Certification

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Overview

- Brief US history of certification
- Who cares about certification?
- Certification models
  - Focus on primary certification
- Educational effects of certification
- Evidence supporting certification

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Brief US History

- Licensure
  - Required to practice medicine
  - Offered by states and other jurisdictions (N=70)
  - Special expertise is not recognized
- Specialism (1850-1900)
  - Science expands rapidly
  - Physicians specialize
  - Specialists formed societies

"I find that the further I go back, the better things were, whether they happened or not."

Mark Twain

Brief US History

- Specialty Boards (1916-)
  - Created by the specialty societies and the AMA
  - Set standards for training, experience, and exam performance
  - Participation voluntary
- American Board of Medical Specialties (1933)
  - Forum for discussion of common issues
  - Sets standards for the development of new certificates

Motivations for Certification

- Who cares about certification?
  - Patients
  - Doctors
  - Employer
  - Profession

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Motivations for Certification

- Patient
  - Improved quality of care
  - Reduced risks
  - Increased satisfaction
- Doctor
  - Establishes credentials
  - Improves career opportunities
  - Improves earnings
  - Offers peer recognition
  - Reflects achievement and commitment

Motivations for Certification

- Employer
  - Improves quality
  - Improves efficiency
  - Improves patient satisfaction
  - “Objective” marker
  - Demonstrates staff credibility
  - Recruitment tool
- Profession
  - Defines scope of competence
  - Acts as a barrier to entry
  - Ensures high standards
  - Promotes professionalism

Models of Certification

- Primary certification of physicians
  - Internal medicine
- Subspecialty certification of physicians
  - Pulmonary medicine
- Cross-specialty certification of physicians
  - Sleep medicine
- Cross-disciplinary certification
  - ECG interpretation
- Other forms of influence

Primary Certification

- Allergy & Immunology
- Anesthesiology
- Colon & Rectal Surgery
- Dermatology
- Emergency Medicine
- Family Medicine
- Internal Medicine
- Medical Genetics
- Neurological Surgery
- Nuclear Medicine
- Obstetrics & Gynecology
- Ophthalmology
- Orthopedic Surgery
- Otolaryngology
- Pathology
- Pediatrics
- Physical Medicine & Rehab.
- Plastic Surgery
- Preventative Medicine
- Psychiatry & Neurology
- Radiology
- Surgery
- Thoracic Surgery
- Urology

Primary Certification

- Boards vary dramatically in size (2,000-210,000)
- Board evolution
  - Some disciplines remain integrated
  - Some disciplines have fragmented
  - Many influences are political

"Politics is not an exact science"

Otto von Bismarck

Certification Program Requirements

- What requirements are needed for well functioning certification program?
  - Competencies
    - Drives what you assess
  - Good standing
  - Previous educational experience
  - Examination performance

Primary Certification

- Core competencies
  - Patient care
    - Provide compassionate, appropriate, and effective treatment
  - Medical knowledge
  - Practice-based learning
    - Evaluate patient care practices, assimilate evidence, and improve practice
  - System-based practice
    - Awareness and use of systems of healthcare
  - Interpersonal and communication skills
  - Professionalism
    - Commitment to professional and ethical principles

Primary Certification

- Requirements
  - Unrestricted license to practice medicine
  - Undergraduate training
    - Graduation from an accredited US medical school or ECFMG certification
  - Postgraduate training
    - Satisfactory completion of accredited training program
      - 3 to 7 years

Primary Certification

- Requirements
  - Assessment during postgraduate training
    - In-training examination sponsored by Board or specialty society
      - Good predictor of ultimate success
    - Local assessment
      - Focused on the ACGME competencies
        - » Internal medicine training program directors required to submit ratings annually
        - » Methods of assessment left to training program directors
        - » Unsatisfactory performance may require repeat of the year of training

Primary Certification

- Requirements
  - Final examinations
    - Written/computer-based examinations
      - All Boards
      - Proctored with high security
      - Multiple choice questions predominate
        - » Valid, reliable, and easily score/reported
        - » Constructed to conform to a blueprint
      - Questions authored by Board members, faculty, and practitioners

