
Electronic resources for local population studies

The Historic Hospital Admission Registers Project: a unique new online resource for historians of child health

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The Historic Hospital Admission Registers Project (HHARP) is the result of a partnership between Kingston University's Centre for Local History Studies (now known as the Centre for the Historical Record) and various hospital archives in London and Glasgow. It began life in 2001 as a project to create a database of late-19th and early-20th century admissions to the Hospital for Sick Children, whose extensive archive is still maintained and housed within the Great Ormond Street Hospital for Children NHS Trust. Subsequently, the project was expanded to include three other children's hospitals: the Evelina Hospital (now part of Guy's and St Thomas's NHS Trust), whose records are held at the London Metropolitan Archives; the Alexandra Hospital for Children with Hip Disease (records held at the Museum and Archive Department of St Bartholomew's and the London NHS Trust) and the Royal Hospital for Sick Children in Glasgow, whose records are held by the hospital. Funding for the project came principally from the Research Resources in Medical History Programme of the Wellcome Trust, with additional financial support from the Friends of Great Ormond Street Hospital, the Nuffield Foundation and the History Research Unit at Kingston University.

All four sets of records have been transcribed into extensively indexed databases and made available to the general public via a dedicated website: www.hharp.org. The website is free to access, providing all users with access to top level information, while registered users (a simple process, also without charge) gain access to the full datasets. The Great Ormond Street database was completed and made available in 2007, the databases for the Evelina and the Alexandra Hospital for Children with Hip Disease were made available in early 2010, while that for Glasgow was completed in September 2010.

This collection of records forms a valuable and unique resource for anyone interested in the development of hospital medicine for children. The website has already proved of great interest to family historians.

A short history of early children's hospitals

Despite the fact that in-patient hospitals catering specifically for children existed in all major European cities by the end of the 18th century, (the most famous being L'Hôpital des Enfants Malades in Paris) in Great Britain, as late as 1850 no such hospital existed, and virtually no provision was made for the treatment of sick children.

The London Dispensary, opened at Holborn by George Armstrong in 1769, was Britain's first child-centred institution. It provided out-patient treatment for children, but failed to secure public support and closed after only a few years.¹ The dispensary idea was revived in 1816 by John Bunnell Davis, who opened the Universal Dispensary for Children in Waterloo Road, London. In addition to treating sick children as out-patients, it also handed out advice to mothers on the 'domestic management' of children, and took in medical students to train in children's medicine.² However, it too offered no in-patient treatment.

In 1839 Charles West, a young physician who had studied in Europe, took over the running of the Dispensary on Davis' death. Despite all its good work, West wanted to expand to include a few in-patient beds. He was convinced that in order to improve the health of the nation's children, it was first necessary to improve understanding of childhood disease. This, he believed, would best be achieved by establishing a hospital specifically for sick children, where their diseases and treatments could be studied in detail. The Dispensary's management disagreed, maintaining the prevalent view that sick children should not be parted from their mothers.³

Although there had been an explosion in the number of voluntary hospitals in the first half of the 19th century, these hospitals avoided admitting children wherever possible. The London Hospital refused to admit any children under seven, 'except such as required amputation or cutting for stone'; and while Guys had a ward housing 15 beds for children, it was demolished in 1850 and not replaced. Hospitals were concerned about reputation, to maintain the flow of contributions which sustained them. High mortality rates (which were closely associated with sick children) were not good for generating donations.⁴ West blamed this lack of provision for the high child mortality rates which had hardly changed since the end of the 18th century. In his campaign to establish his own sick children's hospital, he produced statistics showing that in the 1840s, of the 50,000 annual deaths in London, 21,000 were of children under the age of 10.⁵

1 Mary L. Evans, 'A history of the Clinical Hospital for the Diseases of Children (Manchester Northern Hospital) and its founders, Drs August Schoepf Merei and James Whitehead.' <http://www.credo.demon.co.uk/maz/clin hosp/>

2 Elizabeth Lomax, *Small and special: the development of hospitals for children in Victorian Britain* (London, Wellcome Institute for the History of Medicine, 1996).

