

# **First report of the committee of management of the Stockwell Fever and Smallpox Hospitals, 1871-2.**

## **Contributors**

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METROPOLITAN ASYLUM DISTRICT.

Tracts, 1629. (1)

# FIRST ANNUAL REPORT

OF THE

COMMITTEE OF MANAGEMENT

OF THE

STOCKWELL

FEVER AND SMALLPOX HOSPITALS,

1871—2.



Committee of Management :

J. A. SHAW STEWART, Esq., J.P., *Chairman.*

DR. BREWER, M.P., J.P.,

*Chairman of the Board.*

JAMES BARNES, Esq.

SIR MICHAEL HICKS BEACH, Bart., M.P.

JNO. A. BOSTOCK, Esq., C.B.

REV. FRANCIS CAMERON, M.A.

JOHN DOULTON, Esq.

ALFRED SUTER, Esq.,

*Vice-Chairman of the Board.*

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GEORGE LOCKYER, Esq.

MICHAEL SARSON, Esq.

HUGH H. SEYMOUR, Esq., J.P.

JOHN T. WILKINS, Esq.

*Clerk to the Managers*—WM. FRANCIS JEBB, Esq.

LONDON :

HARRISON AND SONS, ST. MARTIN'S LANE,

*Printers in Ordinary to Her Majesty.*

1872.

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## OFFICERS OF THE SMALLPOX HOSPITAL.

<i>Medical Superintendent</i>	..	DR. C. McCANN.
<i>Assistant Superintendent</i>	..	DR. P. H. McKELLAR.
<i>Chaplain</i>	.. ..	REV. D. ELSDALE.
<i>House Superintendent</i>	..	MR. WM. FROST.
<i>Matron</i>	.. ..	MRS. BICKNELL.

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## OFFICERS OF THE FEVER HOSPITAL.

<i>Medical Superintendent</i>	..	
<i>Chaplain</i>	.. ..	REV. C. BICKNELL.
<i>House Superintendent</i>	..	
<i>Matron</i>	.. ..	MRS. GODWIN.

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*Clerk to the Committee* .. MR. J. H. RUTHERGLEN.

# METROPOLITAN ASYLUM DISTRICT.

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FIRST ANNUAL REPORT OF THE COMMITTEE

FOR

STOCKWELL

FEVER AND SMALLPOX HOSPITALS,

FOR THE YEAR ENDING 1<sup>ST</sup> FEBRUARY, 1872.

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Twelve months having elapsed on the 1<sup>st</sup> of February last since the opening of these Hospitals, your Committee requested Dr. McCann, the Medical Superintendent of the Smallpox Hospital, to prepare and submit to them a report of the medical work of that Hospital, and they have thought that it would not be uninteresting to the Managers to have this laid before them, together with a brief summary of the Committee's proceedings for the year.

On the 31<sup>st</sup> January, 1871, the Smallpox Hospital was opened with its original number of 102 beds; but so rapidly were Patients sent in, that on the 3<sup>rd</sup> February it was found necessary to raise the accommodation to 130 by placing beds in the day rooms; and, having regard to the pressure for space, the Committee increased the number of beds in the Fever Hospital from 176 to 224, and, at the request of the

Managers, opened that Hospital on the 6th March for the reception of Smallpox cases.

In a few days the latter Hospital rapidly filled, and on the 24th of March it was found necessary to further increase the accommodation by placing 30 additional beds in the day rooms.

Although, during the month of April, some relief was afforded by the transmission of Convalescent Patients to the Islington Convalescent Hospital of the Managers, and to a Convalescent Home at Clapton, the rapidity with which the disease spread during this month in the Southern District, created such a demand upon the Hospitals, that the Committee determined, with the approval of the Managers, not only to raise the number of beds within the two Hospitals from 384 to 500, by placing beds for Convalescents in the corridors and landings, but also to pitch an encampment for 120 Convalescent Patients on the vacant plots of ground in front of the Fever Hospital.

With the valuable co-operation of General Sir Henry Storks, M.P., G.C.B., and Col. Stephenson, C.B., commanding the Scots Fusilier Guards, your Committee were enabled within three days to obtain and get ready for occupation ten hospital marquees, capable of accommodating 120 Patients. The total cost of these tents, including flooring, passages, &c., was about £400, or less than £3 10s. a bed.

The wisdom of the steps taken by your Committee was fully verified in the ensuing month of May, when the disease appeared to attain its maximum, upwards of 600 Patients being under treatment at one time in the Hospitals, with a weekly admission of nearly 150 fresh cases, and a total of nearly 2,000 Patients having passed through the Hospitals up to the end of May.

From this date the disease began to abate, and with the additional relief afforded after the second week in May by the use of the Hospital Ship "Dreadnought," the number of Patients was so far lessened as to enable your Committee, towards the end of July, to reduce the beds from 620 to 450, with a corresponding reduction in the staff; and by the end of September the Fever Hospital was emptied of Patients, and its cleansing and disinfection for the reception of fever Patients proceeded with.

