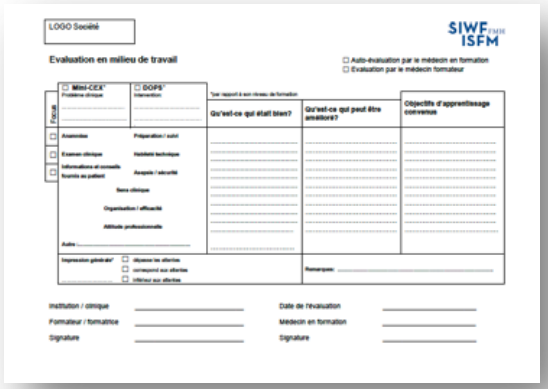
Needs assessment

Objectives

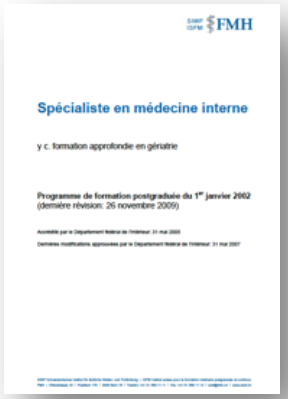
Teaching format

Assessment

Knowledge
Performance in the workplace
EPAs



Logbook – lists



Not very developed

Competency-based medical education

Established in 1871

Swiss Medical Weekly

Formerly: Schweizerische Medizinische Wochenschrift

An open access, online journal • www.smw.ch

Review article: Biomedical intelligence | Published 15 April 2020 | doi:10.4414/smw.2020.20201
Cite this as: Swiss Med Wkly. 2020;150:w20201

Nationwide introduction of a new competer framework for undergraduate medical curri a collaborative approach

Sohrmann Marc[a], Berendonk Christoph[b], Nendaz Mathieu[c], Bonvin Raphaël[d], the Swiss Working Grou Implementation*

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[b] Institute for Medical Education, University of Bern, Switzerland
[c] Unit of Development and Research in Medical Education, University of Geneva, Switzerland
[d] Medical Education Unit, University of Fribourg, Switzerland
* Members of the Swiss Working Group for PROFILES Implementation (SWGPI): Christoph Berendonk, University of Bern and represe Skills working group of the Federal Licencing Examination; Silke Biller, University of Basel; Raphaël Bonvin, University of Fribourg; Pe Bern; Waltraud Georg, University of Zurich; Mathieu Nendaz, University of Geneva; Tina Schurter, University of Bern and representative working group of the Federal Licencing Examination; Marc Sohrmann, University of Lausanne

Annals of Internal Medicine ACADEMIA AND THE PROFESSION

Creating Entrustable Professional Activities to Assess Internal Medicine Residents in Training

A Mixed-Methods Approach

David R. Taylor, MD, MHPE; Yoon Soo Park, PhD; Christopher A. Smith, MD; Jolanta Karpinski, MD, MEd; William Coke, MD; and Ara Tekian, PhD, MHPE

Background: Competency-based medical education has not advanced residency training as much as many observers expected. Some medical educators now advocate reorienting competency-based approaches to focus on a resident's ability to do authentic clinical work.

Objective: To develop descriptions of clinical work for which internal medicine residents must gain proficiency to deliver meaningful patient care (for example, "Admit and manage a medical inpatient with a new acute problem").

Design: A modified Delphi process involving clinical experts followed by a conference of educational experts.

Setting: The Royal College of Physicians and Surgeons of Canada.

Participants: In phase 1 of the project, members of the Specialty Committee for Internal Medicine participated in a modified Delphi process to identify activities in internal medicine that represent the scope of the specialty. In phase 2 of the project, 5 experts who were scholars and leaders in competency-based medical education reviewed the results.

Measurements: Phase 1 identified important activities, revised descriptions to improve accuracy and avoid overlap, and assigned activities to stages of training. Phase 2 compared proposed activity descriptions with published guidelines for their development and application in medical education.

Results: The project identified 29 activities that qualify as entrustable professional activities. The project also produced a detailed description of each activity and guidelines for using them to assess residents.

Limitation: These activities reflect the practice patterns of the developers and may not fully represent internal medicine practice in Canada.

Conclusion: Identification of these activities is expected to facilitate modification of training and assessment programs for medical residents so that programs focus less on isolated skills and more on integrated tasks.

Primary Funding Source: Southeastern Ontario Academic Medical Organization Endowed Scholarship and Education Fund and Queen's University Department of Medicine Innovation Fund.

Ann Intern Med. doi:10.7326/M17-1680 **Annals.org**
For author affiliations, see end of text.
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EPAs in internal medicine residency

Ann Intern Med. doi:10.7326/M17-1680

Table 1. The Entrustable Professional Activities for Internal Medicine Residency in Competence by Design

Transition to discipline
- Performing histories and physical examinations and documenting and presenting findings across clinical settings for initial and subsequent care
- Identifying and assessing unstable patients, providing initial management, and obtaining help
- Performing the basic procedures of internal medicine

Foundations of discipline
- Assessing, diagnosing, and providing initial management for patients with common acute medical presentations in acute care settings
- Managing patients admitted to acute care settings with common medical problems and advancing their care plans
- Consulting specialists and other health professionals, synthesizing recommendations, and integrating these into the care plan
- Formulating, communicating, and implementing discharge plans for patients with common medical conditions from acute care settings
- Assessing unstable patients and providing targeted treatment and consulting as needed
- Discussing and establishing patients' goals of care
- Identifying personal learning needs while caring for patients and addressing those needs

Core of discipline
- Assessing, diagnosing, and managing patients with complex or atypical acute medical presentations
- Assessing and managing patients with complex chronic conditions
- Providing internal medicine consultation to other clinical services
- Assessing, resuscitating, and managing unstable and critically ill patients
- Performing the procedures of internal medicine
- Assessing capacity for medical decision making
- Discussing serious and/or complex aspects of care with patients, families, and caregivers
- Caring for patients who have experienced a patient safety incident (adverse event)
- Caring for patients at the end of life
- Implementing health promotion strategies in patients with or at risk for disease
- Supervising junior learners in the clinical setting

Transition to practice
- Managing an inpatient medical service
- Managing longitudinal aspects of care in a medical clinic
- Assessing and managing patients with uncertain diagnosis and/or treatment
- Providing consultations to off-site health care providers
- Initiating and facilitating transfers of care through the health care system
- Working with other physicians and health care professionals to develop collaborative patient care plans
- Identifying learning needs in clinical practice and addressing them with a personal learning plan
- Identifying and analyzing system-level safety, quality, or resource stewardship concerns in health care delivery

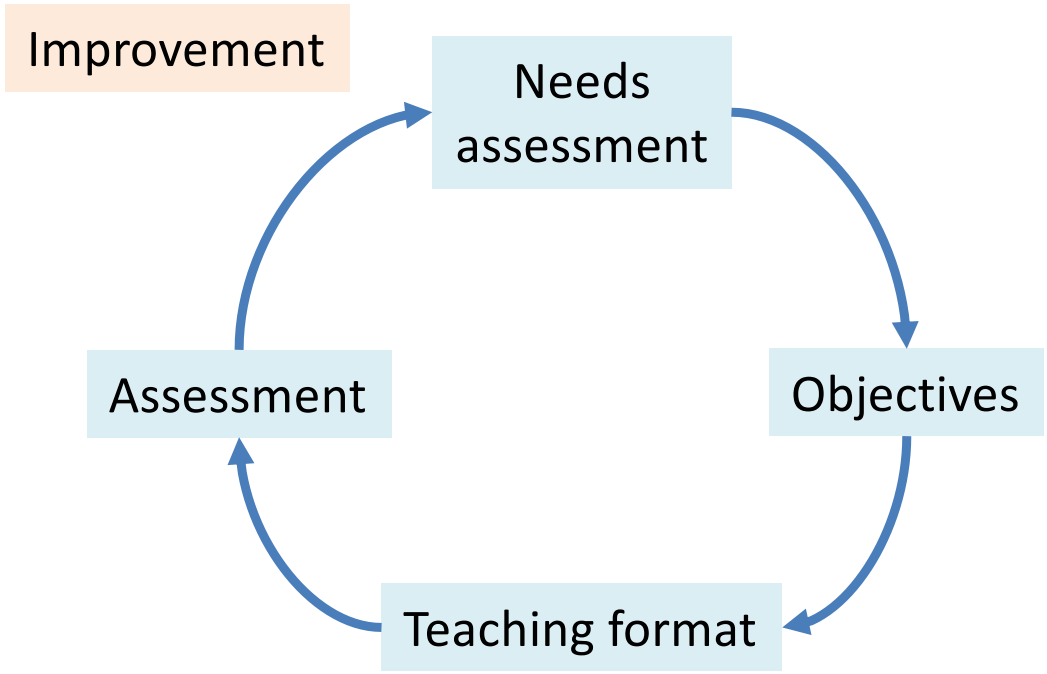
Transition to discipline
Performing histories and physical examinations and documenting and presenting findings across clinical settings for initial and subsequent care

Foundations of discipline
Assessing, diagnosing, and providing initial management for patients with common acute medical presentations in acute care settings

Core of discipline
Assessing, diagnosing, and managing patients with complex or atypical acute medical presentations

Transition to practice
Managing an inpatient medical service

Postgraduate training in 2020



Postgraduate training

- Increasingly normative
- Heavy emphasis on « does »
- What about what the trainee should « be »?

- **What physicians do we want?**

5 minutes self-reflection

- Remember… who was the first physician who influenced you (I want to be like her/him…)?
- What in that person did you want wanted to emulate?
- When you think about the good physician, what are the 3 words that immediately come to mind? (write them down…)
- You had a number of trainees: do you think you influenced them more by what you taught or by what you are?

Medicine in 2035: insights from ACGME

Accreditation Council for Graduate Medical Education

BOX COMMON INSIGHTS ABOUT THE FUTURE OF MEDICAL SYSTEMS, MEDICAL EDUCATION, AND ACCREDITATION

- Complexity will escalate in patient care delivery, specifically calling for an ever more seamless and disciplined interprofessional team-based approach to health care delivery and medical education.
- Information transparency will increase, with accompanying challenges to the veracity and perceived value of competing offerings of data and analyses.
- It is not possible to determine the future shape of health care delivery and to project the workforce needed; therefore, the maximization of provider career flexibility will be crucial.
- "Commoditization" of health care services will accelerate. It will include increasingly standardized (price-driven) services at entry level and shifting responsibilities and risks among health professionals in interprofessional team-based care. It will also impact formerly "high-end" procedures that can be rigorously standardized or automated.
- There will be little tolerance for approaches to accreditation, credentialing, and licensing with burdensome process inefficiencies and multiple actors with either conflicting or incompatible standards.
- The potential diversity in medical delivery approaches will be so profound that the current dichotomous conceptualizations of the physician workforce (eg, "primary care–subspecialist," "generalist-specialist") turn out to be narrow, and distracting approaches to thinking about the future.
- There is no clear optimal specialty distribution for the future (given the pace and differential cross-impacts of technology, economics, and societal issues); therefore, the medical education system must be capable of supplying a wide distribution of physicians by specialty.
- There will be profound societal pressures to deprofessionalize all of the health care professions, not just physicians.