3 *Ibid.*

4 *Ibid*

5 Charles West, 'Facts illustrative of the need for a children's hospital'. West's list of reasons was repeated at the front of the Hospital's annual report for many years.

After persuading some influential members of Victorian society and the medical profession to support him, West was finally successful in raising the funds necessary to open a new hospital, which would have three main objectives: to treat sick *poor* children; to provide a locus for furthering the understanding of child health and disease; and to train nurses specifically for their care.

The hospital opened on 14 February 1852 at no 49 Great Ormond Street. It had 10 beds.

Business initially was slow; it took three days before the first admission, and only four children were admitted in the first month. There was suspicion about the new institution among parents and the medical profession. No less a figure than Florence Nightingale originally condemned the venture, saying, 'The causes of enormous child mortality are perfectly well known ... in one word defective household hygiene. The remedies are equally well known; and among them is certainly not the establishment of a child's hospital.'⁶

However, attitudes gradually began to change and by the end of the first year the hospital had treated 143 in-patients, and doubled the number of beds to 20. By the end of the century the hospital was admitting nearly 2,000 children a year, new buildings provided space for 200 beds, and the out-patient department was seeing a staggering 20,000 children a year.

The success of Great Ormond Street prompted the emergence of children's hospitals all across the UK. Some followed quickly on the heels of the London hospital, such as those in Manchester and Liverpool, but Glasgow faced such stiff opposition that its children's hospital did not open until 1883—some 20 years after it was first proposed.⁷ By 1901 there were 31 specialist children's hospitals across the UK, containing 2,000 beds; they were treating 21,000 in-patients every year and 250,000 out-patients.⁸

The records in HHARP

The selection of hospitals to include in HHARP was not as difficult as it might seem, given the number of such institutions. Of the 31 hospitals open for business in 1901, the records of only six have survived in sufficient quantity to be of use in a project such as HHARP. HHARP includes the records of four of these. The other two, the hospitals at Edinburgh and Aberdeen, have for various reasons been unavailable to the project, although their records are eminently suitable for inclusion.

6 Florence Nightingale, *Notes on nursing: what it is and what it is not* (London, Duckworth, 1952, originally published 1859).

7 Edna Roberston, *The Yorkhill story: the history of the Royal Hospital for Sick Children, Glasgow* (Glasgow, Yorkhill and Associated Hospitals Board of Management, 1972).

8 Lomax, *Small and special*.

Hence, with these two exceptions, HHARP has brought together in a single digital repository all the extant admission registers for nineteenth-century children's hospitals. These registers contain details of all in-patient admissions and discharges to the four institutions, and to Great Ormond Street's convalescent home, Cromwell House. They cover a period ranging from 14 February 1852 (when Great Ormond Street's doors first opened) through to 31 December 1914. While the Great Ormond Street records are continuous for the whole period, the other hospital records cover shorter runs within these dates: Cromwell House, 1869–1910; the Evelina, 1874–1877 and 1889–1902; Alexandra Hospital for Hip Disease, 1867–1895; and the Royal Hospital for Sick Children, Glasgow, 1883–1904.

The registers share a common core of information, which includes child's name, age, sex, and (in most cases) the home address. Further columns provide diagnosis details, dates of admission and discharge, and the result of treatment, which is given as 'Cured', 'Relieved', 'Not Relieved' or 'Died'. Additional information, common to most records, includes the name of the admitting doctor, the child's sponsor and the ward to which they were admitted.

