

The Evolving Medical Record

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Form dictates content, and the manner of recordkeeping imposed on us probably influences how we think about patients. At The New York Hospital, physicians began to maintain permanent patient case records in the early 1800s. Originally proposed and valued as teaching cases for medical students, these freeform patient records varied in quality and often reflected not just the medical care of the time but also the personalities of the physicians composing them. At the end of the 19th century, the change from retrospective to real-time recording of cases and the imposition of a fixed chart structure through the use of forms dramatically re-

duced the narrative dimension of the hospital course. Gradually, physicians found ways to circumvent these restrictions. Changes in record format, designed to manage increasing volumes of data, and physicians' responses to those changes parallel some of the contemporary threats to documentation posed by the electronic health record.

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Which do you prefer? This:

The first symptoms always affect the extremities of the limbs and the lower limbs particularly. When the whole body becomes affected the order of progression is more or less constant: (1) toe and foot muscles, then the hamstrings and glutei, and finally the anterior and adductor muscles of the thigh; (2) finger and hand, arm and then shoulder muscles; (3) trunk muscles; (4) respiratory muscles, tongue, pharynx, oesophagus, etc. The paralysis then becomes generalised but more severe in the distal parts of the extremities. The progression can be more or less rapid. It was eight days in one and fifteen days in another case which I believe can be classified as acute. More often it is scarcely two or three days and sometimes only a few hours.

Or perhaps this:

vs stbl, δ comp.; no Δ resp. - 02 sats ok; xam un-Δ'd - see note 11/12; fam. visit.; no nursing issues; labs = no incr. aldolase, CK's; note: this enctr. took 65' & inv. a hi deg. of compex. in dec. making.

The medical record has evolved to serve multiple purposes. Landry's original description of the ascending paralysis that bears his name (1), excerpted in the first passage, had teaching as its primary aim. The second note, similar to those found in any hospital these days, seems to focus more on billing. These notes are roughly 150 years apart.

Hospital governing bodies originally established rules for the creation of rudimentary records as part of their vision of the overall mission of the institution (2–5). Only by the mid-19th century did some hospitals have records that documented the course of care for all patients (3, 6). Those records, like ours, reflected the cultural biases, medical theories, and therapeutic philosophies of their time and place (7) and evolved accordingly. In the latter half of the 19th century, physicians began to record patient data. Templates designed to organize and present these data in

the medical record often sowed confusion instead (6, 8, 9). The result, today's medical record, may not be what we intended.

What did the individual residents who created those early medical records choose to describe, and what effect did changes in form have on recordkeeping? The answers to these questions are of more than mere historical value—they can inform current discussions of the effect of the electronic health record on physician documentation (10–15).

Together with more than 2 centuries of documents of every description, the archives of The New York Hospital (NYH) hold medical records from 1810 to 1932 (16) (Engle RL Jr. Unpublished manuscript. 1992). Using this archive, I examined the effect of medical record structure on physician narrative over more than a century. I divided the medical records into separate periods and focused on cases of paralysis. Paralysis works well here as a common theme, because it offers the opportunity to compare descriptions of physical findings and historical details without depending on the measurement of vital signs. I reviewed representative casebooks from each period and then evaluated 51 individual cases of paralysis, noting the structure, length, and physicians' input for each. I also examined hospital bylaws and minutes to determine how the administrative imposition of form influenced the content of the medical records.

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THE EARLY CREATION OF THE MEDICAL RECORD

The Board of Governors of the Society of the NYH approved the first hospital rules in 1793. The apothecary prepared and delivered a monthly report of the "Names and Diseases of the Persons, received, deceased or discharged in the same, with the date of each event, and the Place from whence the Patients last came" (17), because the Board was required by its charter to report annually to the state legislature (**Appendix Figure 1**, available at www.annals.org). Thus, these earliest medical records were a tabulation of admissions and discharges to document accomplishments and justify expenditures. The following year, the Board of Governors further delineated the responsibilities of hospital personnel (17). These rules reiterated the need for a master log of all patients (and the prescriptions written for them) but did not authorize descriptions of the patients themselves.

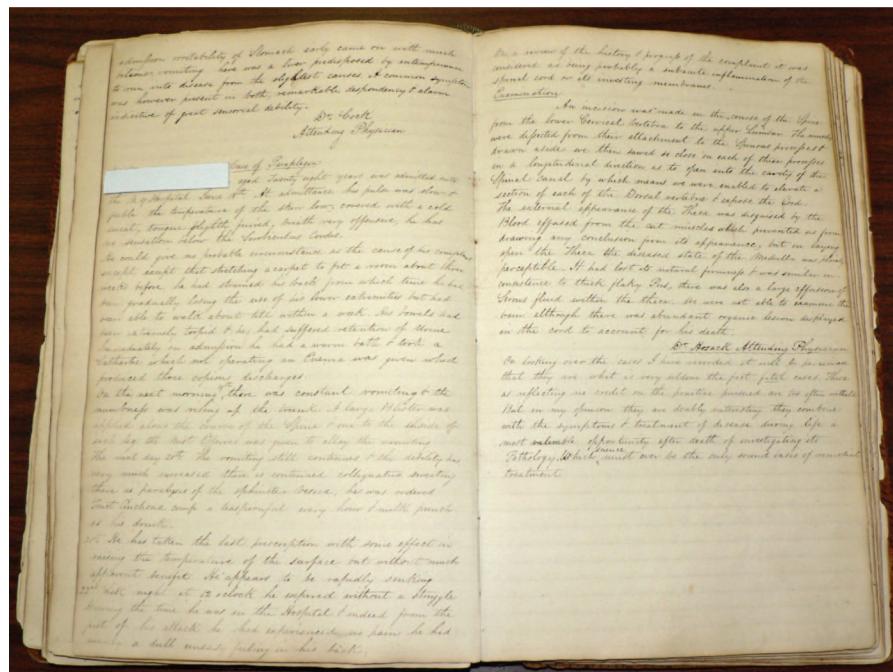
It was not until 4 June 1805 that Dr. David Hosack, now best known for attending to Alexander Hamilton after his fatal duel with Aaron Burr (18), suggested recording the cases of greatest value for the teaching of medical students (19). The Board of Governors agreed: "The house-physician, with the aid of his assistant, under the direction of the attending physician, shall keep a register of all medical cases which occur in the hospital, and which the latter shall think worthy of preservation, which book shall be neatly bound, and kept in the library for the inspection of the friends of the patients, the governors, physicians and

surgeons, and the students attending the hospital" (20). Few entries were written initially (21), and the first casebook consequently spanned from 1810 to 1834.