DOI: http://dx.doi.org/10.4300/JGME-D-14-007

Evolution of health care	Requirements for physicians
Increasing complexity in care delivery, interprofessionalism	→ Competent in interprofessional and team-based work
Increased health literacy of patients, demand for and challenge of information	→ Uptodate and knowledgeable
Uncertain evolution of health care, career flexibility required	→ Flexible and adaptive
Low-cost medicine and delivery by less trained (and less costly) professionals	→ Defined by high-level knowledge and skills, not only what they do

CANMEDS model

The one-man band

- Fine, but… different emphasis should be given according to speciality and/or work environment
  - Academic surgeon
  - Public health specialist
  - Family physician
  - …

The charter on medical professionalism

3 principles

- Primacy of patient welfare
- Patient autonomy
- Social justice

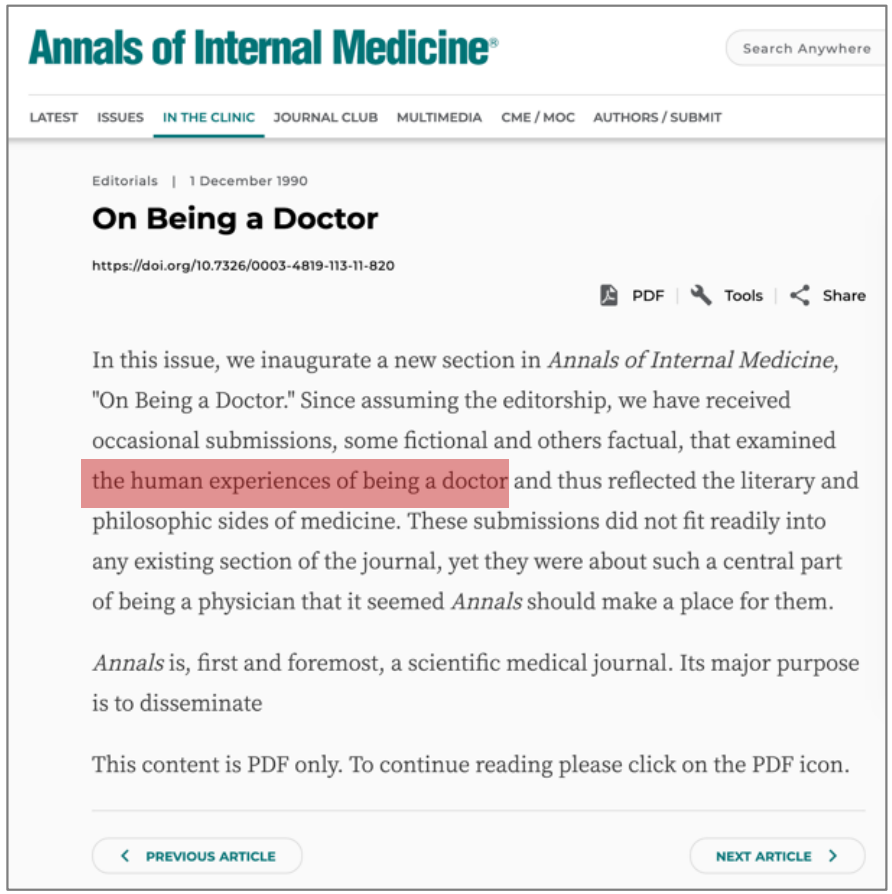
10 professional responsibilities

- Professional competence
- Honesty with patients
- Patient confidentiality
- Maintaining appropriate relations with patients
- Improving quality of care
- Improving access to care

- Just distribution of finite resources
- Scientific knowledge
- Maintaining trust by managing conflicts of interest
- Professional responsibilities

The human experiences of being a doctor…

From 1990…



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Editorials | 1 December 1990

On Being a Doctor

https://doi.org/10.7326/0003-4819-113-11-820

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In this issue, we inaugurate a new section in *Annals of Internal Medicine*, "On Being a Doctor." Since assuming the editorship, we have received occasional submissions, some fictional and others factual, that examined the human experiences of being a doctor and thus reflected the literary and philosophic sides of medicine. These submissions did not fit readily into any existing section of the journal, yet they were about such a central part of being a physician that it seemed *Annals* should make a place for them.

Annals is, first and foremost, a scientific medical journal. Its major purpose is to disseminate

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PREVIOUS ARTICLE NEXT ARTICLE

To 2020

Annals of Internal Medicine ON BEING A DOCTOR

Put Your Own Oxygen Mask On First

They streamed into Memorial Church in twos and threes on a piercingly beautiful Cambridge fall day: clinic and hospital colleagues, patients from his primary care practice, and siblings and cousins from a sprawling New England family. They passed by the two collages showing an exuberant 70-year-old man at various stages of his life—dressed as Malvolio in a high school production, camping across the country as a long-haired activist, playing the piano with his children and grandchildren—and thought to themselves, "How could a doctor who meant so much to so many take his own life?" As I greeted cousins and family friends who came to honor my oldest brother, I asked myself, "When does devotion to a job you love become hazardous to your health?"

Skip had been a primary care clinician for over 40 years in the Boston area. He served a diverse, working-class immigrant population, first in Cambridge and then in Chelsea. He loved being a community doctor in every sense. To better care for his patients, he added Spanish to his schoolboy French, then Portuguese, then some Croatian. He made frequent house calls, helped integrate social services and mental health at his clinic, established a legal aid office for clinic patients, and chaired the local Board of Public Health. It seemed like half of the police force were his patients, and it was a rare trip to the local supermarket when one of his patients didn't ask for a curbside consult. His adopted community became his family, and they loved him back.

All families of suicide victims struggle to find sense in a seemingly senseless death. Like Tolstoy's families in *Anna Karenina*, each suicide is unhappy in its own way. My brother's life nearing the end of his career seemed full with family, friends, travel, and music. One month earlier, he had walked his youngest daughter down the aisle at a wedding packed with hundreds of friends and family members. On the other hand, depression ran in our family, and he had struggled with it on and off over the 10 years since losing his oldest daughter at age 22 to a glioblastoma. The prospect of retirement cast a pall. In notes from his 40-year college reunion, he asked, "Anyone have secrets to successful retirement? As I approach it, I admit I am stumped."

Most recently, he had confronted the reality that a small intracerebral bleed he had 2 years earlier had left him with cognitive deficits that affected him more than we noticed. In a note discovered after his death, he stated, "I know I can no longer practice. This would set me adrift, with no end." A future without his practice would be like a life without his family. Most of all, the prospect that he would eventually shift from being the carer to being cared for was terrifying. "I can't stand the idea of not being able to be helpful."

The week before he died, while on an annual canoe trip in northern Minnesota, I browsed the cover story in *The Atlantic* by Arthur C. Brooks on managing your declining career. Brooks observed that accomplished people struggle with retirement because they resist the idea that they need to adapt to how their skills change with age. Moreover, successful people often have trouble building an equally fulfilling identity outside of work. Nobody needs them in the same way that they were needed at work. Although my brother had many friends and interests outside of medicine, his eulogies were full of stories of going the extra mile at work: telephone calls to patients long after he had promised to be home, extra weekend rounding to make sure his patients on the university service were well cared for, and house calls to a friend's ailing father.

As with many good physicians, this habit was as natural to Skip as calling in a prescription. His patients adored him for this, and I doubt he ever viewed it as a burden. However, as I listened, I couldn't help but think of the other side of the ledger: of time taken away from being with his wife, playing the piano, or preparing for life after medicine. With more attention to his life outside of work, could he have made peace with all that he still had to contribute to those around him?

When I spoke at the memorial service, I noted that—although I longed to emulate my oldest brother—I found his brand of selflessness too hard. "It meant doing things even when they were inconvenient and caring about people whether or not they were fully deserving or sufficiently grateful. Truly being selfless turned out to be a lot of work, and I was happy to leave it to Skip and the Sisters of Mercy."

I also mentioned my hope that his colleagues would honor his memory by spending time taking care of themselves. "Selflessness has its price. Skip was so ready to give someone the shirt off his back that he may not have realized when he was also cold. I hope each of you—especially those of you who are doctors and nurses and caregivers—will take time to be selfish when you need to be. Make a lunch date with *your* Skip to complain about *your* problems. Put your own oxygen mask on first."

In the era of COVID-19, when it is commonplace to honor nurses, doctors, and other health care personnel as heroes, I worry about the subtle toll of living up to that image. Heroes are selfless and tireless. No hero looks at their watch and says, "Okay, time to head home to family." However, when our heroes are human, they need to rest; be able to ask for help; and be allowed to say, "I'm done. I need a break. My turn to be taken care of." In honor of National Suicide Prevention Month, to all my health care colleagues, please, put your own oxygen mask on first.

David Atkins, MD, MPH
Veterans Health Administration
Washington, DC

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Professional identity formation

Perspective

Reframing Medical Education to Support Professional Identity Formation

Richard L. Cruess, MD, Sylvia R. Cruess, MD, J. Donald Boudreau, MD, Linda Snell, MD, MHPE, and Yvonne Steinert, PhD

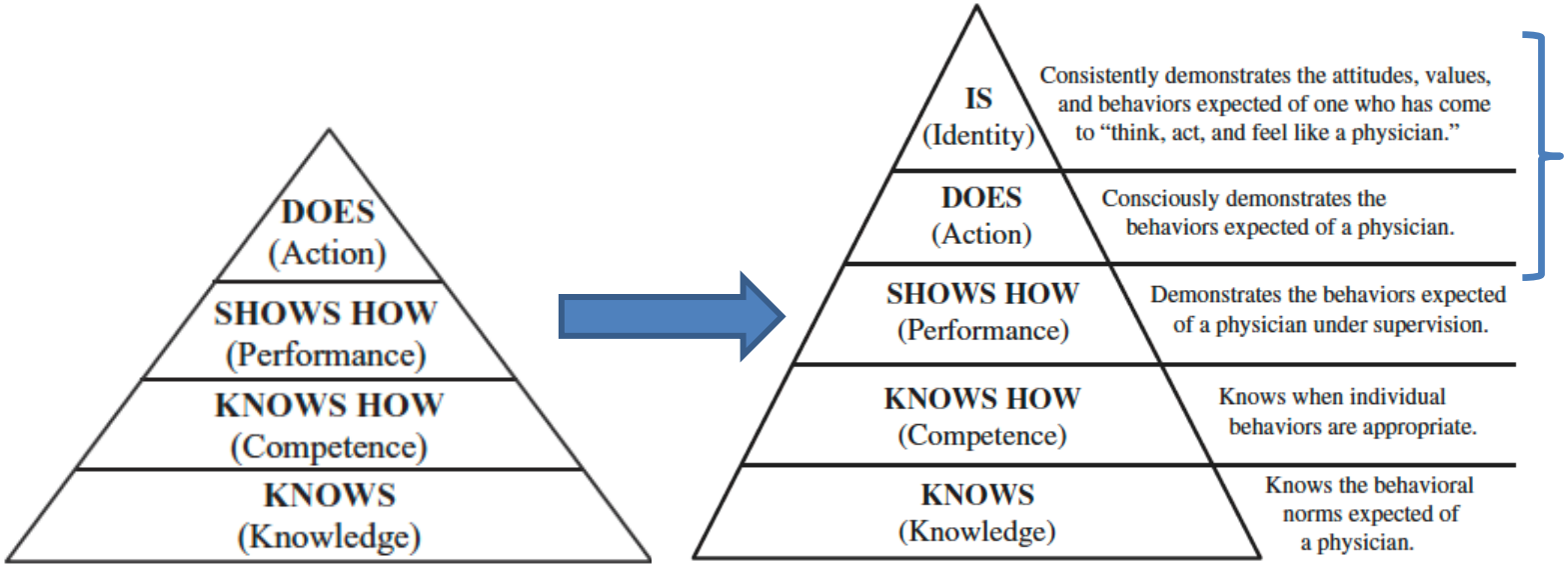
Acad Med. 2014;89:1446–1451

*« The principal objectives of medical education should be to ensure that each practitioner has acquired both the knowledge and skills necessary for the practice of medicine and a professional identity so that he or she comes to **think, act, and feel like a physician** »…*

RK Merton, 1957

«Within this conceptual framework, teaching professionalism becomes not an end in itself but a means to an end. We believe that the end has always been the development of a professional identity and that the substance of that identity should be the “good physician.”»