Individual hospitals included other pieces of information in their registers. Cromwell House records, for instance, provide some information on the child's history of infantile diseases and its vaccination status. Some of the Evelina records provide tantalising glimpses of treatments received, including heroic-sounding concoctions of mercury, arsenic, sulphuric acid or belladonna; or ghastly surgery, such as the scraping of infected bone (fortunately, usually under chloroform). Some of the Evelina records of children who died contain notes on the post mortem, which reveal the heavy burden of disease carried by these children. In the case of Jessie Brown, her body was found to be riddled with tuberculosis: 'Caries of 3rd, 4th & 5th Lumbar Vertebrae. Cavities upper & lower lobes of Left Lung. Tuberculous mass in Rt. Lobe of Cerebellum; also one in Rt. Lateral Ventricle pressing on Rt. Crus Cerebri, together with several smaller masses in other parts of the brain. [A] Few scattered tubercles in spleen, few small ulcers in sm[all] Int[estines].' She had been in hospital for 125 days before finally succumbing to her overwhelming disease. Jessie was six and three quarters years old.

Lacking the medical detail of the Evelina, the Glasgow records instead provide more social data, particularly including information concerning a patient's parents: their names, occupation and religion.

The Alexandra Hip Hospital records are quite different from the other hospitals, as all the children are suffering ostensibly from the same disease—that is, disease of the hip (and in a few cases, the knee). Thus the registers focus on the nature of disease suffered, and include information about the condition of the child's limbs before, during and after their stay at the hospital, describing deformities, presence of abscesses etc. They also frequently comment on the duration of illness before admission and likely cause of the problem; and

a few cases provide information gathered from follow up, as in the case of Joseph Brooks, who came into the hospital with a distorted hip joint (the consequence of scarlet fever) in 1867, age five, and by 1878 it was reported that he 'works as a compositor but still sometimes has acute pain'.

Building the resource

In order to enable meaningful comparisons between the hospitals, the same methodology was applied to each set of records. Registers were microfilmed and paper copies of each page were made. The copies were divided into batches of approximately 20 pages, or 400 entries, and each batch was tagged and numbered.

At the very heart of the HHARP project is a team of over 40 dedicated volunteers, who undertook all the transcribing work. These volunteers, mostly retired, had gained experience of working with 19th century records through the Kingston Local History Project run by the University's Centre for Local History Studies. This project had transcribed and produced databases of local census returns and various other records such as parish christening and burial records. By the time they came to the HHARP project they were masters at deciphering nineteenth-century institutional script, and soon became familiar with the new terminology to be found in the Admission Registers. Some volunteers came to the university to work, while others worked remotely—as far afield as Southampton and Bristol; some were retired medical professionals (doctors and nurses).

The databases were built in Microsoft Access, using a template originally designed for the Great Ormond Street records and later adapted to incorporate new data elements from the other institutions. Batches of copies were issued to volunteers, who input the data using a data entry programme. Crib sheets of common disease terms, terms used in post mortem reports and nineteenth-century therapeutics were provided, and in addition, photocopies from the index to a 1909 *London Gazetteer* were supplied to help with identifying streets or areas. The A to Z Trust also kindly supplied a copy of the very first *London A to Z* for reference. The same team of volunteers has worked on the project throughout, and as they gained experience their ability to transcribe the specialised content accurately grew, such that by 2010 they represent a very skilled group of workers. For the Glasgow project, our volunteer team was enhanced by members of the Glasgow and West of Scotland Family History Society, who helped out particularly in deciphering Glasgow street names.

In order to maintain the integrity of the registers, data was entered exactly as it appeared, even where it was suspected that a mistake had been made by the clerks. The addition of fields containing standardised versions of key data elements enabled such original errors to be corrected while maintaining the integrity of the source material. A rigorous system of proofreading ensured every entry was checked twice, to minimise the introduction of twenty-first century-typographical errors, and the process was completed by a series of

computerised validations. Standardisation protocols were applied systematically across all the databases to maximise comparability.