Attending physicians did not write in the casebooks. Their house physicians recorded these cases retrospectively by date of discharge, using a freeform narrative style based on personal notes they had maintained (16). Each physician had an opportunity to specify an overarching theme. Record I-150 (**Figure 1**) illustrates a description of paralysis from 1823, followed by a statement that describes the physician's intent in choosing the cases he had decided to record. Here is an excerpt from 1832 (record I-200):

From the paroxysmal nature of the affection, . . . being of a burning, stinging kind, it occurred to us to examine the spinal column to find out how far the disease might depend upon irritation in that remote region. Accordingly pressure was made the spinous process, beginning at the upper cervical and thence carried downwards . . . (the patient) stated that the pressure gave him 'new pain', upon continuing the examination to the dorsal vertebrae . . . he experienced a sensation which travelled down the whole length of his arm following the course of the nerves. The disease depending so evidently upon irritation in the spinal column, a blister was applied over the tender spots, which drew well . . . Upon keeping up the irritation of the blister

Figure 1. Case and explanation from the first casebook, 1823.



Selected transcription is in the Appendix, available at www.annals.org.

for 6 or 8 days, the pain was completely removed and has not again returned . . .

And his explanation:

Cases selected to show how far pain in the extremity or along the course of a nerve depends upon the origin or cause of the disease being seated there, and how often it may be traced to the spot where the nerve takes its rise.

The physicians' voices differ (one compassionate and humble and the other more distant and clinical), but their entries show that they shared this teaching mission.

THE MID-1800S: FREE OR LOOSELY STRUCTURED NARRATIVE OF ALL ADMISSIONS

A quarter century after Hosack's proposal, a physician proposed in 1830 that all cases be recorded (22). The Board of Governors added that "no Assistant shall be entitled to the appointment of House Physician or House Surgeon until he shall have entered on the Register at least twelve cases" (23). Still written in retrospect, these casebooks demonstrate a slow evolution of practice, with no clear change in the recording methodology until the mid-1860s.

Individual house officers seem to have been given free rein to try different methods. Most used a freeform style and made no attempt to organize the entries, except by date. On occasion, a physician would partition his notes into history, symptoms, and treatment. After the early 1850s, casebooks contained 2 kinds of cases: extremely brief notes that documented the most basic information about an admission and lengthier and much more descriptive notes. The freeform style allowed for some individuality, but the variable record lengths suggest an absence of oversight. The notes of one physician in particular reflect both innovation (his casebook is the first to have a table with pulse and respiratory rate of a patient with tuberculosis [volume XXV, 1858]), he offers occasional descriptions of heart and lung sounds that suggest use of a stethoscope, and he reports on basic urinalysis findings) and disinhibition of thought, demonstrated by his penmanship (doodles and flourishes abound), spelling, and language (**Appendix Figure 2**, available at www.annals.org). His descriptions of cases of paralysis often reflect an assumption (by no means unique [7]) that the symptoms were related to sexual misbehavior; for example (from record XXV-386):

... Now there is partial paralysis both of sensation & motion. Of both upper & lower extremities, & he cannot walk very well without a stick.

Had clapp [sic] one year ago & got well in a few days by using injections; never had any trouble in making water but he had a hydrocele. Was tapped & now here is some enlargement of testes [sic] & hardness at its inferior & internal part on the right side. Says that he had night

sweats for 3 months; no cough or lung trouble. Never had rheumatism or syphilis & says the he has no venereal appetite; but he has practiced onanism. Hee [sic] has lost much flesh, is pale; & his left side is most affected; mind & eyesight all right; & he is hypochondriacle. Appetite poor, bowels regular; substance of tongue white & flabby . . .

By the early 1860s, case histories became more elaborate. They included negative as well as positive information and began to reflect thought processes similar to those of today. Descriptions of hospital courses included some data but often skipped many days at a time. The structure seems to have been based on personal whim. Physicians nonetheless thought the casebooks useful for "the advancement of medical science," and they won approval from the Board of Governors to create the post of Conservator of Clinical Records (24).

Records from the latter half of the 1860s were characterized by the introduction of the form (casebooks I and II from 1866 to 1867). Handwritten graphs of vital signs appeared in the case reports for April 1866; by July of that year, full-page printed temperature, pulse, respiration forms were appended to the notes of some patients with febrile illnesses. Handwritten urine tables appear for patients with Bright disease and diabetes insipidus; morphine tables are seen with peritonitis. The writing style remained purely narrative, and the inclusion of tables seems to have been up to the author.

THE MEDICAL RECORD BECOMES MORE FORMAL

When the NYH opened its new hospital building, medical records were still written retrospectively in order of discharge date in large, leather-bound casebooks and were overseen by the Clinical Registrar, whose duties were expanded in April 1877 to "register his approval on the history of each Case before it is copied into the permanent history book of the Hospital" (25). The notes were identified by (nonstandardized) diagnosis, not by presenting symptom; cerebral hemorrhage and cerebral softening replaced hemiplegia or paralysis. Forms were included only when the data were deemed to illuminate the case.

Sometimes records became detailed and reflective of the physician's thinking. **Appendix Figure 3**, available at www.annals.org, shows an example from 1879 (record I-565). Although the narrative is staccato, the note reflects concern about both the main diagnosis and its complications. The physician returned to the bedside and reevaluated the patient, performing measurements of strength, examining the eye in response to abnormal behavior, and monitoring the sacrum and buttocks for pressure ulcers. He attempted to reposition the patient in response and documented why the patient would not change position. The autopsy clearly informed the choice of final diagnosis. Other case notes lack this detail and care. In one example

(record 18-171 from 1883), the author transcribed little more than vital signs until the date of death, when he described the nature of the patient's deterioration and interventions. His final diagnosis was cerebral hemorrhage, despite the absence of hemorrhage on autopsy.

The variable quality and suboptimal completion rate of the records disturbed the hospital administration, and its Visiting Committee recommended that the housestaff enter cases in order of admission and (in a rather prescient request) eliminate retrospective copying of notes (26). New bylaws were passed in the mid-1880s but later rescinded at

the urging of the physicians' medical board, which denied any difficulties in maintaining the casebooks (27).

THE TURN OF THE CENTURY AND THE FORM

The medical board approved a complete restructuring of the medical records in 1898, largely on the basis of reforms instituted by Presbyterian Hospital (25). Some of these changes, such as the binding of histories in order of admission and the elimination of copying, resembled the bylaws that had been rescinded a decade earlier, but other

Figure 2. Table of responses, case from 1899.

