

Neuhauser D, Diaz M (2007). Use of rotation to allocate patients to homeopathic or regular medical services in Cook County Hospital, Chicago, 1882.



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Homeopathy originated in Germany with the writings of Samuel Hahnemann (1755-1843) and has two central ideas: drugs that produce a similar effect to the symptoms of a disease will cure that disease (“like cures like”); and infinitely small doses of drugs are most effective. This minimalism contrasted with the overdosing, bleeding and purging prevalent in regular medicine (allopathy) during the early 1800’s. Unsurprisingly, Hahnemann had many followers in the USA and Europe (Kaufman 1971).

In 1876, a new building was erected for the Cook County Hospital in the rapidly growing city of Chicago to provide care for the indigent. The hospital was owned and operated by the elected Cook County Commissioners. Both regular and homeopathic physicians, and their respective medical schools, wished to staff Cook County Hospital, partly as a place to teach their medical students. When the homeopathic service was proposed in November 1881, the Commissioners’ Hospital Committee justified this service on the basis that it would “increase the efficiency of the hospital work...reducing very materially the expenditure for drugs and liquors” (Chicago Herald 1881).

On 27 November 1881, the County Commissioners voted to have both types of medicine provided in the hospital, in separate inpatient units (Board of Commissioners 1881; Chicago Herald 1881).

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. (Cook County Board of Commissioners 1881).

Reports of the Board of Commissioners describe the arrangements that led patients to be treated in one or other of the two services (Cook County Board of Commissioners 1881; 1882). Initially (on 4 January 1882), in response to an application from the Regular School of Medicine, the Commissioners voted to allow patients to choose whether they would be treated in the homeopathic or the ‘regular’ medical service.

... 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. (Cook County Board of Commissioners 1882, p 28-29).

Representatives of the homeopathic were present throughout the discussion, and, there being no objection to the resolution, it was adopted unanimously.

However, it turned out that most patients did not know the difference between homeopathic and regular medicine, so this ‘patients’ choice’ strategy did not work. Accordingly, on 22 May 1882, the Commissioners decided that patients should be allocated by rotation to one or other of the two services (Cook County Board of Commissioners 1882, p 222-223). The following resolution, offered by Commissioner O’Neill, was adopted unanimously:

Cite as:

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WHEREAS, The fact having been established during the past four months that the average patient 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 [our emphasis], that they may secure and subsequently maintain the occupancy of the beds already assigned them. (Cook County Board of Commissioners 1882, p 222-223)

How did patients treated in the two services fare?

Not surprisingly homeopathic and regular physicians argued over the relative merits of their treatments and a number of evaluative studies were carried out to address these disagreements. Although some of these were flawed, some were highly creative (Dean 2004; Haller 2005). Evidence available in the reports of the Warden of Cook County Hospital allows us to compare the results of the two types of medicine, particularly because the decision to assign patients to one of the two services was based on rotation, and because of the way status at discharge was recorded. Both the homeopathic and the regular medical schools had medical, surgical, and gynecological departments, and the results were publicly reported in the annual reports of the Warden of the Hospital. Here is an example of such a report for the regular medical service in 1883-1884 (Annual Report of the Warden 1885):

Outcome of patients treated in the medical department of the regular school, for the year ending Aug. 31, 1884:

On hand, the year ending Aug. 31. 1883	108
Admitted for the year ending Aug. 31, 1884	2,275 2,383
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 gynecological 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
	2,383

We have been able to obtain similar data for three time periods: 1883-1884 (12 months); ten months up to 30 June 1887; and six months from July 1 to 31 December 1887 (Annual Reports of the Warden 1885 and 1888).

Throughout these periods, patients seem likely to have been assigned by rotation to either the homeopathic service or the regular service, thus providing some assurance that the patient populations were similar, and allowing a comparison of their experiences relatively free of allocation bias. Examining Tables 1 and 2, one will see that the one to four ratio of patients to homeopathic surgery and the one to five ratio of patients to homeopathic medicine are not exactly followed. Based on 1653 homeopathic medical patients, there should have been 6612 regular patients instead of 6574. Based on 1646 homeopathic surgical patients there should have been 4938 regular medical patients instead of 5303. Several explanations for these differences come to mind. There could be clerical error in assignment. Breaking the sequence could occur by resident physicians to avoid uninteresting patients and to accept interesting ones. Error is introduced at the start and at the end of the year, but this should have a small effect. One service could be full, requiring "boarding" on the other service. Different length of patient stay on the units could effect these numbers. All these explanations have been found at work in other hospitals with such parallel units (firms).