Primary Certification

- Requirements
  - Final examinations
    - Oral examination still offered by most Boards
      - Required in addition to the written/computer-based examination
        - » Written must be passed first
      - Run by the Board Directors plus associate examiners
      - Test material includes candidate's charts, cases and questions developed by Board
        - » Real patients no longer used
    - Oral exams abandoned by larger Boards
      - High correlations with written exams and logistics

Primary Certification

- Maintenance of competence
  - In 1936, there was discussion of "Reregistration at stipulated intervals"
  - Many Boards started with voluntary programs
  - In 1969, the Board of Family Medicine limited duration of validity to seven years
  - All Boards now have time-limited certificates with Maintenance of Competence (MOC) programs

Primary Certification

- Maintenance of competence
  - Process
    - Professional Standing
      - Valid, unrestricted medical license
    - Lifelong Learning and Self-Assessment
      - Participation in CME
    - Cognitive Expertise
      - Successful examination performance
    - Practice Performance Assessment
      - Demonstration that they can assess their quality of care against peers and apply the best evidence to improve their practice

Other Forms of Influence

- Within an existing certificate there are ways to highlight the importance of a content area
  - Eligibility requirements
    - Educational experience
  - Content
    - Definition of competence
    - Inclusion in the examination
  - Representation
    - Board
    - Exam writing committees

Educational Effect of Certification

- What are some of the educational effects of certification?
  - Influences what trainees study
  - Influences curricula
- Are these good or bad?
  - It depends
- What is the source of content for certification?
  - Practice

Evidence of Effectiveness

- What information would you gather to establish that a certification program is effective?
  - Is it related to the quality of education?
  - Is it related to scores on other tests?
  - Is it related to practice performance?
- An example using the certification programs of the American Board of Internal Medicine

Evidence of Effectiveness

- Quality of undergraduate medical education
  - Candidates who attend better U.S. medical schools perform better on the exam
  - Allopathic US Medical Graduates (USMGs) consistently perform best on the exam followed by
    - Osteopaths
    - Graduates of Caribbean medical schools