Amending Miller's pyramid to include professional identity formation

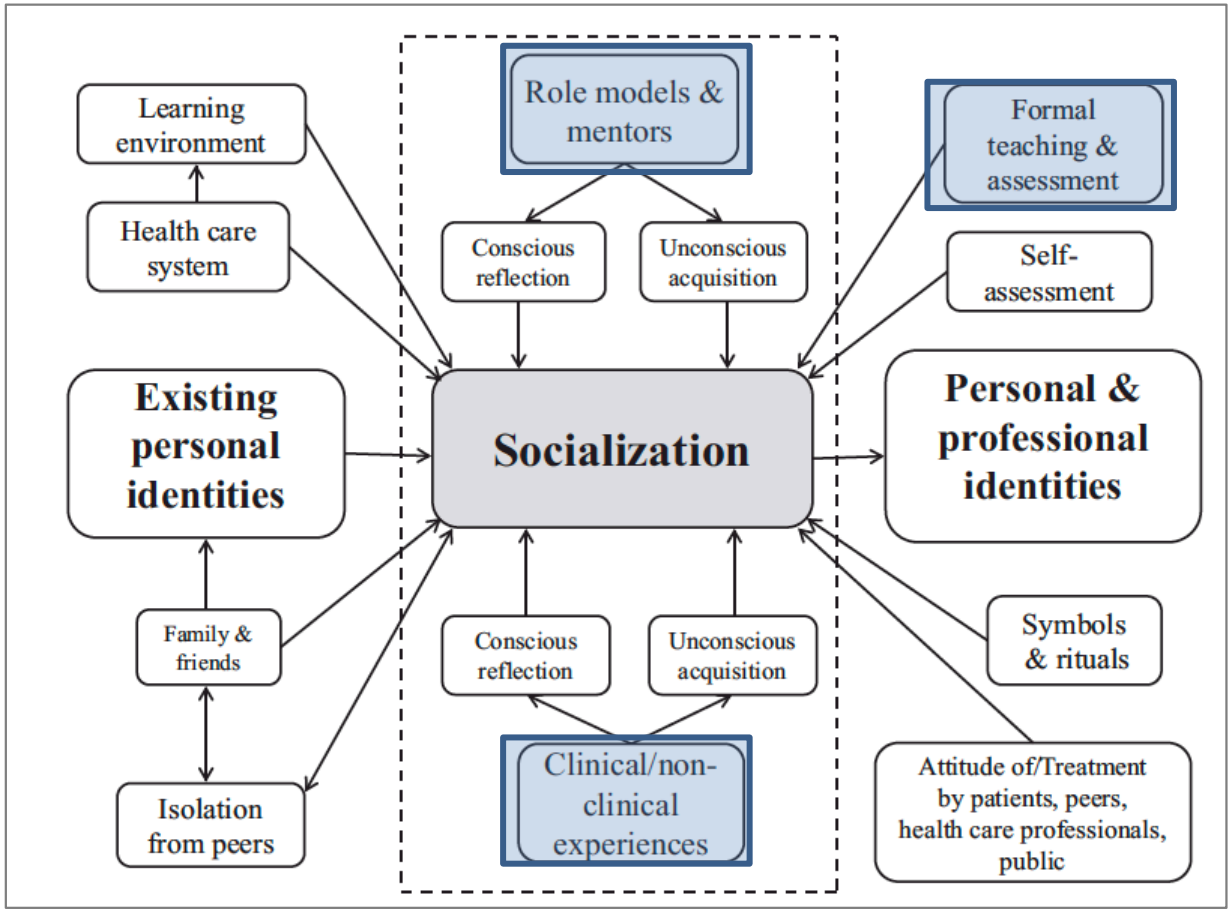


La manière d'être
Die Art zu sein
The bedside manner

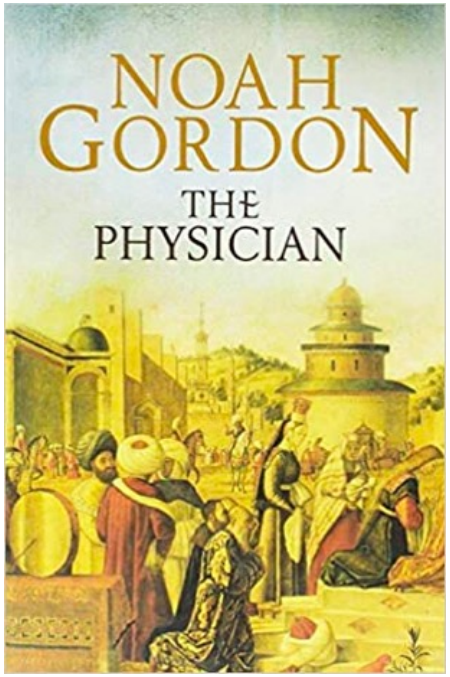
Applied to professionalism

Cruess RL et al. Acad Med. 2016 Feb;91(2):180-5.

Schematic representation of professional identity formation



Cruess RL et al. Acad Med. 2015;90:718–725.



Medicine, a profession of apprenticeship

Postgraduate training should…

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- Be clear about what it is to be a **good doctor** (in a changing environment with new health professions)
- Be dispensed by **teachers and mentors trained** to promote self-reflection and assessment
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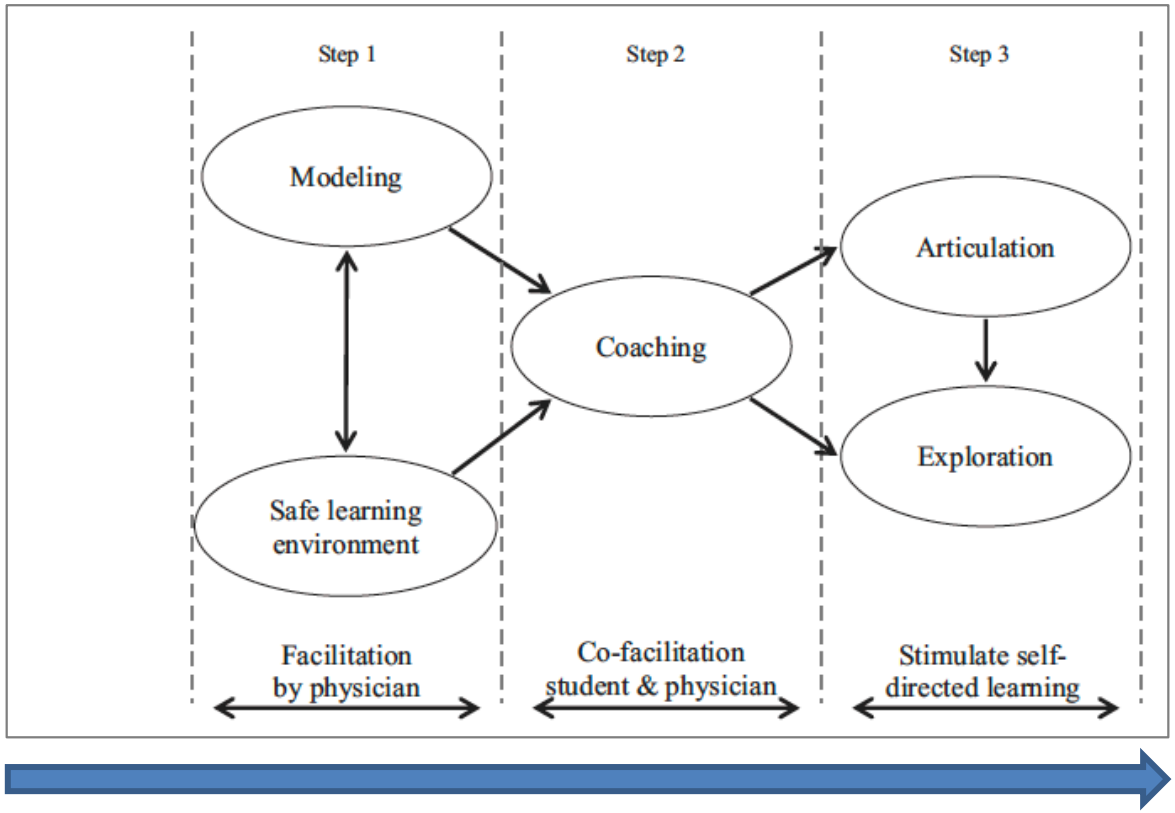
- Be **individualized**, needing early career choices
- Be dispensed in a **safe and health-promoting environment** for residents
- **Match needs of society** (number and type of physicians corresponding to needs in academic and non academic hospitals, and in the community)

The cognitive apprenticeship model of teaching

Clinical Teaching Based on Principles of Cognitive Apprenticeship: Views of Experienced Clinical Teachers