NEW YORK HOSPITAL			
Date and Time	Medication and Diet	No. Stools	Uries
March 26	Verde p. 2-3. L. Milk diet 1 P.M. Sennetoga t <small>ri</small> 10 A.M. Sennetoga t <small>ri</small> Rochelle Salts 3 5 6	0 5 0 6 0 1	3
March 27	Cath. at 8 A.M. + 3 P.M. Temp. 102.3 M. 0 XVII 1 P.M. Phosphate Soda + 10 C. t <small>ri</small> XXXI 10 A.M. High SS. Enema & Ogall 488	0 XVII	
March 28	Cath. at 8 A.M. + 3 P.M. Temp. 102.3 M. 0 XVII 1 P.M. Phosphate Soda + 10 C. t <small>ri</small> XXXI 10 A.M. High SS. Enema & Ogall 488	0 XVII	
March 29	Glycerine Biid - Phosphate Soda qit P. O. 1 P.M. Cascara Mist f <small>ri</small>	0 3XVII 0 3XVIII 0 3XXXIII	
March 30	Citrato Magnesium qri 10 P.M. Palo Glys. Co. 3 5 6	0 3XVII 0 3XVIII 0 3XXXIII	
March 31	High SS. Enema & Ogall 488 1 P.M. Cascara f <small>ri</small> g. w. Fluid diet	0 3XVII 0 3XVIII 0 3XXXIII	
April 1	Timp. 92.2 M 8 P.M. A. B. + 8 Lab. II	0 3XVII 0 3XIV 0 3XXXVI	

Results of Medication and Condition of Patient.

History No. #3974

March 26 8 A.M. 3 P.M. 10 P.M. 10 A.M. 10 P.M. XVII

Cath. at 8 A.M. + 3 P.M. obtained. Slept fairly well.

" " 10 P.M. XVII

" " 10 A.M. 3 P.M. obtained. Effectual.

Cath. at 8 A.M. + 3 P.M. obtained. Slept at intervals.

Urine 102.3 acid, pale amber, clear, no sugar, no cells. Two drops + granular casts, leucocytes.

Cath. at 8 A.M. + 3 P.M. obtained. " 2 A.M. 3 P.M. obtained. Slight movement of left leg. Slept well.

Cath. at 10 A.M. + 3 P.M. obtained. Slept at intervals.

" " 6 P.M. 3 P.M. " "

" " 4 A.M. 3 P.M. " "

Cath. at 11 P.M. 3 P.M. obtained. Slept well.

Cath. at 5 A.M. 3 P.M. obtained. Slept well.

Selected transcription is in the Appendix, available at www.annals.org.

recommendations reflected the need to preserve and manage information. Forms dominated these new records, which meant the data were reorganized. A record from June 1899 (Figure 2 and Appendix Figure 4 [available at www.annals.org]) demonstrates these changes. After the initial history and physical examination, the physicians and nurses documented orders and results in a special table, noting physical examination findings, quality of sleep, and results of enemas. These tables include only 12 physician observations over nearly 2.5 months. The medical record conveyed a patient's improvement, but little else.

This dramatic change in the record probably resulted from the newly imposed structure. The record was now organized around graphs and a table, which left no room for narrative—merely brief descriptions. House physicians no longer summarized the course of a patient's hospitalization; they recorded their observations but not their thinking.

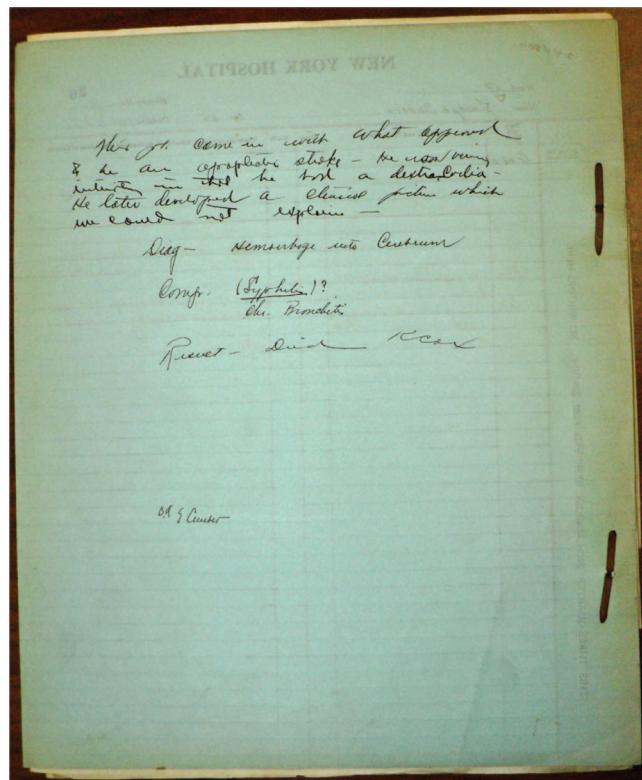
THE CREATIVE RESPONSE

Further minor changes of medical records included the adoption of the Bellevue diagnostic nomenclature in 1911 (28) to substitute “some uniformity in the wording and signing of diagnoses in place of the present casual and go as you please system.” The medical board soon recommended another major revision, the organization of cases by diagnosis (thus creating case series for study), which was a reflection of the priority they placed on the teaching value of the records. This new method required 31 rules to describe the creation of bedside cards; the roles of nurses, physicians, and clerks; the creation of cross-referencing cards; and even the type of ink to be used (29). The system proved unwieldy, and the records themselves grew more complicated as separate forms were introduced for each new type of test (such as chemistry, hematology, radiology, and pathology testing).

Although initial histories included some provisional diagnoses, the table (which differed little from its predecessor) still lacked space for analysis or summary during the hospital course. Physician input was generally limited to procedure notes and observations, such as physical examination findings.

Physicians eventually broke free of these constraints. They wrote some interim notes across the columns and began to demarcate their notes from those of the nurses. The discharge summary evolved from words to sentences and was written first across the page, then on the back of the tables, and finally on a sheet of its own. By 1922, either within or outside of columns, physicians were beginning to offer speculations. Figure 3 and Appendix Figure 5 (available at www.annals.org) are from the chart of a patient who was admitted with hemiparesis and whose chest radiograph subsequently revealed dextrocardia. The history here is succinct. The physical examination is detailed but notable for the revision that was made once radiography re-

Figure 3. Discharge summary written on back of table from 1922.



Selected transcription is in the Appendix, available at www.annals.org.

vealed dextrocardia. The few physician entries in the table usually reported physical examination findings, but one entry ended with: “A slight R cerebral thrombosis in a patient with a subclavian aneurysm or enlarged auricle in a dextrocardiac might explain above mixture.” The discharge summary, written across the back of the table, was brief but frank in its uncertainty. Both of these notes, by virtue of their subjectivity, exceeded the limitations of the table.

Some physicians eventually moved beyond the table altogether and wrote occasional follow-up notes—the first progress notes—on the form that was originally used only for the initial physical examination. Formal, typed discharge summaries would begin a year later. Physicians had started to document their findings and opinions despite the forms.

MEDICAL RECORDS BOTH REFLECT AND INFLUENCE THEIR AUTHORS

The introduction of standardized forms and graphs at the start of the 20th century was not unique to NYH (9). It was the culmination of many pressures, including the expansion of medical technology, a sense that information conveyed graphically was more objective, and the influence of the Efficiency Movement in business management on

hospital administrators. Howell (9) has noted that standardized forms led to a “loss of narrative descriptions” of test results and a change in control over how tests were done by “control[ling] the communication of information.” Reiser (6) documented changes in the early medical records of the Massachusetts General Hospital that were similar to those seen at NYH. He also described the proliferation of reports in the beginning of the 20th century. Chaos ensued when cases were interrupted by new cases and haphazard pasting of notes “obscur[ed] other clinical reports and observations.”

