

Homeopathy or regular medicine? Cook County Hospital, Chicago, Illinois, 1882–1887: evidence, politics, customer choice and provider perceptions at work

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“The customer does not have to understand. The customer is the customer.”

Philip Crosby 1980¹

“Quality isn’t asserted by the supplier; it’s perceived by the customer.”

John Guaspari 1988²

“Make a habit of discussing a problem on the basis of the data and respecting the facts shown by them.”

Kaoru Ishikawa 1992³

“We must trust to nothing but facts. These are presented to us by Nature and cannot deceive. We ought in every instance to submit our reasoning to the test of experiment.”

Antoine Lavoisier 1743–1794⁴

“The truth is that medicine ... is sensitive to outside influences.” [... including politics.]

Oliver Wendell Holmes 1809–1894⁵

These five quotations relate to four forces that can shape medical care and its quality: the marketplace (voice of the customer), the scientific facts (two quotes), politics and provider perceptions.

To understand the reality of healthcare delivery, we need to look for the interplay of root cause, social forces at work. These include patient choice in the marketplace, politics, data about the actual process and outcomes of care and provider perceptions. This series of articles has focused on individual martyrs and heroes. In this story there is no such person—and that is one of the points we want to make. It is rare that the often hidden forces of patient choice, politics, data and provider perception can be clearly seen. A century of hindsight helps us to understand what went on at Cook County Hospital in Chicago, Illinois, USA, which provided homeopathic and regular medicine services. Data from this hospital and modern statistical analysis allow for a unique comparison of these two forms of treatment in the 1880s.

Homeopathy originated in Germany with the writings of Samuel Hahnemann (1755–1843). The basic work is his *Principles of Rational Medicine*, published in 1810. Homeopathy has two central ideas:

- ▶ drugs that produce a similar effect to the symptoms of a disease will cure that disease (“like cures like”);
- ▶ infinitely small doses of the drug are most effective.

This minimalism is in contrast to the overdosing and heroic treatment that was prevalent in regular medicine in the first part of the 1800s.

Hahnemann had many followers in the USA and Europe,^{6,7} and not surprisingly, homeopathic and regular physicians argued over the relative merits of their treatments. A number of evaluative studies were carried out to answer this question. Some of these studies were seriously flawed whereas others were creative, particularly in their use of placebo controls. These studies are summarised by Dean⁸ and Haller⁷ (pp 104–8). We might summarise by saying that by 1880 there was not sufficient evidence to drive either homeopathy or regular medicine out of existence.

There is one source of evidence which allows a comparison between the two types of medicine. As stated above, Cook County Hospital in Chicago in the 1880s offered both regular medical and homeopathic inpatient services. Discharge results were recorded in a way that allows us to compare them today.

In the rapidly growing city of Chicago, a new building was erected for the Cook County Hospital in 1876. Owned and operated by the elected Cook County commissioners, this hospital provided care for the indigent. Its role was similar to that of the Bellview Hospital in New York City where later Russell Cecil was to carry out his trials on pneumonia vaccine on different inpatient units. Both regular medical and homeopathic doctors and their respective medical schools wished to staff Cook County Hospital; one reason was to teach their medical students. The county commissioners voted on 27 November 1881 to have both types of medicine provided in their acute care hospital. Each group was to have separate inpatient units for their patients (box 1).⁹

It is our good fortune to know how patients were allocated to the two services. On 4 January 1882, the commissioners voted to give patients their choice.¹⁰ On the application of the school known as the Regular School of Medicine, the committee resolved:

“That any person who is a proper person for hospital treatment, upon application, shall have permission to make his or her choice of one of the Schools of Medicine, say either Homeopathic or Regular, and be assigned to the Ward to receive his or her choice of treatment under direction of such school as he or she may

Box 1: Homeopathic practice

“The Committee on Hospitals reported in favor of allowing the homeopathic schools of medicine to have charge of a part of the County Hospital, and to this end the committee recommended that they be allowed to request the Chicago Academy of Homeopathic Physicians and Surgeons to recommend that physicians connected with each of the two homeopathic colleges (the Hahnemann and Chicago Homeopathic Medical), and three not connected with either of said colleges to constitute a medical board for the management and supervision of the part of the hospital to be assigned to their school, the same to be elected and assigned by the County Board.”

select; the Warden of the Hospital to ascertain the desires of the patient.”