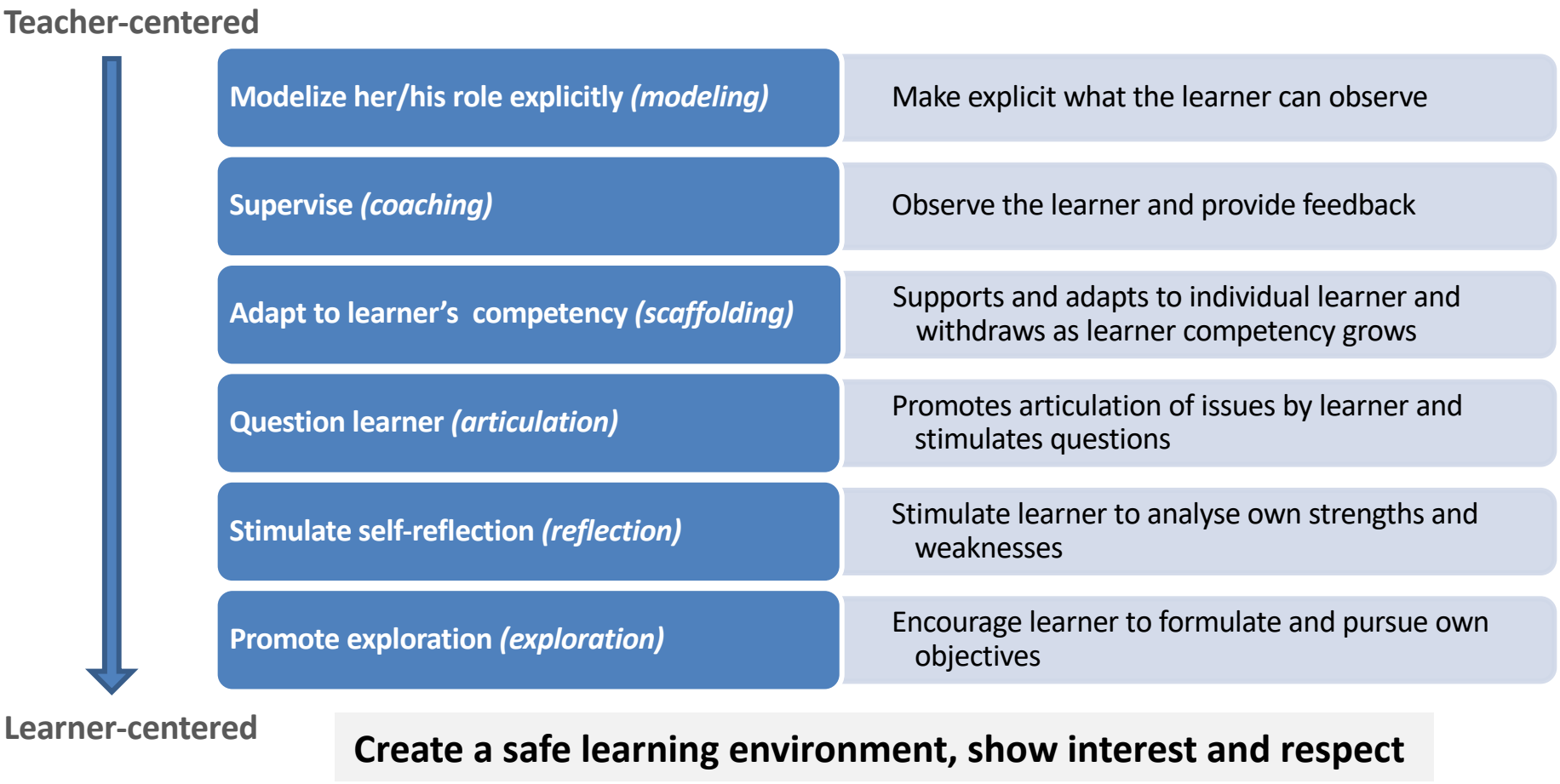
Renée E. Stalmeijer, PhD, Diana H.J.M. Dolmans, PhD, Hetty A.M. Snellen-Balendong, MD, Marijke van Santen-Hoeufft, MD, Ineke H.A.P. Wolfhagen, PhD, and Albert J.J.A. Scherpbier, MD, PhD

Acad Med. 2013;88:861–865



Physician-centered **Student-centered**

The cognitive apprenticeship model: the good teacher should…

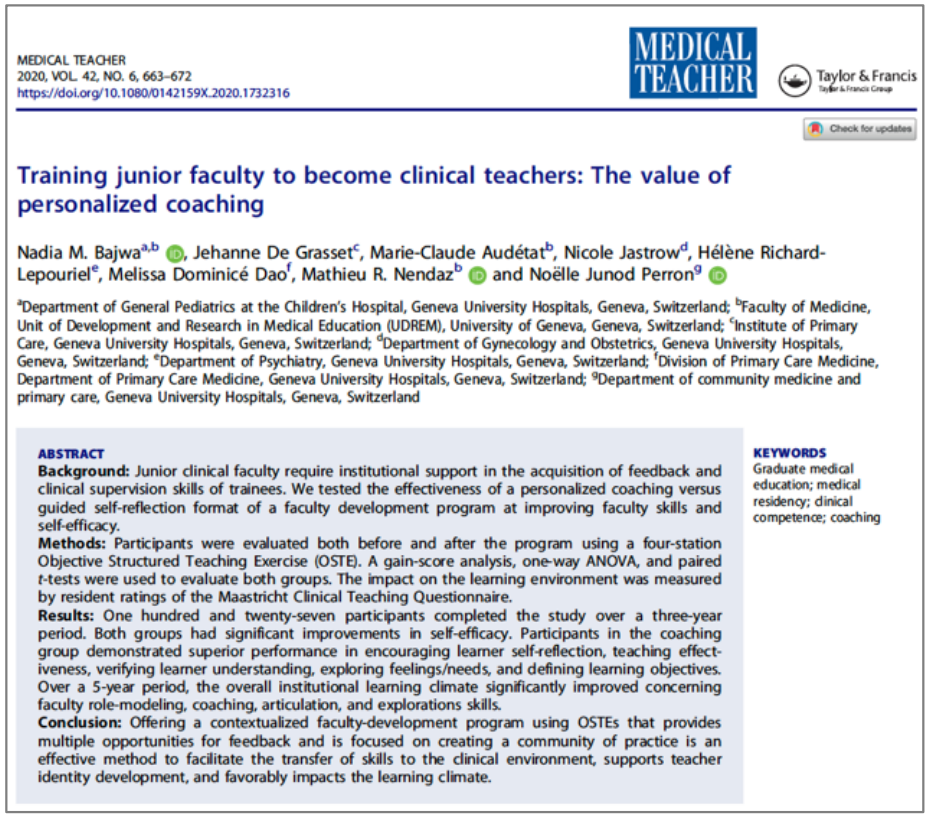


Create a safe learning environment, show interest and respect

Stalmeijer RE. Academic Medicine. 2013;88(6):861-5.
Stalmeijer RE. Advances in Health Sciences Education. 2009;14(4):535-46.

Adapted from Prof. Mathieu Nendaz

Good apprenticeship requires trained teachers/coaches



MEDICAL TEACHER
2020, VOL. 42, NO. 6, 663–672
https://doi.org/10.1080/0142159X.2020.1732316

MEDICAL TEACHER

Taylor & Francis

Check for updates

Training junior faculty to become clinical teachers: The value of personalized coaching

Nadia M. Bajwa[a,b], Jehanne De Grasset[c], Marie-Claude Audétat[b], Nicole Jastrow[d], Hélène Richard-Lepouriel[e], Melissa Dominicé Dao[f], Mathieu R. Nendaz[b] and Noëlle Junod Perron[g]

[a]Department of General Pediatrics at the Children's Hospital, Geneva University Hospitals, Geneva, Switzerland; [b]Faculty of Medicine, Unit of Development and Research in Medical Education (UDREM), University of Geneva, Geneva, Switzerland; [c]Institute of Primary Care, Geneva University Hospitals, Geneva, Switzerland; [d]Department of Gynecology and Obstetrics, Geneva University Hospitals, Geneva, Switzerland; [e]Department of Psychiatry, Geneva University Hospitals, Geneva, Switzerland; [f]Division of Primary Care Medicine, Department of Primary Care Medicine, Geneva University Hospitals, Geneva, Switzerland; [g]Department of community medicine and primary care, Geneva University Hospitals, Geneva, Switzerland

ABSTRACT

Background: Junior clinical faculty require institutional support in the acquisition of feedback and clinical supervision skills of trainees. We tested the effectiveness of a personalized coaching versus guided self-reflection format of a faculty development program at improving faculty skills and self-efficacy.

Methods: Participants were evaluated both before and after the program using a four-station Objective Structured Teaching Exercise (OSTE). A gain-score analysis, one-way ANOVA, and paired *t*-tests were used to evaluate both groups. The impact on the learning environment was measured by resident ratings of the Maastricht Clinical Teaching Questionnaire.

Results: One hundred and twenty-seven participants completed the study over a three-year period. Both groups had significant improvements in self-efficacy. Participants in the coaching group demonstrated superior performance in encouraging learner self-reflection, teaching effectiveness, verifying learner understanding, exploring feelings/needs, and defining learning objectives. Over a 5-year period, the overall institutional learning climate significantly improved concerning faculty role-modeling, coaching, articulation, and explorations skills.

Conclusion: Offering a contextualized faculty-development program using OSTEs that provides multiple opportunities for feedback and is focused on creating a community of practice is an effective method to facilitate the transfer of skills to the clinical environment, supports teacher identity development, and favorably impacts the learning climate.

KEYWORDS
Graduate medical education; medical residency; clinical competence; coaching

NM Bajwa et al. Med Teacher 2020; 42: 663-72

- 127 junior faculty participants
- Before-after evaluation, four-station Objective Structured Teaching Exercise (OSTE).
- Randomized into 2 teaching formats: personalized coaching versus guided self-reflection format
- **Results**: Both groups had significant improvements in self-efficacy.
- Coaching group: superior performance in encouraging learner self-reflection, teaching effectiveness, verifying learner understanding, exploring feelings/needs, and defining learning objectives.
- Over a 5-year period, the overall institutional learning climate significantly improved concerning faculty role-modeling, coaching, articulation, and explorations skills.

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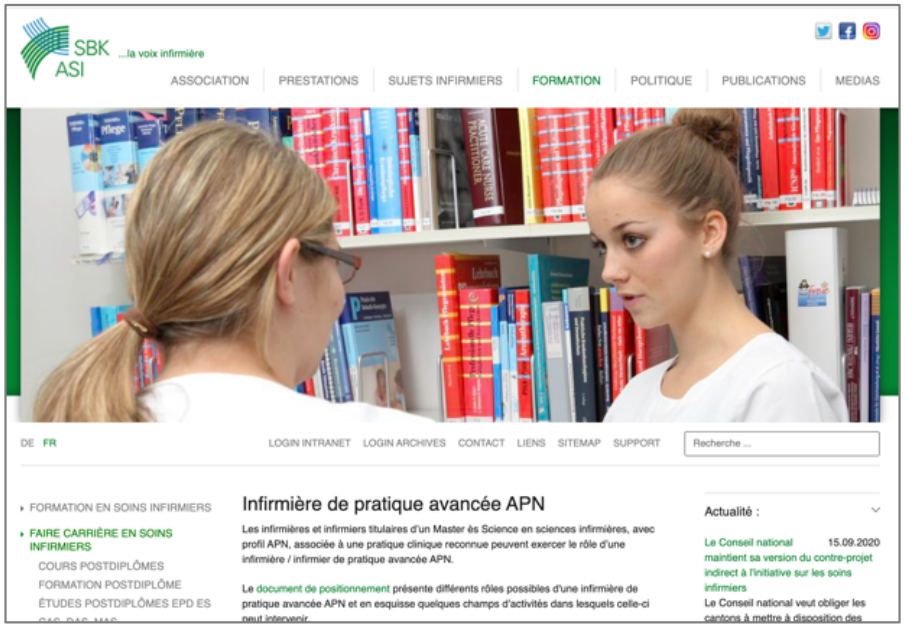
- **Match needs of society** (number and type of physicians corresponding to needs in academic and non academic hospitals, and in the community)

Interprofessionalism: more than ever, a « must »…



Advanced practice nurses

Physician associates

Interprofessional education: begin at the pregraduate level

- *«Interprofessional Education occurs when two or more professions learn with, from and about each other to improve collaboration and the quality of care»*

Consequences of new healthcare professions

- The physician will no more be defined only by what he does (consultation, technical procedures, educating the patient…)
  - Colonoscopy
  - Follow-up of diabetic patients
  - Education of heart-failure patients on self-monitoring and medication
  - …
- Roles and responsibilities must be defined, be complementary, and in partnership with each other and the patient

Forget about turf wars, welcome to these new professionals!

Physician attributes: high-level competencies

- Managing uncertainty
- Rational test and treatment selection (smarter medicine) based on critical appraisal of the literature (evidence-based medicine)
- Evidence-based practice
- Communicating with patients about difficult choices (shared decision-making)
- Working with other professionals, supervise, coach them and partner with them

BECOMING A PHYSICIAN

Tolerating Uncertainty — The Next Medical Revolution?