Concerns about the variable quality of physician documentation have recurred in the medical literature for nearly a century (8, 30–33), as has the need for adequate supervision by attending physicians to maintain that quality (34, 35). This study highlights why medical record quality is so elusive: the competing priorities of residents, the seductive power of data, and the underappreciated influence of the record structure on documentation.

Although education and the advancement of medical science, rather than patient care, were the main motivations for creating these records, house physicians wrote them. The casebooks were originally written after discharge and were never intended to be working documents. House-staff maintained their own notes to track daily tasks, a method also used in Osler’s service (36). Many trainees may not have appreciated the value of these duplicate, albeit permanent, records.

Data, like documentation, are fundamental components of the medical record. The inevitable growth in technologies and the data they generate constantly threaten to dominate the record. Good physician notes are essential for linking data and creating “a history that is non-linear, constantly rewritten, and constantly emergent” (37). The record is most useful when data and narrative are balanced and both support and inform each other.

Changes in medical record structure—in particular, the compromises required to manage data and improve efficiency—dramatically altered what physicians wrote more than a century ago. Nonetheless, the stylistic variations and the search for new ways to record impressions remind us that physicians are thinking about their patients and want to record those thoughts, if given opportunity, incentive, supervision, and space.

The early records of NYH reflect medical care, hospital governance, and sociology of the times as recorded in the residents’ own words. Faced with a rigid system, the physicians who created these records responded by conforming generally to the structural constraints but, when necessary, finding ways to break free of them. The transformation of these records mirrors the challenge we face now with the electronic health record—managing information in a way that does not discourage expression and analysis. In the 21st century, it would make more sense to create systems that promote good documentation rather

than wait for physicians to overcome these constraints yet again.

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Collection and assembly of data: E.L. Siegler.

APPENDIX: SELECTED TRANSCRIPTIONS OF RECORDS

Record I-150, 1823, Case of Paraplegia

See Figure 1.

... aged 28 years was admitted into the NY hospital June 18th. At admittance his pulse was slow and feeble the temperature of the skin low, covered with a cold sweat, tongue slightly furred, breath very offensive, he has no sensation below the Scrofulicus cordis.

He could give no probable circumstance as the cause of his complaint except except [sic] that stretching a carpet to fit a room about three weeks before he had strained his back from which time he had been gradually losing the use of his lower extremities but had been able to walk about till within a week. His bowels had been extremely torpid and he had suffered retention of urine[.] Immediately on admission he had a warm bath and took a Cathartic which not operating an Enema was given which produced three copious discharges.

On the next morning 19th there was constant vomiting and the numbness was rising up the trunk. A large Blister was applied along the course of the Spine and one to the inside of each leg the mist efferves was given to allay the vomiting.

The next day 20th the vomiting still continues and the debility has very much increased there is continued colligative sweating there is paralysis of the sphincter vesica, he was ordered Tinct Cinchona comp a teaspoonful every hour & milk punch as his drink.

21st. He has taken the last prescription with some effect in raising the temperature of the surface but without much apparent benefit. He appears to be rapidly sinking.

22nd. Last night at 12 o'clock he expired without a struggle[.] During the time he was in the Hospital and indeed from the first of his attack he had experienced no pain he had merely a dull uneasy feeling in his back.

On a review of the history and progress of the complaint it was considered as being probably a subacute inflammation of the spinal cord or its investing membranes.

Examination

An incision was made in the course of the Spine from the lower Cervical Vertebra to the upper Lumbar. The muscles were dissected from their attachment to the Spinous process & drawn aside we then sawed so close on each of these processes in a longitudinal direction as to open into the cavity of the Spinal canal by which means we were enabled to elevate a section of each of the Dorsal vertebra and expose the Cord. The external appearance of the Theca was disguised by the Blood effused from the cut muscles which prevented us from drawing any conclusion from its appearance, but on laying open the Theca the diseased state of the Medulla was plainly perceptible. It had lost its natural firmness & was similar in consistence to thick flaky Pus, there

was also a large effusion of Serous fluid within the theca. We were not able to examine the brain although there was abundant organic lesion displayed in the cord to account for his death.

Dr. Hosack Attending Physician

On looking over the cases I have recorded it will be perceived that they are what is very seldom the fact fatal cases. These as reflecting no credit on the practice pursued are too often withheld [sic]. But in my opinion they are doubly interesting they combine with the symptoms & treatment of disease during life a most valuable opportunity after death of investigating its Pathology. Which science must ever be the only sound basis of remedial treatment.

Record I-200

... entered the Hospital Sept 18 1832 with paralysis of the portis dura of the left side. The mouth and tongue were drawn to one side, nor could the eyelid be raised: command over the muscles of the left side of the face was also lost. The treatment pursued consisted in freely purging, leeching . . . and cupping at the back of the neck and in keeping up irritation then by means of blisters . . .

From the paroxysmal nature of the affection, its seat, and the peculiarity of the pain, being of a burning, stinging kind, it occurred to us to examine the spinal column to find out how far the disease might depend upon irritation in that remote region. Accordingly pressure was made the spinous process, beginning at the upper cervical and thence carried downwards upon reaching the 5th or 6th . . . he stated that the pressure gave him 'new pain', upon continuing the examination to the dorsal vertebrae. As soon as the fingers touched the first and second, he experienced a sensation which travelled down the whole length of his arm following the course of the nerves. The disease depending so evidently upon irritation in the spinal column, a blister was applied over the tender spots, which drew well . . .

Upon keeping up the irritation of the blister for 6 or 8 days, the pain was completely removed and has not again returned . . .

Discharged Cured Dec 27 1832.

Cases selected to show how far pain in the extremity or along the course of a nerve depends upon the origin or cause of the disease being seated there, and how often it may be traced to the spot where the nerve takes its rise.

Record III-63

Paralysis

. . . Genoa sailor aged 38. Admitted into the N. Y. Hospital July 11th 1838.

History: Had had paralysis of his whole body for about 2 months previous to admission had had treatment by a physician but of no avail

Symptoms on admission: General paralysis as stated above with relaxation of the sphincters in consequence of which pours his feces and urine under him.

Treatment. H. Mist Occip: Q.S.

July 12 [rx]

13 [rx]

14 seems to have more power of the left arm than the right

15 Less Power of the left hand this morning

Continue the Strichnine

16 Sinking

17 Died

J. McDonnal MD Attending

Wm H Maxwell MD House P

Wm G Eadie MD Sr Walker

Record XXV-386, Full Note

See Appendix Figure 2.