This resolution was discussed before the homeopathic school, which was present through its representatives and as no objection was made, it was adopted unanimously. But this strategy did not work because most patients did not know the difference between the two services. So on 22 May 1882 the commissioners voted to allocate patients by rotation (box 2).¹⁰

RESULTS OF CARE

The number of patients and their discharge status was recorded and reported in the annual reports of the warden of the hospital. Both schools had medical, surgical and gynaecological

Box 2: Commissioner O'Neill's suggestion, adopted unanimously

“WHEREAS, The fact having been established during the past four months that the average patients admitted to Cook County Hospital does not actually know the difference between homeopathic and regular school treatments and

“WHEREAS, The service given by the representatives of the homeopathic school having already proved beneficial to the interests of Cook County Hospital and

“WHEREAS, The resolution offered Jan. 1882 is as follows, to wit:

“Resolved, That any person who is a proper person for hospital treatment, upon application shall have permission to make his or her choice of one of the schools of medicine, say, either homeopathic or regular, and be assigned to the ward to receive his or her choice of treatment, under direction of such school, as he or she may select; the Warden of the hospital to ascertain the desires of the patient.

“If the above resolution is conformed to it must necessarily conflict with the spirit of the resolution offered by Commissioner Wood Sept. 5, 1881 and carried Nov. 28, 1881, as to the assignment of ward to the homeopaths; therefore, be it.

“Resolved, As an amendment to the resolution in the report of the Committee on Hospitals of Jan. 4, 1882, that the Warden of Cook County Hospital be and he is hereby instructed to hereafter assign every fourth male surgical and every fourth female surgical, and every fourth gynecological case, and every fifth male medical and every fifth female medical case to the care of the homeopaths, that they may secure and subsequently maintain the occupancy of the beds already assigned them.”

Table 1 Medical summary: report of patients treated by the regular school, with results, for the year ending 31 August 1884¹¹

Medical department	
On hand, the year ending 31 August 1883	108
Admitted for the year ending 31 August 1884	2275
[Total]	2383
Discharged, recovered	812
Discharged, improved	488
Discharged, unimproved	111
Discharged, by request	129
Discharged, disorderly	85
Discharged to County Infirmary	313
Discharged to Washingtonian Home	2
Discharged to Insane Court	8
Discharged to Home for Incurables	1
Discharged to Marine Hospital	1
Discharged to Home for the Aged	1
Transferred to surgical department	108
Transferred to gynaecological department	32
Transferred to eye and ear department	5
Discharged to County Jail	4
Transferred to obstetrical department	1
Discharged, absconded	2
Discharged to dispensary	6
Number of deaths	284
Remaining on hand	95
[Total]	2383

departments, and the results were publicly reported for each. Table 1 presents an example of such a report for the regular medical service in 1883–4.¹¹

We could obtain these outcome results for three time periods: 1883–4 (12 months); 10 months up to 30 June 1887; and 6 months from 1 July to 31 December 1887. These were all from the time we think that patients were rotationally assigned, giving us some assurance of similarity of patient populations and yielding a large sample size.^{12 13} We focused on the following outcome conditions: recovered, improved, unimproved, discharged by request and death. The first three categories are subjective, and subject to the biases of the doctors from the respective schools of care. Discharged by request is the patient's choice to decline treatment and can be viewed as a “market test” of the care provided. These patients had better things to do. During this time the Massachusetts General Hospital classified such patients as “eloped”. Death is an unambiguous outcome. Table 2 compares the two medical services and table 3 shows the results for the two surgical services (data were presented for the two gynaecology services but the numbers were small). We asked three questions of these data:

Table 2 Cook County Hospital results of medical care 1883–4 and 1886–7: regular and homeopathic services

Discharge results	Regular medicine No. of patients (%)	Homeopathic medicine No. of patients (%)
Recovered	2358 (35.9)	641 (38.8)
Improved	1072 (16.3)	199 (12.0)
Unimproved	198	24*
Discharged by request	616 (9.4)	313 (18.9)
Death	759 (11.5)	190 (11.5)
Total**	6574 (100)	1653 (100)

*This category was left blank in the 1883–4 report.