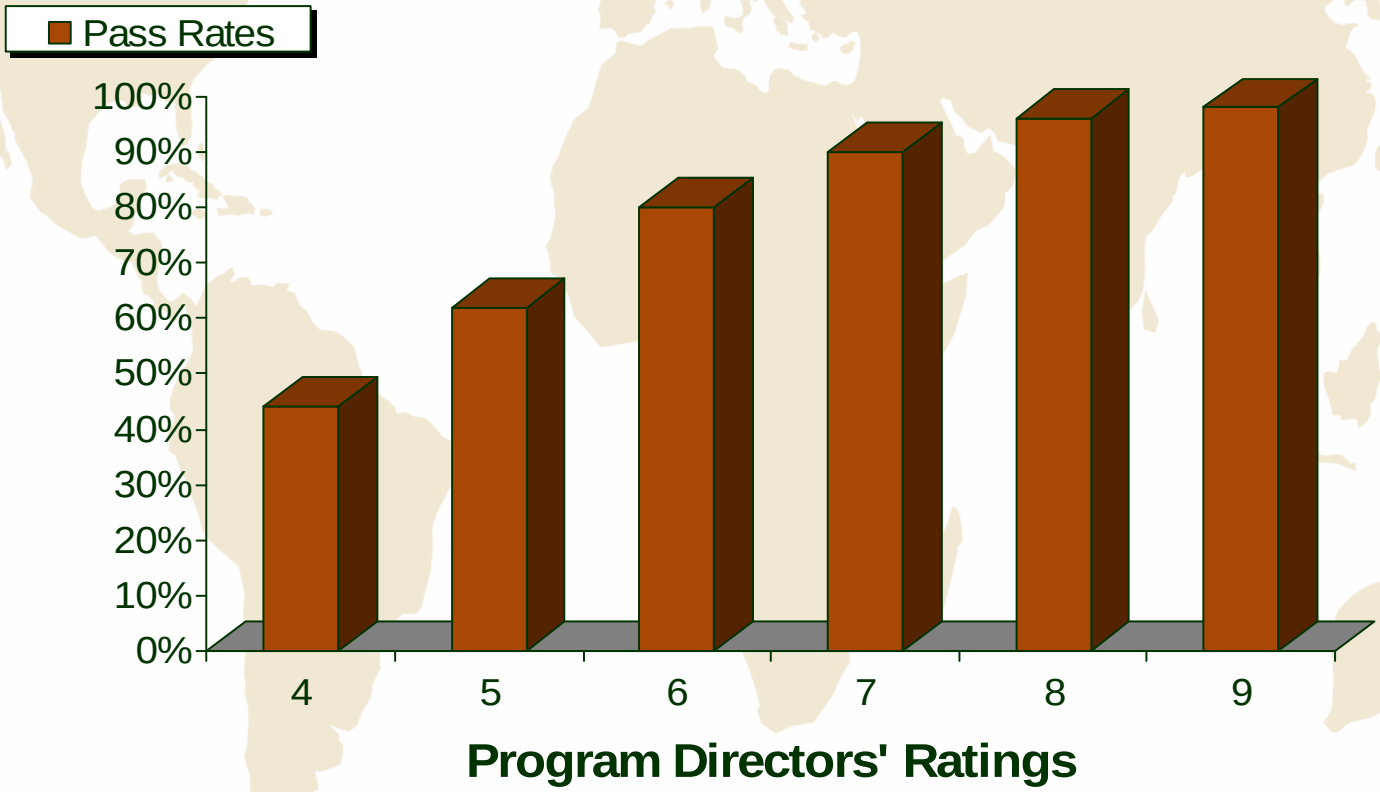
Evidence of Effectiveness

- Quality of postgraduate training
  - Candidates with formal training score higher than candidates without it
    - Geriatric medicine and critical care medicine
  - Candidates with more formal training score higher than candidates who have less
    - Geriatric medicine, cardiovascular disease and critical care medicine

Evidence of Effectiveness

- Quality of postgraduate training
  - Candidates who attend better residency programs score better on the exam
    - Top programs > university programs
    - University programs > non-university programs
  - Candidates who perform better in the training program perform better on the exam
    - Program directors' ratings

1998 Pass Rates and Ratings



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Evidence of Effectiveness

- Quality of education
  - These studies confound educational experience with prior achievement
    - Statistically removed licensing exam scores from IM exam scores
      - Faculty/resident ratio, medicine teaching beds
    - Statistically removed IM exam scores from cardiology scores
      - Length of training, program directors ratings
- Conclusion: Exam scores are sensitive to the quality of education

Evidence of Effectiveness

- Relationships between the exam and scores on
  - Written exam formats like PMPs and essays
  - Video and computer-based simulations
  - Clinical evaluations like ratings, orals, and SP-based exams
- Correlations are higher when the tests assess similar aspects of competence

Evidence of Effectiveness

- Practice volume
  - Cardiology
    - Echocardiograms scores and the number interpreted in practice
    - Arteriogram/ventriculogram scores and the number of angioplasties done
  - Geriatric medicine
    - Geriatric test scores and seeing more geriatric patients in practice

Evidence of Effectiveness

- Practice volume
  - Recertification in critical care medicine
    - Self-evaluation exam scores and time spent in the direct care of CCM patients
    - Proctored exam scores and time spent in the direct care of CCM patients
      - Relationship is maintained even when initial certifying exam and SEP scores are statistically removed

Evidence of Effectiveness

- Process of care
  - Comparison of certified and non-certified office-based internists
    - Modest differences in preventive care
    - Differences in
      - Performance on a knowledge test
      - Peer ratings

Evidence of Effectiveness

- Patient outcomes
  - 244,151 CHF/AMI hospitalizations for 4 years in 184 institutions in PA
    - Outcomes
      - In-hospital mortality and length of stay
    - Covariates
      - Probability of death on admission for each patient
      - Characteristics of physicians and institutions
- Results
  - Certification is associated with a decrease in patient mortality and shorter length of stay
  - Relationships persist even after taking account of severity of illness, level of specialization, institutional and physician volume…

Evidence of Effectiveness

- Assessment is related to
  - Quality of education
  - Performance on other tests
  - Performance in practice
- Certification is a marker of a quality and an effective screen

Summary

- Certification programs improve the quality of care but they...
  - Must satisfy the needs of a variety of stakeholders
  - Are politically fraught, suggesting a stepwise approach
  - Are expensive
  - Are not the only means of increasing standards and visibility