Partial Paralysis

Dr. Smith

June 22 . . . aet. 30, Ire d, Boatman, adm

Says that he has vomited his food for about a year immediately after eating; it always caused him much distress till thrown off. Nine months ago after working 5 days in an ice house, he felt a kind of cramp in the hip, and in a few days he had to give up work. This was followed in two or three days by numbness & tingling from the knees down, which increased till the present, when it now extends up to midway between the pubis & umbilicus with tenderness on pressure of the lumbar vertebrae near sacrum.

The upper extremities are in the same condition, with also tenderness on pressing over the 1st to the 4th dorsal vertebrae. Now there is partial paralysis both of sensation & motion. Of both upper & lower extremities, & he cannot walk very well without a stick.

Had clapp [sic] one year ago & got well in a few days by using injections; never had any trouble in making water but he had a hydrocele. Was tapped & now here is some enlargement of testes [sic] & hardness at its inferior & internal part on the right side. Says that he had night sweats for 3 months; no cough or lung trouble. Never had rheumatism or syphilis & says the he has no general appetite; but he has practiced onanism. Hee [sic] has lost much flesh, is pale; & his left side is most affected; mind & eyesight all right; & he is hypochondriac. Appetite poor, bowels regular; substance of tongue white & flabby; pulse 64.

Ord Jinfus primis ving I ox ter in die

July 6 Patient no better better & requests a [blank]

Discharged.

1879, 1-565

See Appendix Figure 3.

Cerebral softening (thrombosis)

Jan 19. 46. US Married. Tobacconist

Dr. Smith RW Amidon HP

Inheritance good. Habits temperate, but has been somewhat of a drinker and his work exposes him to a great deal of fine tobacco powder, which patient has breathed he thinks to his harm.

16 years ago Rheumatism. Deaf since childhood.

For past three months has been suffering rheumatic pains in knees and moved about with difficulty.

3 days ago, while walking across the floor patient fell. Did not lose consciousness but became palsied in both left extremities. Did not lose power of speech. Since has been confined to

bed. Bowels regular. Urine normal in amount. Appetite poor and capricious.

Mind wanders. Impatient and restless.

Admission. Not emaciated. Anaemic. Tongue slightly coated. Deflected to left. Palsy left arm and hand and left lower extremity. Reflex good. There is sharp 2nd sound at base.

Jan 20. Very troublesome. Continually exposing his nakedness in ward. Crying. Wants various impossible things. Very capricious tastes. Examination reveals nothing abnormal in retina.

Jan 21. Sacrum and left nates reddened and painful. Pain in occiput. Talks in disconnected strain. Breath fail. Left hand and leg colder than right. Complains of pins and needles in left extremities. No reflex. R hand weak {28 35. Slight external strabismus. Appetite poor, eats very little.

Jan 22. Continually turning on left side, in which the circulation is very sluggish. Taste capricious. Very restless. Adm Jalap and Bitartrate potass. Feces and urine involuntary.

Jan 23. Adm Croton oil gtt 1 before and after supper. Urine passes voluntarily.

Jan 27. Some reddening of the left side of nates. Patient very restless, tossing his head and rolling his eyes. Complains of pain when put on his R side.

Jan 30. Very noisy, removed from ward. Continually calling out. Adm croton oil gtt ii.

Feb 1st. Patient very helpless. Has become unconscious. At 2 am temp rises and patient remains unconscious until death at 5:30 am on Feb 2nd.

Died 530 am

Autopsy

Body—well nourished. Rigor mortis well marked. No oedema lower extremities.

Heart: muscular tissue anaemic, yellow striae. Slight atheroma Mitral valves at free edges. Also aorta.

Microscope reveals muscular fibres finely and coarsely granular. Transverse striae absent in many fibers.

Lung. Right. Middle and lower lobes consolidated. Contains white patches surrounding small bronchial tubes.

Left. Lung same.

Kidneys. ? Spleen and intestines normal.

Brain. Vessels at base markedly thickened. Right Int Carotid at is bifurcation, has dark firm fibrous clot, extending into middle cerebral. Walls of artery, thickened and yellow. Vessels beyond small. Corpus striatum and brain substance behind central convolutions softened and yellow. Optic chiasmus not affected

T Roland Chambers

Sen Asst. Phys

From February 1897 Casebook; Volume 88, Page 80

Feb 19th 1897.

Chronic Diffuse Nephritis

Cerebral Hemorrhage

Died

Age 54. Married, porter.

Dr. Williams HP

Dr. Bull AP

Was brought into the Hospital in the ambulance, when seen in the basement, his pupils were very much contracted, equal, and did not respond to light, face was pallid, breathing stertorous, and irregular, gasping at times, and every now and then a long drawn inspiration followed by a sighing expiration. There was a great deal of oedema in the lungs and a gurgle in the trachea. Heart action violent, regular, pulse slow and of very high tension. The arms were rotated inward and perfectly rigid and drawn over the median line of the body; the legs were also rotated inwards and very stiff. This stiffness would relax a little in the legs and at that time there was a very well marked clonus in the quadriceps tendon. There was no oedema. He received in the basement nitroglycerine gr 3/100, and was sent to the ward at 1:55 pm. T 98.4, R 40, p. 84.

His chest was cupped back and front which relieved his oedema slightly. He was given whiskey . . . by hypo at 2:15 and was then put into a hot pack for one hour. He perspired yet little and his rigidity became less, in fact almost nothing. He was ordered nitroglycerine gr 1/50 qh by hypo. At 4 pm his left pupil became dilated, his mouth was drawn to the left side, his right cheek would be pulled in during inspiration, and then blown out during expiration, reflexes were normal.

At 5:20 pm the pupils were even and contracted. His face was less drawn toward the left. His breathing became more regular. No oedema of lungs. There was no rigidity of the limbs.

At 7 pm his condition was about the same and he was given spirits of nitrous ether 2 oz and put into a hot pack. He perspired very little in the pack. At 8 pm all signs of paralysis had disappeared. Pupils equal. Face not drawn, no rigidity of limbs, breathing irregular, but rather superficial. Heart active, violent, pulse of rather high tension. At 4 am breathing began to be irregular in rhythm and pulse became of very high tension indeed. Patient's general condition worse rather than better, became cyanosed. Phlebotomy 32 oz of blood withdrawn. The pulse became soft. The breathing continued to be irregular and finally became of Cheyne-Stokes character, not typical of true apnea, but simply respirations became regularly irregular in depth. Patient died of respiratory failure at 6:20 am with post-mortem temperature of 107.4°.

Adrian VS Lambert

Senior Assistant Physician

Urine was not measured as patient passed it involuntarily

Case From 1899

See Figure 2 and Appendix Figure 4.

Ward L

History No 2094

Single

Age 40

(cook)

Nationality Ire

Admitted Mar 25th, 1899.

Discharged June 5, 1899

Diagnosis Cerebral Hemorrhage

Result Imp[roved]

Complications—

House Physician Dr. Waldron

Attending Physician: Dr. Ball

Hist. Family Good

Past Inflammatory rheumatism 20 yrs ago. 1 yrs ago sudden onset of numbness and loss of power in left arm and leg, in 2-3 minutes entirely disappeared.