Arabella L. Simpkin, B.M., B.Ch., M.M.Sc, and Richard M. Schwartzstein, M.D.

« Medicine is a science of uncertainty and an art of probability. »
Sir William Osler

« Yet the reality is that doctors continually have to make decisions on the basis of imperfect data and limited knowledge, which leads to **diagnostic uncertainty,** coupled with the uncertainty that arises from **unpredictable patient responses to treatment** and from health care outcomes that are far from binary**.**
Key elements for survival in the medical profession would seem, intuitively, to be a **tolerance for uncertainty** and a **curiosity about the unknown. »**

N Engl J Med 2016;375:18-19

Shared decision-making

JGIM

PERSPECTIVE

Shared Decision Making: A Model for Clinical Practice

Glyn Elwyn, PhD[1,2], Dominick Frosch, PhD[3,4], Richard Thomson, MD[5], Natalie Joseph-Williams, MSc[1], Amy Lloyd, PhD[1], Paul Kinnersley, MD[1], Emma Cording, MB BCh[1], Dave Tomson, BM BCh[6], Carole Dodd, MSc[7], Stephen Rollnick, PhD[1], Adrian Edwards, PhD[1], and Michael Barry, MD[8,9]

[1]Cochrane Institute of Primary Care and Public Health, Neuadd Meirionydd, Cardiff University, Cardiff, UK; [2]The Dartmouth Center for Health Care Delivery Science, Dartmouth College, New Hampshire, NH, USA; [3]Department of Health Services Research, Palo Alto Medical Foundation Research Institute, Palo Alto, CA, USA; [4]Department of Medicine, University of California, Los Angeles, Los Angeles, CA, USA; [5]Institute of Health and Society, Newcastle University, Newcastle upon Tyne, UK; [6]Collingwood Health Group, New York Surgery, North Shields, UK; [7]Clinical Governance & Risk department, Newcastle upon Tyne Hospitals NHS Foundation Trust, Newcastle upon Tyne, UK; [8]General Medicine Division, Massachusetts General Hospital, Boston, MA, USA; [9]Informed Medical Decisions Foundation, Boston, MA, USA.

Gwyn Elwyn

Box 4. Summary of the model: choice talk, option talk and preference talk

Choice talk

- Step back
- Offer choice
- Justify choice - preferences matter
- Check reaction
- Defer closure

Option talk

- Check knowledge
- List options
- Describe options – explore preferences
- Harms and benefits
- Provide patient decision support
- Summarize

Decision talk

- Focus on preferences
- Elicit preferences
- Move to a decision
- Offer review

J Gen Intern Med 27(10):1361–7

Rapid provision of best evidence-based recommendations to clinicians

BMJ Rapid Recommendations

It can take years for new research evidence to filter into new treatment guidelines—in the meantime, many patients receive outdated care. That is why *The BMJ* is working with MAGIC, a non-profit research and innovation programme, to develop Rapid Recommendations. These accelerate evidence into practice to answer the questions that matter quickly and transparently through trustworthy recommendations.

Find out more about how it works by watching this video below.

How it works: The Rapid Recommendations team from MAGIC, including *The BMJ*, will identify and confirm which studies might change practice and are of interest to readers. Researchers will then perform systematic reviews on the benefit and harm of the intervention, baseline risk of important outcomes, and the values and preferences of patients. In parallel a panel including researchers, patients, and doctors will choose the most important outcomes. They will consider the systematic reviews and evaluate the evidence using a GRADE approach, and produce recommendations for practice. The research and recommendations will be submitted to *The BMJ* for peer review and publication.

BMJ 2020 ; 370 doi: https://doi.org/10.1136/bmj.m2924 (Published 30 July 2020)
Cite this as: *BMJ* 2020;370:m2924

Visual summary of recommendation

Population

This recommendation applies only to people with these characteristics:

Disease severity: Mild | Moderate | Severe

Does not apply to:
- Patients with mild or moderate covid-19
- Pediatric patients

Applies to people with at least one of:
- Respiratory rate >30
- Respiratory distress
- SpO_2<94% on room air
- Requires intensive care admission

Recommendation 1

Resource limited settings

Usual supportive care		Remdesivir
No remdesivir	or	100 mg intravenously daily for 5-10 days
Strong / Weak		Weak / Strong

We suggest remdesivir rather than no remdesivir in patients with severe covid-19

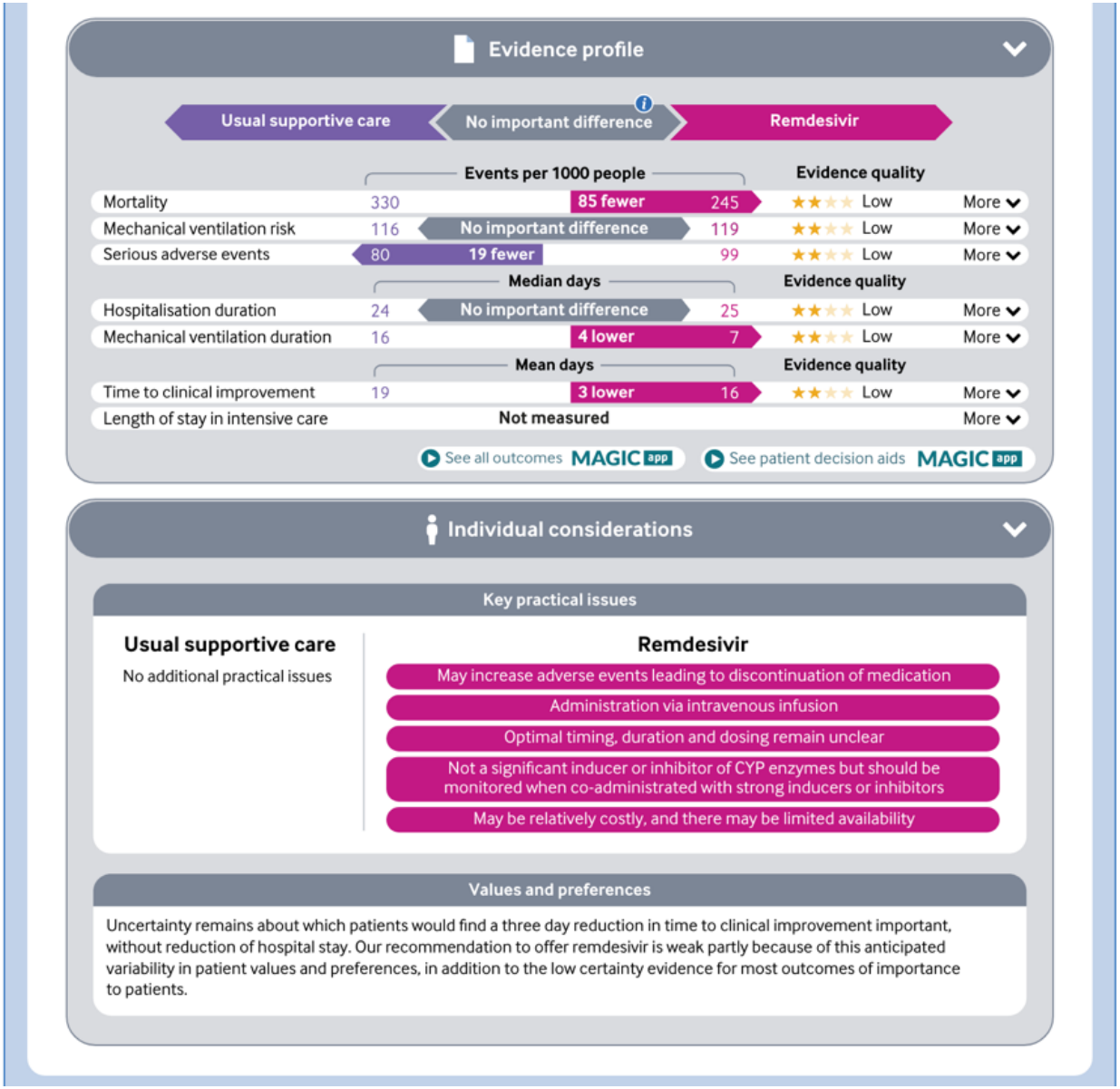
Evidence profile

Individual considerations

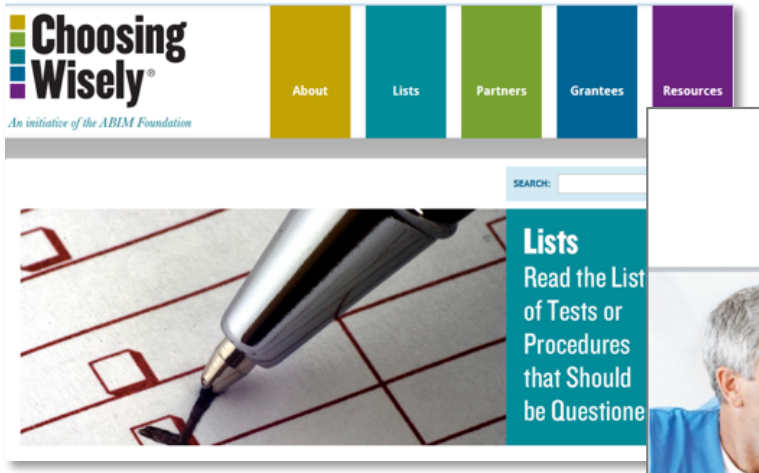
Rapid provision of best evidence-based recommendations to clinicians:

The BMJ rapid recommendations

Indissociable from teaching communication skills!

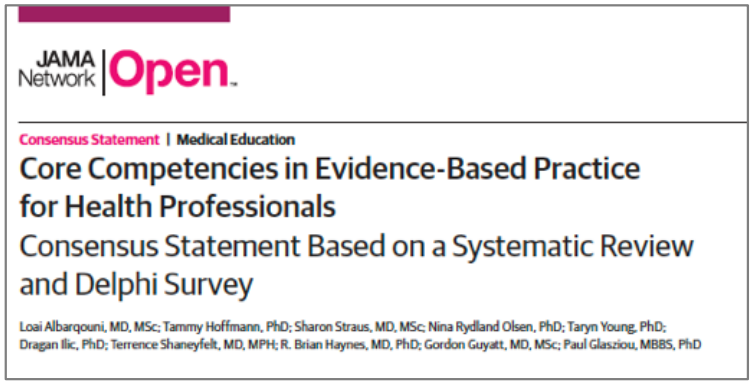


Initiatives for limiting ineffective health care



www.choosingwisely.org/

Core competencies in evidence-based practice: what should we teach health professionals?


JAMA Network | Open.