Addresses

In order to help users locate addresses, additional fields were added to provide standardised spellings of street names, and for London-based addresses, Registration Districts and Registration Sub-Districts were added. Addresses outside London were identified by county name. A similar approach has been taken with the Glasgow addresses—assigning Registration Districts to Glasgow addresses and counties to addresses outside Glasgow.

Diseases

Children's diseases in the nineteenth century were imperfectly understood, and nosology has changed greatly since then. Diseases range from the expected typhoid fever and (w)hooping cough to talipes (club foot) and taenia (tapeworm). Many children were admitted with diseases of poverty, such as tubercular joints and lungs, rickets and rheumatism. Abscesses, caused by infections, under-nourishment and tubercular conditions, were common, and eczema was remarkably prevalent. Chorea, or St Vitus' Dance, is now familiar to all involved in the project, as is the distressing strumous ophthalmia, an eye condition rampant in children's homes and orphanages. As with the addresses, volunteers entered the disease or condition exactly as it was written in the register. This resulted in many different spellings of even common diseases such as diarrhoea and scarlet fever. A new field was added to the database containing a standardised spelling of the diagnosis. A classification system was developed specifically for the project by Dr Andrea Tanner and Dr Sue Hawkins, which groups diseases by body site to facilitate comparison between hospitals and analysis of admissions by disease. This classification attempts to reproduce nineteenth-century medical understanding of childhood disease. A second classification, the World Health Organisation's International Classification of Diseases (ICD10), has also been applied to the records from the Evelina and Great Ormond Street, to provide a modern view of diseases of children in the period. This has proved challenging as ICD10 is a complex classification which requires much more information about the condition of the patient than is available to assign an accurate code. As a result, the ICD10 codes have not been applied to the Glasgow records as we continue to evaluate the best way to proceed.

The HHARP website

The HHARP website has evolved from our original website *Small and special* which had been designed specifically for the Great Ormond Street database. As we added more institutions the website needed to reflect its broadening scope and HHARP was conceived

as a portal into the world of Victorian and Edwardian children's hospitals. The databases lie at the centre of the website, and the easy-to-use search facility enables searches by individual institution or across the full suite of databases. Users can search by 20 different fields, alone or in combination, including patient's name, age and sex; address (by street, registration district, county); disease; outcomes; dates of admission and discharge, among others. Results of searches are provided in table form and by individual record, and can be printed or downloaded (with the restrictions discussed below). Access is unrestricted and completely free of charge to all users. However, to protect the site from unscrupulous users, restrictions are applied to volume downloads. Anyone wanting to download large datasets for bona fide use need only contact the Centre for the Historical Record at Kingston, to request a personalised dataset.

While the project was progressing, shifting the focus from Great Ormond Street to other hospitals, the GOSH archivists uncovered some additional registers which complemented the information contained in the admissions books, and it was decided to add these to the website. The Under Twos Register contained details of babies (under twos) who came to the hospital between 1861 and 1882. According to hospital rules, such young children should not be admitted, other than in exceptional circumstances. This register provides the doctors' reasons for admitting babies to the wards. As all the children in this register also appeared in the Admission Registers, the reason for admission was simply added to the existing record (with a note on its source).

Unlike the Glasgow registers, the Great Ormond Street Admission Registers do not contain parents' details, but two small registers discovered recently do provide such information for a number of patients. The Register of Christenings (1870–1897) which took place in the hospital and the Register of Deaths (1860–1863) both contain the name and occupation of parents of a small number of patients. This information has been added to the relevant records in the Admission Registers database.