Habits Good

Present 5 days ago sudden onset of numbness & loss of power in left arm & to same extent in left leg, no pain or loss of consciousness, on the following day noticed more loss of power in arm & leg, & difficulty in speaking, loss of power in arm & leg gradually increased for 3 days & then was complete

Appetite fair Bowels constipated

Admitted 2:15 pm t 99 r 24 p 84

Physical exam Well nourished, obese, fair general condition. Tongue moist and coated, protrudes toward left, complete loss of motion left side face & left arms and leg. Varicose veins both leg; at lower 1/3 left leg scar of old varicose ulcer 3" to 6" in vertical diameter, encircling leg.

Lungs normal

Heart Pulmonic 2nd slightly, aortic 2nd greatly accentuated. Faint systolic at 2nd right space, not transmitted. Pulse reg., slow, full, incr. tension.

Liver, spleen normal

Abdomen Protuberant, tympanitic, large amount adipose tissue

[Within the new forms, the following are the only physician comments; remarks about elimination abound.]

March 27 Slight movement of left thigh

March 29 More motion of left leg

April 4 Power of motion in left leg has entirely returned

April 6 Slight return of motion in left forearm

April 9 Slight flexion of fingers of left hand is possible.

April 15 Slight extension of fingers

May 6 Left ankle & dorsum left foot red swollen tender *[A wrap had been ordered the day before, but there was no comment about patient's clinical status except usual night nursing note: "slept well."]*

May 16 left knee jerk greater than right (of note galvanic electricity daily to arm had been ordered the day before with no explanation)

May 17 No R.D. in muscles of left arm and hand

May 18 Left ankle is red, swollen, tender, hot & painful (wet carbolic dressing started the same day)

May 23 Signs of inflammation in left leg have nearly disappeared

June 5 Discharged 3 pm

Case From 1922

See Figure 3 and Appendix Figure 5.

244807

History No. 26

age 55

Married

123 Stanton St.

October 18, 1922

Died October 24, 1922

Results Died

Diagnosis: Hemorrhage into cerebrum
Complications Syphilis? Chr Bronchitis
Attending Dr. Williams

House Dr. Cox

Referred by Dr. Finkelstein

Chief Complaint: Paralytic stroke

Duration 24 hours

Present Illness: While walking in street yesterday morning he suddenly collapsed. He lay unconscious for about 15 minutes and then became semiconscious for several hours. Convulsive movements of muscles of face and throat. He has been fully conscious for past 18 hours but can not talk. He vomits blood whenever anything is given him to eat or drink. He has severe headache over right temporal area. Never had any similar previous attack.

Past History: Gen health very good. Knows of no serious illness in his life.

No operations; no severe injuries. No diabetes.

Cardiac: is said to have high blood pressure; tho he was never conscious of it. Was never told so before

Respiratory neg

Gastro-intestinal neg

Genito-urinary neg

Neuro-muscular neg. Has had ulcers on legs for past 13 years.

Habits: alcohol. Irregular at long intervals a drink. Coffee 1 Tea 0 Drugs and Medicine 0. Married 30 years. Wife and 1 child living & well.

Occupation: Presser. Has not worked for 6-7 years. Born Austria. Lived 25 years in N.Y.

Family History. M & F died in old age. Has sisters and brothers in old country. All living and well. Knows nothing of family illness.

Source: Daughter, knows little about past history.

Oct 23.22

Pupils equal and react. Fundi: arteries tortuous and sclerotic & pinning down the veins which are bulbous. Pits are clear. No intracranial increased pressure. Corneal reflexes brisk. No anesthesia now of face. Hears well R & L. Weakness L masseters ?due to defective teeth. Total palsy l palate. Tongue not palsied. ?palsy L sternomastoid. Localness & excruciating tenderness of left arm, and hand, swollen cyanotic and pulseless. Pulse on R good. KJ's depressed, AJ's depressed, plantors flexor.

A slight R cerebral thrombosis in a pat. with a subclavian aneurysm or enlarged auricle in a dextrocardiac might explain above mixture.

This pt came in with what appeared to be an apoplectic stroke—He was very interesting in that he had a dextrocardia. He later developed a clinical picture which we could not explain.

Diag: Hemorrhage into cerebrum

Comp: (Syphilis?)

Chr bronchitis

Result - Died

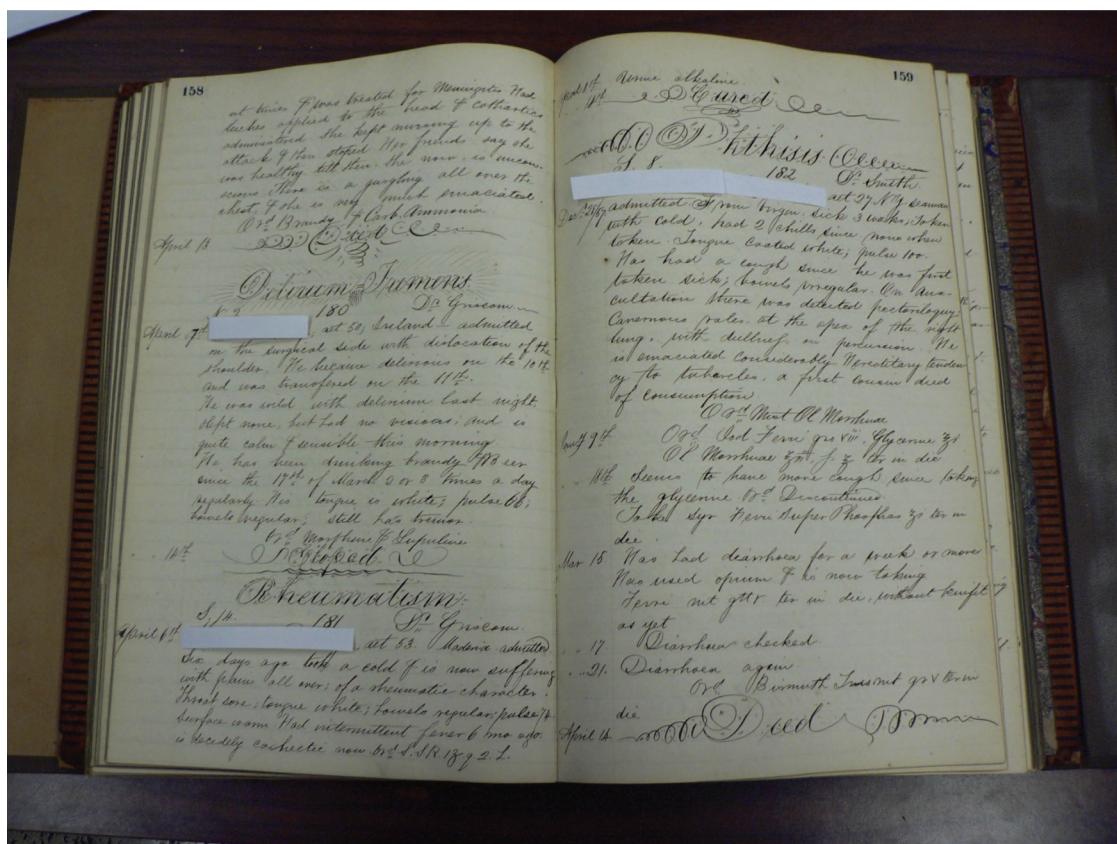
R Cox

Ok E Canter

Appendix Figure 1. 1797 annual report of the Society of The New York Hospital.