Consensus Statement | Medical Education

Core Competencies in Evidence-Based Practice for Health Professionals

Consensus Statement Based on a Systematic Review and Delphi Survey

Loai Albarqouni, MD, MSc; Tammy Hoffmann, PhD; Sharon Straus, MD, MSc; Nina Rydland Olsen, PhD; Taryn Young, PhD; Dragan Ilic, PhD; Terrence Shaneyfelt, MD, MPH; R. Brian Haynes, MD, PhD; Gordon Guyatt, MD, MSc; Paul Glasziou, MBBS, PhD

JAMA Network Open. 2018;1(2):e180281.
doi:10.1001/jamanetworkopen.2018.0281

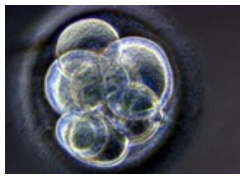
4. Apply
4.1 Engage patients in the decision making process, using shared decision making, including explaining the evidence and integrating their preferences[a]
This competency includes
Recognize the nature of the patient's dilemma, hopes, expectations, fears, and values and preferences
Understand and practice shared decision making
Recognize how decision support tools such as patient decision aids can assist in shared decision making
4.2 Outline different strategies to manage uncertainty in clinical decision making in practice
This competency includes
Recognize professional, ethical, and legal components and dimensions of clinical decision making, and the role of clinical reasoning
4.3 Explain the importance of baseline risk of individual patients when estimating individual expected benefit
This competency includes
Recognize different types of outcome measures (surrogate vs composite endpoints measures)
4.4 Interpret the grading of the certainty in evidence and the strength of recommendations in health care

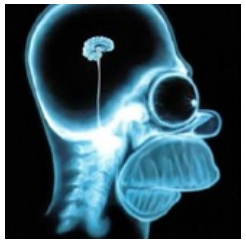
Postgraduate training should…

- Help young doctors to **become physicians** (*is* vs. *does*)
- Be clear about what it is to be a **good doctor** (in a changing environment with new health professions)
- Be dispensed by **teachers and mentors trained** to promote self-reflection and assessment
- Be **interprofessional**
- Be **individualized**, needing early career choices
- Be dispensed in a **safe and health-promoting environment** for residents
- **Match needs of society** (number and type of physicians corresponding to needs in academic and non academic hospitals, and in the community)

From student to physician…

Embryo at the morula stage

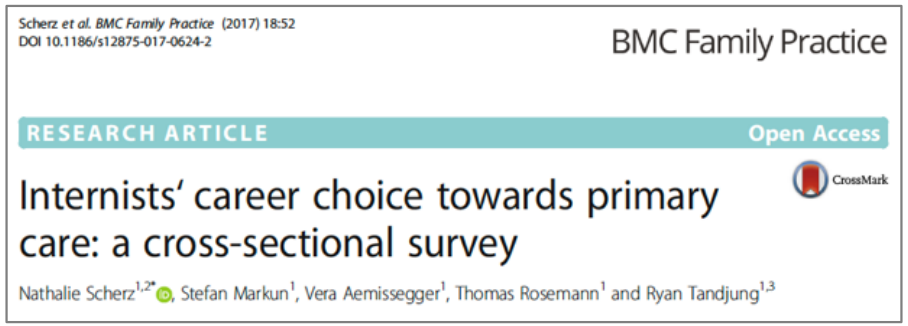




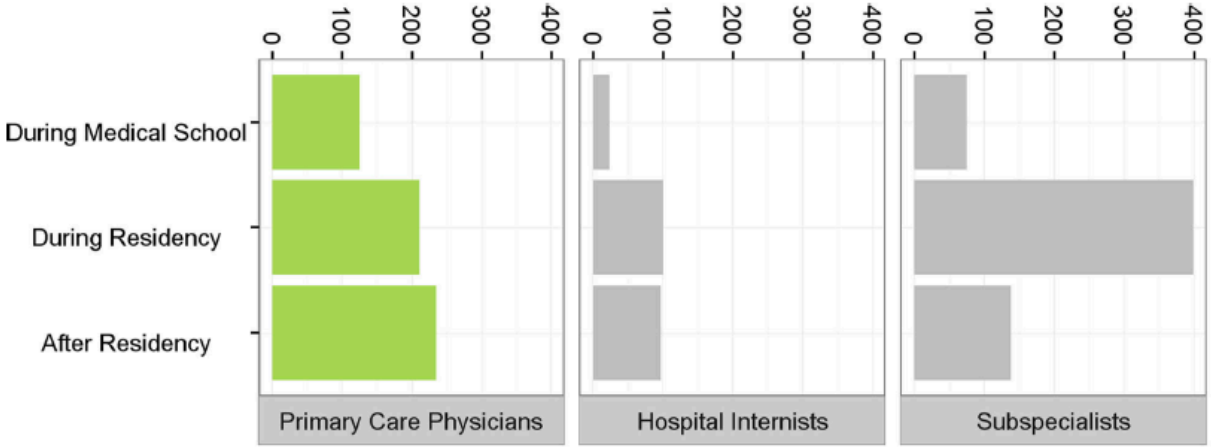
Physician

Inside the same specialty, different environments require different PG curricula (e.g. hospital vs. outpatient internal medicine)

How early do Swiss residents make their career choices?



BMC Family Practice 2017;18:52



- Most subspecialists have chosen their career during residency (65%)
- Only 22% of primary care physicians chose during residency

Postgraduate training should…

- Help young doctors to **become physicians** (*is* vs. *does*)
- Be clear about what it is to be a **good doctor** (in a changing environment with new health professions)
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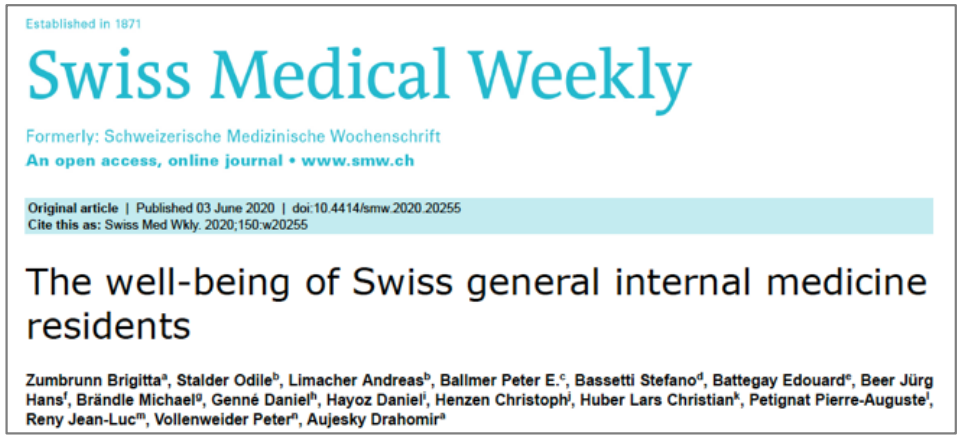
Are our residents « zen »?



Established in 1871

Swiss Medical Weekly

Formerly: Schweizerische Medizinische Wochenschrift

An open access, online journal • www.smw.ch

Original article | Published 03 June 2020 | doi:10.4414/smw.2020.20255

Cite this as: Swiss Med Wkly. 2020;150:w20255

The well-being of Swiss general internal medicine residents

Zumbrunn Brigitta[a], Stalder Odile[b], Limacher Andreas[b], Ballmer Peter E.[c], Bassetti Stefano[d], Battegay Edouard[e], Beer Jürg Hans[f], Brändle Michael[g], Genné Daniel[h], Hayoz Daniel[i], Henzen Christoph[j], Huber Lars Christian[k], Petignat Pierre-Auguste[l], Reny Jean-Luc[m], Vollenweider Peter[n], Aujesky Drahomir[a]

- Response rate 54% (472/880).
- 19% of residents had reduced well-being
- 60% felt burned out (emotional exhaustion)
- 47% worried that their work was hardening them emotionally
- 21% had career choice regret

Table 4: Physician Well-Being Index (PWBI).

Items of the PWBI*	Endorsing item (N = 450) n (%)
Have you felt burned out from your work?	268 (60)
Have you worried that your work is hardening you emotionally?	211 (47)
Have you often been bothered by feeling down, depressed or hopeless?	135 (30)
Have you fallen asleep while stopped in traffic or driving?	14 (3)
Have you felt that all the things you had to do were piling up so high that you could not overcome them?	191 (42)
Have you been bothered by emotional problems (anxious, depressed, or irritable)?	258 (57)
Has your physical health interfered with your ability to do your daily work at home and/or away from home?	138 (31)

We need to improve the training environment

- Give more attention to personal well-being
- Prevention and early detection of burnout

- Better IT tools, but also better training on concise, clear and effective documentation

- More time for direct implication with patients
- More autonomy and control over scheduling

- Early identification of residents interested in research and provision of appropriate mentoring and adapted time

Support for young clinician researchers

Promotion

09.07.2020

Octroi de onze nouveaux subsides du programme MD-PhD

Les subsides du programme national MD-PhD permettent à onze jeunes médecins engagés dans la recherche de réaliser un doctorat en sciences naturelles, en santé publique et en recherche clinique dans une université suisse. Le tableau synoptique des bénéficiaires donne une vue d'ensemble des projets soutenus.

Promotion

15.06.2020

Young Talents in Clinical Research: mise au concours 2020

Avec le programme «Young Talents in Clinical Research» (YTCR), la Fondation Gottfried et Julia Bangerter-Rhyner et l'ASSM souhaitent encourager plus de jeunes médecins à s'engager dans la recherche clinique. Pour cette mise au concours, 1 million de francs sont mis à disposition. En raison de la situation liée au COVID-19, le délai de

https://www.samw.ch/fr/Actualites.html

Postgraduate training should…

- Help young doctors to **become physicians** (*is* vs. *does*)
- Be clear about what it is to be a **good doctor** (in a changing environment with new health professions)
- Be dispensed by **teachers and mentors trained** to promote self-reflection and assessment
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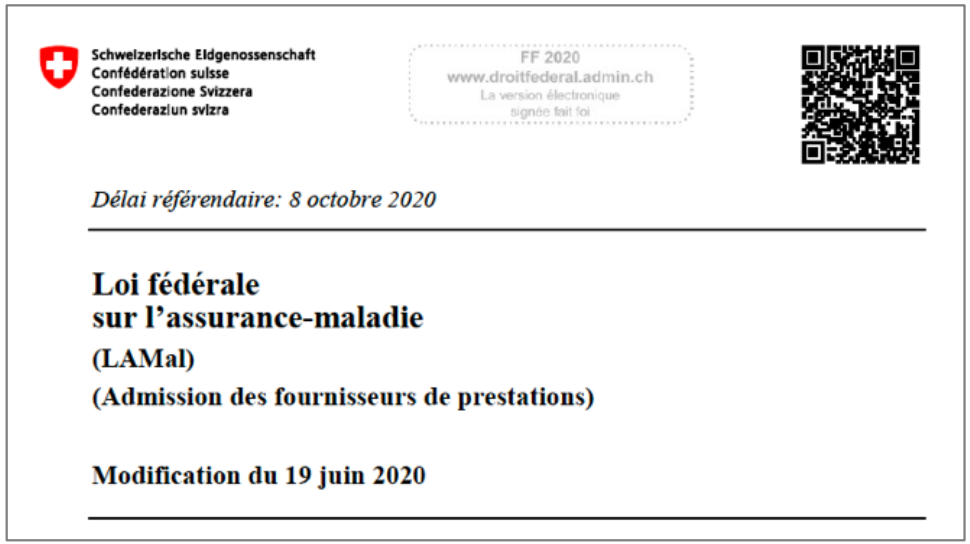
- Be **individualized**, needing early career choices
- Be dispensed in a **safe and health-promoting environment** for residents
- **Match needs of society** (number and type of physicians corresponding to needs in academic and non academic hospitals, and in the community)

Postgraduate training should answer to the needs of society & community

- Until now, only possible regulation by training hospitals
- From October 8, responsibility of the cantons