**Other results not shown.

Heroes and martyrs

Table 3 Cook County Hospital: results of surgical care 1883–4 and 1886–7: regular and homeopathic services

Discharge results	Regular surgery No. of patients (%)	Homeopathic surgery No. of patients (%)
Recovered	2055 (39.5)	802 (48.7)
Improved	987 (19.0)	198 (12.0)
Unimproved	122 (2.3)	16*
Discharged by request	614 (11.8)	282 (17.1)
Death	303 (5.8)	97 (5.9)
Total**	5203 (100)	1646 (100)

*No unimproved patients reported in two of three periods.

**All other discharge categories excluded.

- ▶ Was mortality different between homeopathy and regular medicine? Mortality is clear.
- ▶ Was the rate of recovery different? Recovery was in the eye of the doctor.
- ▶ Was there any difference in the rates of elopement? Leaving the hospital against medical advice is the patient making a choice.

We answered these questions by the use of percentages and χ^2 tests to reject random variation as an explanation.

Mortality

Mortality was identical: 11.5% for both medical services and 5.8% and 5.9% for the surgical services. As an aside we were intrigued by the consistently different mortality between medicine and surgery.

Recovery

Recovery rates were higher for homeopathy: 35.9% for the regular medical service and 38.8% for the homeopathic medical service. This 3% difference was significant at $p = 0.028$ due to the large sample size. The two surgical services had a 9% difference in recovery rates in favour of homeopathy (39.5% regular vs. 48.7% homeopathy, $\chi^2 p < 0.001$).

Left against medical advice

More patients left both medical and surgical homeopathic care than regular care (9.4% regular medicine vs. 18.9% homeopathic medicine, $p < 0.001$; 11.8% regular surgery vs. 17.1% homeopathic surgery, $p < 0.001$).

DISCUSSION

Thus we obtained different results based on fact (death), doctor perceptions (recovery) and patient preference (leaving) and all three measures have something to tell us. We estimate that the separate homeopathic services ended in the first decade of the 1900s with the introduction of civil service regulations and examinations. In Frank Billings's history of Cook County Hospital 1876–1922 the end of the homeopathic service is not commented on.¹³

We see the interplay of four different forces in this history: patient choice, politics, data about actual process and outcomes of care, and provider perception. Billings suggests the county commissioners were sometimes good public servants and sometimes corrupt. Chicago residents may have thought the same throughout the entire last century. The commissioners responded to the political influence of both groups of doctors. Homeopathy across America declined in 1890–1910 in part because patients went elsewhere for their care. The similar outcomes of care perhaps allowed both groups to exist side by side. If there was a massive, clear difference in outcomes, we imagine that the worse care would have been expelled from the hospital.

These hospital data were not collected for the purpose of a prospective, predefined research study. Other hospitals had similar published reports to show that they provided benefits to the community justifying their ongoing support. We suppose that if the outcomes were sharply different, the “winning” side would have trumpeted the results abroad in their ongoing economic struggles with rival practitioners. Several historians have noted the existence of this history, but these data have not been examined with a statistician's eye. We believe the similarity in outcomes is important because it is the only good large controlled comparison of these two types of medicine in the 1880s. The similarity of results allowed several schools of medicine to coexist, compete for patients, and be heard in the halls of government.

The events at Cook County Hospital show the effect of the four forces referred to in the quotations at the start of this article. Politics and medical politics divided the hospital into two services. This division could not have persisted with large differences in mortality, but the data show no difference in rates of death. There is a small but significant difference in provider perception as measured by the number of patients reported improved at discharge. Patients chose to leave homeopathic care against advice more frequently. If this trend were widespread it may explain the decline of American homeopathy. The comparative lack of financial support to homeopathic medical schools may have been the root cause of Abraham Flexner's criticism in his report of 1910, which in turn led to the closure of most of these schools. Political decisions created the two Cook County Hospital services and the ratio of patients going to each service. Doctors' perceptions and data showing similar death rates kept these services going. Patient preference and choice may explain the success of regular medicine over homeopathy in the long run.

Social, economic and political forces and provider perception can explain care then and now. History provides case examples against which we can test the validity of our theories. These theories include statistical reasoning, political science, economics, sociology, social psychology, cultural anthropology or for that matter, the influence of individual heroes or martyrs. These theories allow us to understand what occurred and to generalise to present and future events. Generalisable theory allows us to use the test of history to understand present possibilities. The application of scientific theory to history makes it relevant to today's health policy.

Competing interests: None declared.

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