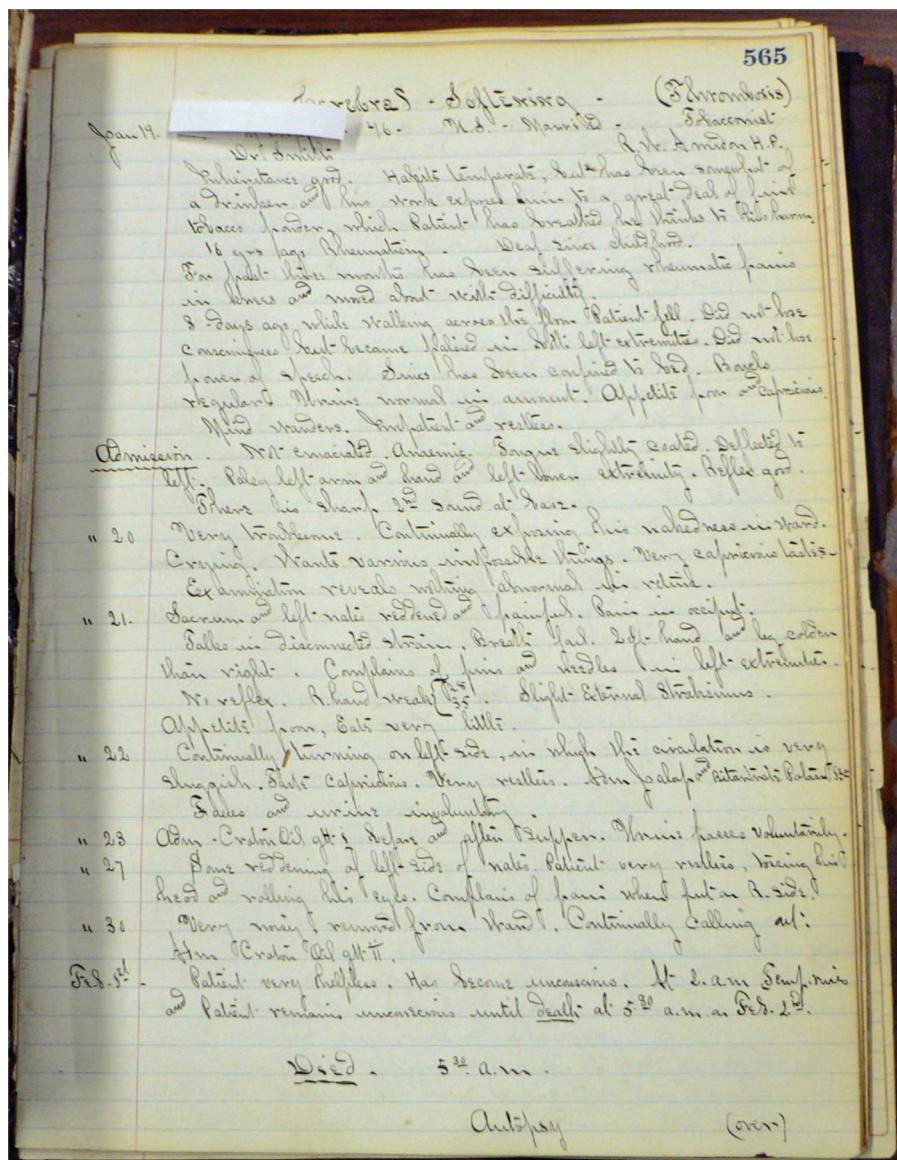
Account of the Number of Patients admitted in the New-York Hospital, from 31st January, 1797, to 31st January, 1798.															
DISEASES.	Remaining 31st Jan. 1797.			Admitted From 31st Jan. '97, to 31st Jan. '98.			Total.			Cured.			Relieved.		
Amenorrhœa,	-	1					5	2							
Atrophia,	-	1	4												
Ascites,	-	1	15	16	9	3									
Burns,	-	1	3												
Cancers,	-	1	1	2	1	1									
Diarrœa,	-	1	7	8	5	1									
Febris Intermit.	-	3	37	40	27										
Frozen Limbs,	-	12	19	31	13										
Fractures,	-	5	16	21	9	3									
Gonorrhœa,	-	1	6	7	3										
Mania,	-	4	18	22	4	5									
Melancholia,	-	1		1		1									
Ophthalmia,	-	1	5	6	3										
Palsy,	-	1	2	3	1	2									
Phleim,	-	1		1											
Pthifis Pulmon.	-	1	5	6											
Pneumonia,	-	11	48	59	24										
Rachitis,	-	1		1	1										
Rheumatism,	-	5	37	42	24	9									
Schrophula,	-	2	3	5	3										
Syphilis,	-	24	103	127	76	15									
Tumor,	-	1	2	3	2										
Ulcers,	-	21	68	89	39	10									
Wounds,	-	5	13	18	15										
Apoplexy,	-		2	2											
Anafarca,	-		6	6											
Asthma,	-		1	1											
Colica,	-		2	2	2	1									
Cataract,	-		2	2	2	2									
Catarrh,	-		1	1											
Dislocations,	-		2	2	2	2									
Dysenteria,	-		5	5	3	1									
Dyspepsia,	-		5	5	5										
Fistula,	-		4	4	1	1									
Gravel,	-		2	2	2	2									
Hemoptisis,	-		1	1	1										
Herpes,	-		2	2	2	2									
Hepatitis,	-		2	2	1										
Luxation,	-		9	9	9										
Lumbar Abscess,	-		2	2											
Sciatica,	-		1	1	1										
Scorbutus,	-		1	1	1										
Tinea Capitis,	-		1	1	1										
Typhus,	-		8	8	5	1									
White Swelling,	-		1	1											
		106	472	578	296	60	12	41	57	112					
RECAPITULATION.															
Patients Remaining in the Hospital 31st January, 1797.													106		
Admitted from the 31st January, 1797, to 31st January, 1798.													472		
Discharged.—Cured,													578		
Relieved,															
By Death,													12		
Dilordery and Elop'd,													466		
Died,													57		
TOTAL.													112		
Remaining in the Hospital 31st January, 1798,															
—Who were Natives of the following Places,—															
America.															
England.	240	57	25	165	9	20	8	2	3	3	8	8			
Scotland.															
Ireland.															
France.															
Germany.															
Spain.															
Russia.															
Portugal.															
Sweden.															
Holland.															
Denmark.															
Italy.															
Norway.															
Africa.															
East-Indies.															
West-Indies.															
TOTAL.													578		

Appendix Figure 2. Cases from 1858.