Tables 1 and 2 compare the homeopathic and regular medical services and the two surgical services, respectively. Kaufman (1971, p 151) suggests that homeopaths "used the knife only in obviously surgical cases". Michael Emmans Dean (personal communication) says that almost certainly, by the 1880's homeopathic treatment had become more diverse than as originally defined by Hahneman. Data are available for the two gynecology services but the numbers are small and are not shown here. The mortality rates among patients treated in the homeopathic and regular services were identical (11.5% for both medical services and 5.8 and 5.9% for the surgical services). Recovery rates were statistically significantly higher for homeopathy (38.8% vs 35.9% in the medical services, and 48.7% vs 39.5% in the surgical services). However, statistically significantly more patients left the homeopathic services against medical advice than left the regular medical services (18.9% vs 9.4% in the medical services, and 17.1% vs 11.8% in the surgical services).

Table 1: Results of Medical Care in the Homeopathic and Regular Services at Cook County Hospital, 1883-1884 and 1886-1887.

Homeopathic medicine

Regular medicine

Status at discharge	Number (%) of patients	Number (%) of patients
Recovered	641 (38.8)	2358 (35.9) p=.028
Improved	199 (12.0)	1072 (16.3)
Unimproved	24*	198
Discharged by request	313 (18.9)	616 (9.4) p<.0001
Death	190 (11.5)	759 (11.5)
Total**	1653 (100.0)	6574 (100.0)

* This category was left blank in the 1883-1884 report

** Other results not shown

Table 2: Results of Surgical Care in the Homeopathic and Regular Services at Cook County Hospital, 1883-1884 and 1886-1887.

Status at discharge	Homeopathic surgery	Regular surgery
	Number (%) of patients	Number (%) of patients
Recovered	802 (48.7)	2055 (39.5) p<.0001
Improved	198 (12.0)	987 (19.0)
Unimproved	16*	122 (2.3)
Discharged by request	282 (17.1)	614 (11.8) p<.0001
Death	97 (5.9)	303 (5.8)
Total**	1646 (100.0)	5303 (100.0)

* No unimproved patients reported in two of three periods

** All other discharge categories excluded

The apparently comparable results of homeopathic and regular medical care at the Cook County Hospital are consistent with John Forbes' conclusion in 1846 that there was no good evidence that either homeopathy or allopathy (regular medical care) helped patients ([Forbes 1846](#)), an even-handed approach that incurred the enduring anger of the London medical establishment ([Agnew 2008](#))!

The separate homeopathic services at Cook County Hospital appear to have ended in the first decade of the 1900's, after civil service regulations and examinations had been adopted in 1900. A history of Cook County Hospital between 1876 and 1922 makes no mention of the end of the homeopathic service (Billings 1922).

Comment

The analysis we have presented is an example of 'Firms Research'. In the 1800's, large cities led to large public hospitals, which had to be divided into subunits or wards. In England these units were called 'firms' (Stevens 1966). Sometimes these subunits were organized for different types of patients (for example, medical or surgical), sometimes for similar patients (for example, surgical ward east and surgical ward west). Russell Cecil took advantage of this structure at Bellevue Hospital in New York City in clinical trials to assess the effects of serum treatment of pneumonia ([Cecil and Larsen 1922](#)): in some internal medicine units ('firms') all patients received the serum, while in others few or none did ([Neuhauser et al. 2005](#)).

By the 1980's "Firms Research" had come to embody several concepts (Cebul and Neuhauser 1991; Neuhauser 1992): (i) randomly generated sequences of numbers, stratified as appropriate, used both to assign new patients to one of similar services (such as general internal medicine), and to assign attending physicians, house officers and nurses to these 'firms'; (ii) computerized information systems to check the comparability of the patients allocated to different firms; and (iii) experimental changes made in some firms chosen at random, and the results of care compared with those of other firms used as controls.

These approaches to integrating evaluative research within the context of routine health care remain insufficiently exploited as a cost-effective means of promoting continuous quality improvement in health care.

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