

**MEDICAL EDUCATION  
IN THE  
UNITED STATES AND CANADA**

A REPORT TO  
THE CARNEGIE FOUNDATION  
FOR THE ADVANCEMENT OF TEACHING

BY  
ABRAHAM FLEXNER

WITH AN INTRODUCTION BY  
HENRY S. PRITCHETT  
PRESIDENT OF THE FOUNDATION

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Jafet Arrieta



## Overview

- Study of medical education
- Written by Abraham Flexner
- Published in 1910 as *Bulletin No. 4* of the Carnegie Foundation for the Advancement of Teaching.

## History

- In the late 19<sup>th</sup> century a modern medicine emerged
  - ▣ Antiseptic surgery
  - ▣ Scientific method
    - Evidence-based medicine
    - Clinical trials
- 1904 – AMA created the Council on Medical Education (CME)
  - ▣ Objective
    - Restructure American medical education
    -

## History

- 1908 – The CME asked the Carnegie Foundation for the Advancement of Teaching to survey American medical education
  - ▣ Elimination of medical schools that failed to meet CME's standards
  - ▣ Flexner visited the 155 medical schools in the US and Canada
    - All differed in curricula, methods of assessment, and requirements for admission and graduation.
    - Several schools received praise for excellent performance
      - Johns Hopkins
        - It was described as 'model of medical education'
      - Harvard
      - Western Reserve
      - McGill, University of Toronto

## Focus on

- ▣ Students
- ▣ Curriculum
- ▣ Faculty quality
- ▣ Laboratories
- ▣ Clinical
- ▣ Training and sites
- ▣ Finance
- ▣ Governance

## Changes

- ▣ Using the Johns Hopkins University School of Medicine as the ideal, Flexner recommended that:
- ▣ Admission to a medical school should require
  - ▣ a high school diploma
  - ▣ at least two years of college or university study
- ▣ The length of medical education be 4 years, and its content should be decided by the CME.
- ▣ Proprietary medical schools should either close or be incorporated into existing universities.
- ▣ Medical schools should appoint full-time clinical professors.

## Impact

- Higher admission and graduation standards
- Adherence to protocols of mainstream science
  - ▣ 60% of American medical schools fell short of the standard and were closed.
- It concluded that there were too many medical schools in the US
  - ▣ Reversion of American universities to male-only admittance programs to accommodate a smaller admission pool
- Strengthen state oversight
- Faculty should engage in research
- Practitioners should be scientists

## Impact

- Full-time clinical faculty
- Medical school-hospital clinical ties
- Complete redesign of curriculum, training, finances, faculty roles and compensation, clinical experiences and links between medical schools and hospitals
- Growth of science
- Gradual contemporary emergence of the university as center of teaching, learning and research
- Renewed emphasis on state licensure to control entry and regulate conditions of practice
- Changing role of hospitals

## Consequences

- A physician receives at least six, and preferably eight, years of post-secondary formal instruction
- Medical training adheres closely to the scientific method
- Average physician quality has increased significantly
- No medical school can be created without the permission of the state government.
  - ▣ The size of existing medical schools is subject to state regulation
- The annual number of medical school graduates declined
- Restriction of the supply of physicians, and raising of the incomes of the remaining practitioners.

## Consequences

- The report created a single model of medical education
  - ▣ *"An education in medicine," wrote Flexner, "involves both learning and learning how; the student cannot effectively know, unless he knows how." Flexner.*
  - ▣ *... "the physician as a social instrument... whose function is fast becoming social and preventive, rather than individual and curative."*

## Consequences

- The number of American medical schools was reduced to 31
  - ▣ The number of medical graduates was cut from 4,400 to 2,000
- In 1935 there were 66 medical schools
- Implementation of the university-based medical education model
  - ▣ Medical education became much more expensive
- The Report tended to delegitimize existing women doctors and doctors of color.
- Domination of American medicine by well-off white males.
- Elimination of alternative medicine courses from the curriculum