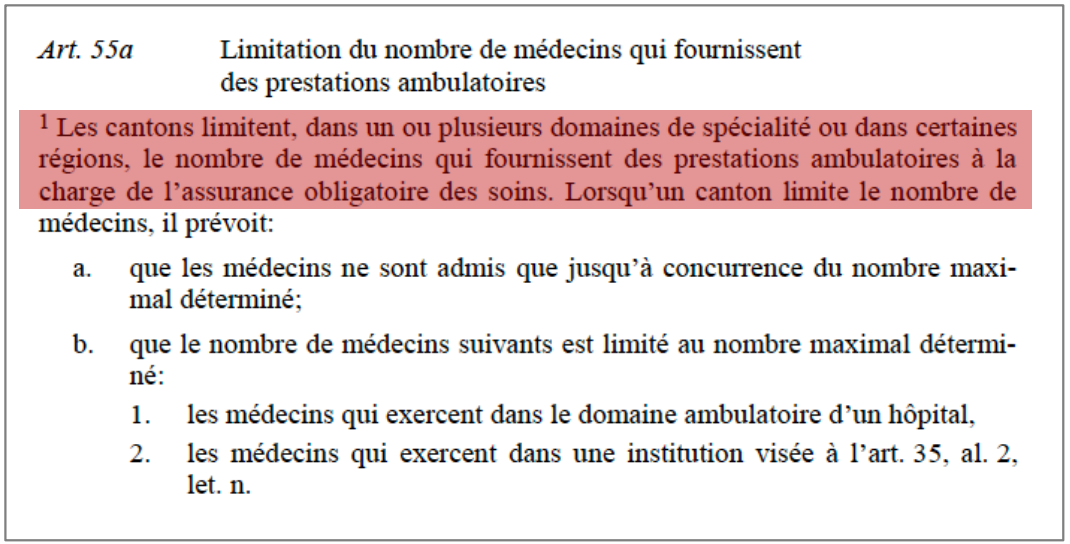
Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

FF 2020
www.droitfederal.admin.ch
La version électronique signée fait foi

Délai référendaire: 8 octobre 2020

Loi fédérale sur l'assurance-maladie
(LAMal)
(Admission des fournisseurs de prestations)

Modification du 19 juin 2020



Art. 55a Limitation du nombre de médecins qui fournissent des prestations ambulatoires

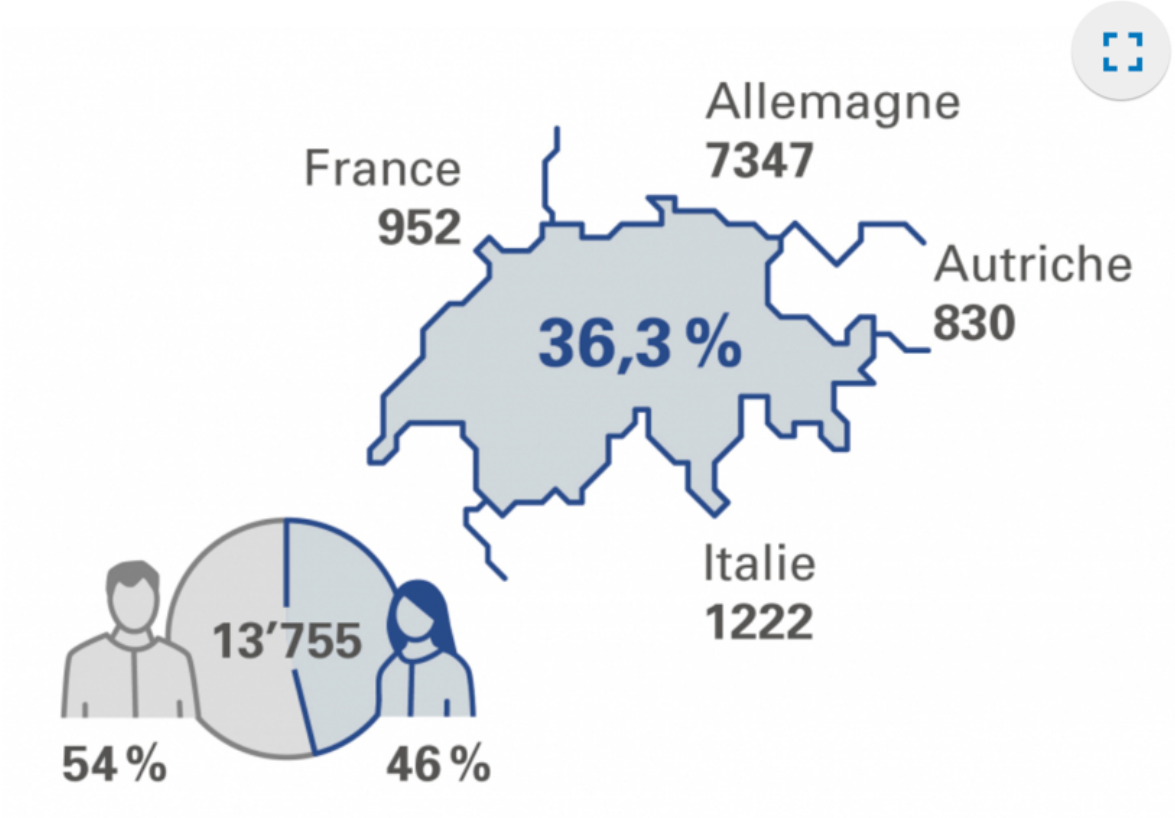
[1] Les cantons limitent, dans un ou plusieurs domaines de spécialité ou dans certaines régions, le nombre de médecins qui fournissent des prestations ambulatoires à la charge de l'assurance obligatoire des soins. Lorsqu'un canton limite le nombre de médecins, il prévoit:

a. que les médecins ne sont admis que jusqu'à concurrence du nombre maximal déterminé;

b. que le nombre de médecins suivants est limité au nombre maximal déterminé:

1. les médecins qui exercent dans le domaine ambulatoire d'un hôpital,
2. les médecins qui exercent dans une institution visée à l'art. 35, al. 2, let. n.

Proportion and origin of foreign MD diplomas in CH



https://bullmed.ch/article/doi/bms.2020.18725

- Switzerland relies heavily on physicians with foreign diplomas
- 40.2% in hospitals vs. 32.7% in outpatient sector
- There is also an imbalance between specialists and primary care physicians
- There is a plethora of physicians in many urban sectors, but rural or very suburban regions are not well provided
- This is a motivational problem for postgraduate trainees

Why do we need so many foreign graduates in our hospitals?

- Hospitals have become large machines demanding an increasing number of physician « workers »
- The *work law* (LTr, ArG) has improved resident well-being (still much to be done…)…
- But increased the number of young doctors required to care for the same volume of patients
- Aggravated by three-tier system:
  - Médecins-adjoints/leitende Ärzte
  - Cheffes de clinique/Oberäztinnen
  - Assistants/Assistenzärzte

➥ **Imbalance between hospital needs and needs for replacement (relève/Linderung)**

Balance or imbalance?

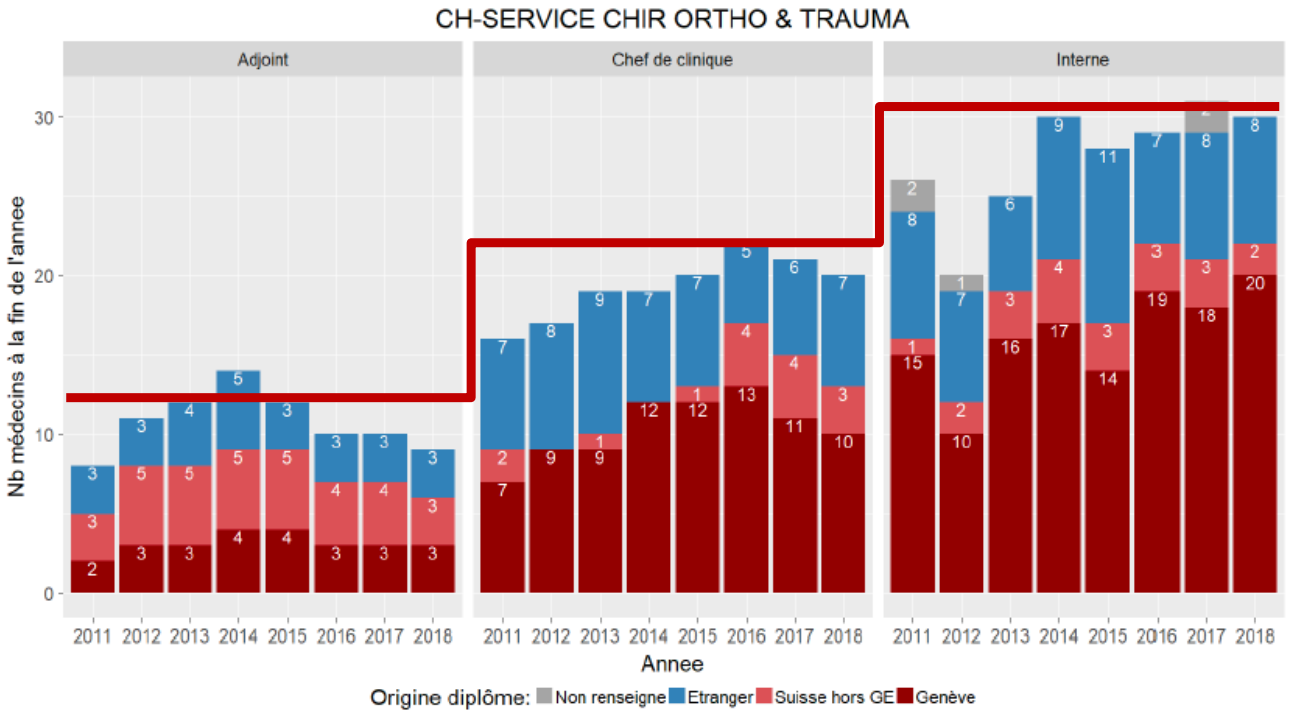
Physicians in training for	Ideal situation	Present situation
Make the hospitals work		
Replace physician workforce		
Consequences	Stability	Strong dependence on foreign graduates Plethora of physicians Increased health costs

Example from HUG: orthopedic surgery

Médecins-adjoints
Leitende Ärzte

Oberärzte
Cheffes de clinique

Assistants
Assistentärzte



Possible solution to needs imbalance

- Seniorization (hospital physicians, hospitalists…)
- Replacing residents by specialized nurses
  - Advanced practice nurses… yes, but 3-year master's degree
  - « Physician associates », Winterthur model: nurses with 450 hours additional training

- Other ideas?