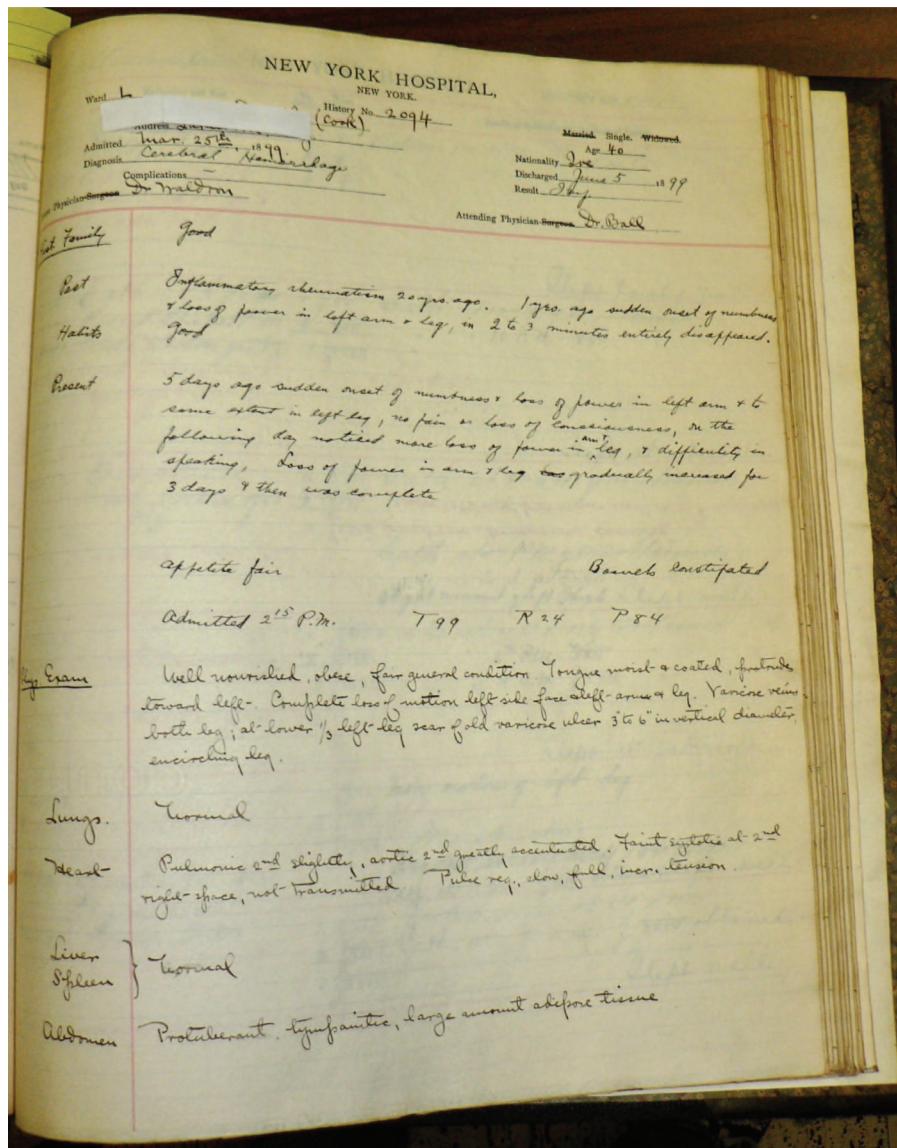
Selected transcription is in the Appendix.

Appendix Figure 3. Case from 1879.



Selected transcription is in the Appendix.

Appendix Figure 4. First page of case from 1899.



Selected transcription is in the Appendix.

Appendix Figure 5. Physical examination, case from 1922.

244807

NEW YORK HOSPITAL

Ward C History No. 26
Name Age 35 Division II Med.

FORM 241
25M-3-22

PHYSICAL EXAMINATION

GENERAL APPEARANCE: Patient is a well developed well nourished adult male lying quietly in bed appears to be acutely ill.

HEAD: Well formed, covered with abundant grey hair, face slightly flattened on the right side. EYES: Pupils small, round, do not react to accommodation very sluggishly to light. External ocular movements normal. No abnormal movements. No sinus tenderness. Conjunctivae clear. EARS: No tophi, no discharge, no mastoid tenderness. NOSE: Septum deviates slightly to the left. No obstruction to breathing. MOUTH: Teeth in very poor condition, considerable dentistry, marked amount of morrhœa. Tongue protrudes deviated very slightly to the left, is very markedly coated. TONSILS: not enlarged, not injected. Uvula deviates to the left.

NECK: not stiff. Thyroid just palpable. Cervical glands not felt.

THORAX: well formed. Expands symmetrically.

LUNGS: Fremitus injected throughout. Percussion note resonant throughout both bases broncho-vesicular murmur with increased voice and deep sonorous rales. Over the left apex the same signs persist.

HEART: Apex impulse not seen, felt in the 5th space in the nipple line. Area of cardiac dullness extends 11 cm. to the left in the 5th space 4 cm. in the 2nd space. Heart not enlarged to the right. Heart sounds of good quality. A-2 greater than P-2. Heart regular in rate, rhythm and force. Pulses equal, synchronous. Artery walls felt not markedly sclerosed, not tortuous.

ABDOMEN: Full, round, moderately resistant. Liver not felt. Spleen not felt. No masses felt. Inguinal glands not pathologically enlarged. On right flank there is an area of erythema 5 inches long about 3 inches from the vertebral column extending from the costro-margin to the level of the lower end of the sacrum. In the center of this area there is a wheal filled with serous fluid. In the left inguinal ring there is an impulse felt on coughing.

EXTREMITIES: No weakness in either hand. On both lower extremities, middle of the leg there is an area of dark purplish discoloration about 8 inches long, each nearly encircling the leg. On the right leg about 6 inches above the external malleolus there is an irregularly round punched out ulcer with a dirty floor. On the internal aspect of the leg about 10 inches above the external malleolus there is an ulcer nearly healed about 2½ inches long and 1½ inch wide. Just back of the external side of the right leg there is a purplish brown discoloration. On the anterior aspect of the left leg there is a large irregularly shaped ulcer, edges of which are slightly indurated, dirty yellowish floor.

REFLEXES: Knee jerks are present. Suggestive Babinski both feet. Biceps present. Superficial abdominals present.

LYMPHATICS: not pathologically enlarged.

PROVISIONAL DIAGNOSIS: Bulbar Palsy.
Chronic Bronchitis.
Luetic Ulcers.

THIS THREE-QUARTER INCH MARGIN RESERVED FOR BINDING. NO WRITING HERE.

Selected transcription is in the Appendix.