A fourth register, of Refused Admissions, obviously cannot be linked to entries in the Admissions database. This register which covers the period 1881 to 1892 lists patients who were refused entry to the hospital and provides a reason for their rejection. Although the information is only brief, it does provide some insight into the workings of the hospital. The main reasons for refusal were unsuitability (many of these children had chronic conditions, such as spinal caries, which the hospital was not supposed to admit) and lack of beds. Quite a number of 'unsuitable' cases were transferred to the out-patients' department. As the records in this register cannot be linked to any in the main database the transcribed entries are available in the form of a downloadable Excel file, to be found in the list of general articles about Great Ormond Street: <http://www.hharp.org/library/gosh/general/refused-admissions.html>

A final register which only recently came to light relates to the Infant Nursery which the hospital ran for several years in the 1860s. The children in this register are not ill at all, but

have been placed there by mothers, 'compelled ... to get their living away from home'.⁹ The register is interesting because it contains details of the children's parents' occupations, and a note of their vaccination status. None of these children were admitted to the hospital proper and therefore lack an entry in the main database. As with the Refusals Register, data from the Infant Nursery Register has been transcribed and made available as a downloadable Excel spreadsheet, located at the end of the article on the nursery: <http://www.hharp.org/library/gosh/general/infant-nursery.html>

But the website is not just about the databases. There is a growing library of articles written by the project team, archivists and other historians, on topics relating to the four hospitals. There is also a collection of more general articles on health and poverty in nineteenth-century Britain, and a marvellous gallery of images portray the hospitals and their nineteenth-century inhabitants, bringing both to life. An extensive medical glossary provides definitions for most of the medical terms encountered within the databases, particularly helpful for users who are not familiar with such terminology.

Finally, under the tab, 'Academic Resources/Facts on Children's Hospitals' (<http://www.hharp.org/academic-resources/>) the project team has loaded a collection of ~~powerpoint~~ slides which illustrate some of the comparative statistics derived from the databases: admissions by year; admissions by Registration District in London; outcomes by hospital; admissions by disease group; admissions of infectious fevers. They provide a sample of the type of analyses which can be undertaken.

Further developments

The team has just recently received further funding from the Wellcome Trust to digitise a set of case notes belonging to Sir Archibald Garrod, one of GOSH's famous doctors. Regarded as one of the fathers of modern medical genetics, Garrod was fascinated by the concept of inherited susceptibility to disease. His 29 volumes (1899–1913) contain 6,500 cases, packed with important details which provide insight into Garrod's developing ideas on inheritance and disease. Detailed pre-admission history, family illness (including incidence of TB and neurological conditions), the patient's appearance on admission, and treatment and progress are recorded on a daily or weekly basis. Temperature charts, diagrams and photographs are often included. Diagnosis is refined throughout the hospital stay, and—where death occurs—detailed post mortem notes are appended. The case notes provide the nearest equivalent to a diary of a hospital stay, their detail being both daunting and exciting. It is planned to digitise the case notes (and their associated charts and diagrams) and to load them onto the HHARP website as PDF files linked to the relevant admission record, making them accessible through the existing indexes and

9 'The Infant Nursery at Great Ormond Street', HHARP. <http://www.hharp.org/library/gosh/general/infant-nursery.html> (Accessed 26 January 2011).

search facility. In addition, the first sections of the notes, which generally contain the family history information, will be transcribed and the transcription will be searchable through a new text-search facility, giving access to this social history information. The digitised images and associated transcriptions should be loaded onto HHARP during 2012.

Garrod's are not the first set of notes to be loaded on HHARP. The digitised images of the case notes of GOSH's founder, Charles West have been available for some time. They are accessible through the main GOSH database. However, no transcribing of these notes was undertaken so the work on the Garrod material will add a new dimension.

Conclusion

The HHARP website presents the most comprehensive set of data on early children's hospitals in Britain, made freely available to anyone, anywhere. It brings a valuable collection of material on the subject to the widest possible audience, both helping to preserve the original collections by reducing the need to consult the original material, but also raising awareness of its existence. Such archives (especially those still housed in hospital buildings) come under constant pressure as financial resources are squeezed. So many have already been lost, it is imperative for the history of paediatrics and children's hospital that what remains is protected. One of the main aims of the HHARP website, therefore, is to encourage the study of this medical specialty and thus aid in the preservation of the remaining records.