Project REFORMER

- IT platform to list and follow physicians demographics in Suisse Romande
- PG training curricula per specialty, unified across cantons and hospitals
- Single and common hiring committee per discipline
- Requires early choices from candidates to define type of training (e.g. candidate to replace a hospital-based or an outpatient-based physician)

Postgraduate training perspectives for 2030

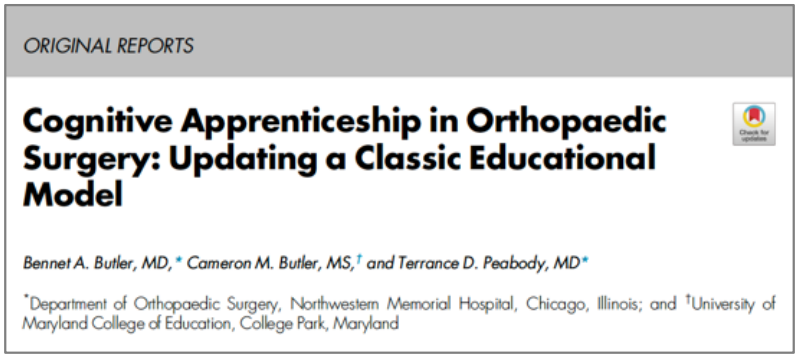
- Postgraduate training should aim at « *ensuring that each practitioner has acquired both the knowledge and skills necessary for the practice of medicine and a professional identity so that he or she comes to think, act, and feel like a physician* »…
- We will still need lists of objectives and regular assessment including on the workplace, but we need to recognize the apprenticeship dimension of physician training
- This puts a burden on faculty at all levels (including junior) to be effective role models and coaches (a highly satisfactory role)
- Physicians should be trained with other health professionals in team and interprofessional work
- Tomorrow's physicians will not be defined by what they do but on high-level skills (uncertainty management, evidence-based practice, shared decison-making, patient communication and education skills)

Postgraduate training perspectives for 2030

- **Residents are our future** and should be regarded as our most precious common good, so we need to nurture them in a safe and health-promoting work environment
- PG curricula need to be individualized and focused on the future work environment, not only the chosen specialty
- Research careers should be embedded in adapted and individualized curricula with protected time to allow work-life balance
- PG training should match needs of society and produce the appropriate number and type of physicians to answer the needs of academic and non academic hospitals, and of the community

Thank you for your attention!

The cognitive apprenticeship model



ORIGINAL REPORTS

Cognitive Apprenticeship in Orthopaedic Surgery: Updating a Classic Educational Model

Bennet A. Butler, MD, Cameron M. Butler, MS,† and Terrance D. Peabody, MD**

*Department of Orthopaedic Surgery, Northwestern Memorial Hospital, Chicago, Illinois; and †University of Maryland College of Education, College Park, Maryland

TABLE 1.

Principle	Explanation
Modeling	Student observes teacher completing a task
Coaching	Teacher observes student completing a task, provides suggestions and feedback
Scaffolding	Teacher provides learning supports to student to allow increased focus on learning specific principle or skill
Articulation	Teacher encourages student to explicitly verbalize their thought processes as they complete a task
Reflection	Teacher encourages student to critically assess their own skills and/or knowledge base
Exploration	Student completes a task under minimal guidance, and allowed to develop their own problem solving methods when needed

Modeling	Student observes teacher completing a task
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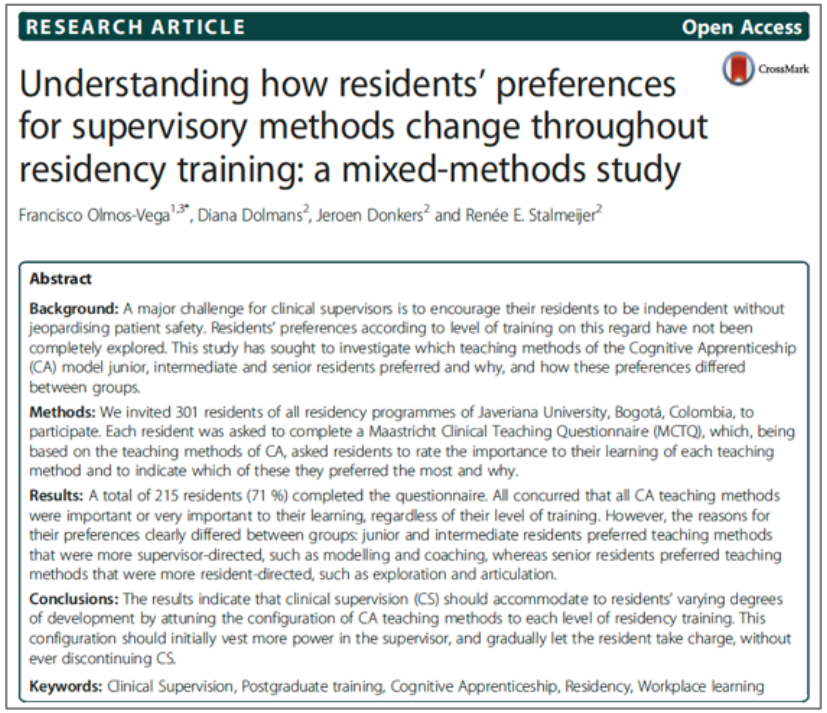
J Surg Ed 2019;76:931-935

The cognitive apprenticeship model



RESEARCH ARTICLE Open Access

Understanding how residents' preferences for supervisory methods change throughout residency training: a mixed-methods study

Francisco Olmos-Vega[1,3*], Diana Dolmans[2], Jeroen Donkers[2] and Renée E. Stalmeijer[2]

Abstract

Background: A major challenge for clinical supervisors is to encourage their residents to be independent without jeopardising patient safety. Residents' preferences according to level of training on this regard have not been completely explored. This study has sought to investigate which teaching methods of the Cognitive Apprenticeship (CA) model junior, intermediate and senior residents preferred and why, and how these preferences differed between groups.

Methods: We invited 301 residents of all residency programmes of Javeriana University, Bogotá, Colombia, to participate. Each resident was asked to complete a Maastricht Clinical Teaching Questionnaire (MCTQ), which, being based on the teaching methods of CA, asked residents to rate the importance to their learning of each teaching method and to indicate which of these they preferred the most and why.

Results: A total of 215 residents (71 %) completed the questionnaire. All concurred that all CA teaching methods were important or very important to their learning, regardless of their level of training. However, the reasons for their preferences clearly differed between groups: junior and intermediate residents preferred teaching methods that were more supervisor-directed, such as modelling and coaching, whereas senior residents preferred teaching methods that were more resident-directed, such as exploration and articulation.

Conclusions: The results indicate that clinical supervision (CS) should accommodate to residents' varying degrees of development by attuning the configuration of CA teaching methods to each level of residency training. This configuration should initially vest more power in the supervisor, and gradually let the resident take charge, without ever discontinuing CS.

Keywords: Clinical Supervision, Postgraduate training, Cognitive Apprenticeship, Residency, Workplace learning

BMC Medical Education (2015) 15:177

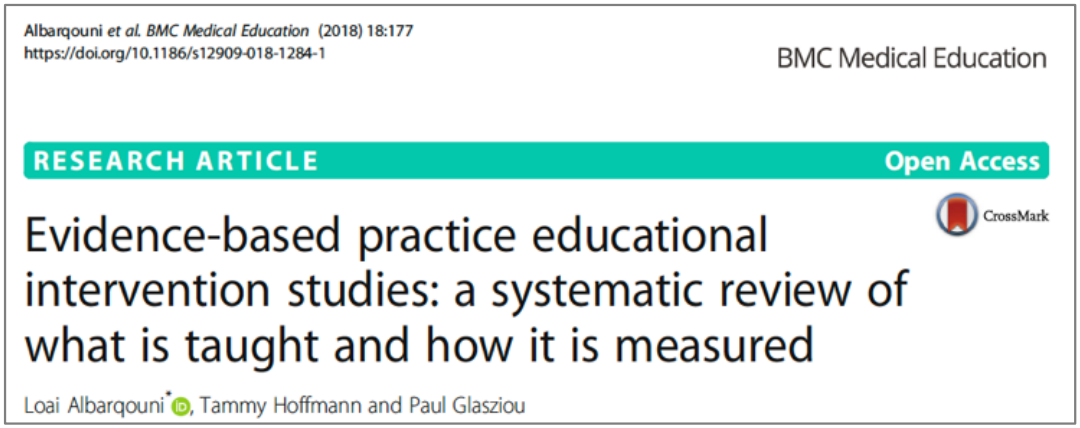
Preferred by junior residents

Modeling	Student observes teacher completing a task
Coaching	Teacher observes student completing a task, provides suggestions and feedback
Scaffolding	Teacher provides learning supports to student to allow increased focus on specific principle or skill

Articulation	Teacher encourages student to explicityl verbalize their thought processes as they complete task
Reflection	Teacher encourages student to critically assess their own skills and/or knowledge base
Exploration	Student complettes task under minimal guidance and allowed to develop their own problem solving methods when needed

Preferred by senior residents

Are we effective in teaching evidence-based practice?


Albarqouni *et al. BMC Medical Education* (2018) 18:177
https://doi.org/10.1186/s12909-018-1284-1

BMC Medical Education

RESEARCH ARTICLE Open Access

Evidence-based practice educational intervention studies: a systematic review of what is taught and how it is measured

Loai Albarqouni, Tammy Hoffmann and Paul Glasziou

BMC Medical Education 2018;18:177

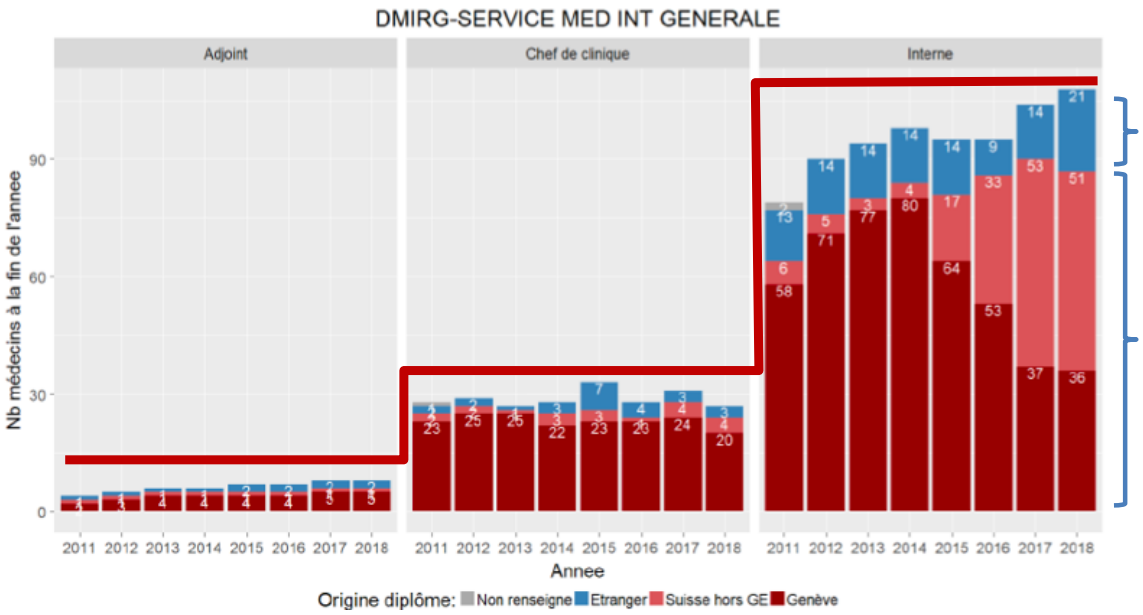
Conclusions: Most EBP educational interventions which have been evaluated in controlled studies focus on teaching only some of the EBP steps (predominantly critically appraisal of evidence) and did not use high-quality instruments to measure outcomes

Example from HUG: General internal medicine

Médecins-adjoints
Leitende Ärzte

Oberärzte
Cheffes de clinique

Assistants
Assistentärzte



Staff composition

Diploma

Foreign

CH

Evolution over time