Scarcely, however, had this been completed, and the Hospital prepared for its original purpose, than a fresh outbreak of Smallpox towards the end of December, in the Southern District, rendered it necessary again to have recourse to the employment of a portion of the Hospital for the treatment of Smallpox cases, in order to avoid the necessity of sending acute cases on so long a journey as to Hampstead Hospital.

The annexed Report of Dr. McCann will give many valuable statistics; and your Committee regret that owing to the resignation and absence from England of Dr. Barbour, the same information cannot be given for the Fever Hospital; but appended is a list of the number of Patients sent into the two Hospitals from each of the Parishes and Unions between the 31st January, 1871, and the 1st February, 1872, from which it will be seen that during that period a total of 3,976 Patients have passed through the Hospitals, of whom 700 or 17·6 per cent. have died; and, as showing the extent to which the Convalescent accommodation provided by the Managers was turned to account from the Stockwell Hospitals, it may be mentioned that upwards of 900 Convalescents were transferred therefrom.

The daily cost per head for the maintenance and clothing

of Patients during the half-year ending Lady-day, 1871, was 2s. 2½*d.*, and for the maintenance and salaries of officers, &c., during the same period, 2s. 1*d.*, but for the half-year ending Michaelmas, these charges had been reduced respectively to 1s. 2½*d.* and 10*d.* per head. The cause of this great discrepancy has already been fully explained by your Committee, and it will therefore be sufficient to point out that in the first half-year, the expenditure was only spread over a few weeks, and that heavy items for Fuel, Gas, and Water, required to clean and dry the new Hospitals, were exceptionally included in that half-year, which could not subsequently occur.

The first, and perhaps most serious, trouble, with which your Committee have had to contend, was the difficulty experienced at the outset in getting suitable Nurses. Doubtless, the loathsome nature of the disease, as well as its contagious character, had the effect of deterring the better class of Nurses from entering on the work, but as it became known that, owing to the protection afforded by carrying out a careful system of re-vaccination, the Staff of the Hospitals enjoyed almost a complete immunity from the disease, very suitable women presented themselves, and your Committee have been enabled, from time to time, so to weed out the indifferent Nurses with whom they at first had to be contented, that they believe they at present possess a Staff which will favorably bear comparison with that of any Hospital in the country.

The other difficulties with which your Committee have had to contend have chiefly arisen out of the changing of the principal Officers of the Fever Hospital, none of those with whom the Hospital commenced being now there; the first Matron resigned at a most inopportune moment, viz., three days before the Hospital opened; Dr. Barbour, the Medical

Superintendent, having upon the closing of the Hospital in September, applied for six months' leave of absence, which your Committee could not feel justified in according, at once tendered his resignation; and Mr. Crook, the House Superintendent, resigned and left at Christmas last; these appointments have however been since filled up by officers whom the Committee feel sure will thoroughly second their efforts for the welfare of the Hospital.

These changes have necessarily caused your Committee much trouble and anxiety, so far as regards the Fever Hospital, and it is therefore the more gratifying for them to be able to take this opportunity of recording their entire satisfaction with the manner in which Dr. McCann, the Medical Superintendent, and his assistants, Drs. White and McKellar; the Revs. D. Elsdale and C. Bicknell, the Chaplains; Mr. Frost, the House Superintendent, and Mrs. Bicknell, the Matron, as well as all the subordinate Staff of the Smallpox Hospital, have devoted themselves to the discharge of an arduous and frequently most disagreeable duty; the tax upon their time and energies during the last twelve months has been continuous and severe, but they have done their work cheerfully and well, and merit the best thanks of your Committee and of the Managers.

The Assessment Committee of Lambeth, having assessed the Hospitals at a rateable value of £1,709 for the Fever Hospital, and of £1,334 for the Smallpox Hospital, your Committee, considering these ratings to be excessive, took steps for appealing against them; and, after considerable negotiation, the Assessment Committee, in order to avoid further litigation, consented to adopt the figures fixed by your Committee, viz., £1,297 for the Fever, and £1,012 for the Smallpox Hospital,



or a total reduction of £734 on the rating of the two hospitals, which represents an annual saving of from £180 to £200. The Committee have also claimed and obtained exemption for the Hospitals from Property Tax and Inhabited House Duty.

Your Committee have now dealt with the most important matters which have occupied their attention during the first year of the working of these Hospitals; they have, moreover, from time to time, effected such alterations and additions to the buildings as they have found necessary, and have also laid down such regulations as they have considered would conduce to the satisfactory working of the Hospitals, and it may be well to mention that, in addition to a regular inspection of the wards, the Committee, at each of their weekly meetings, have an interview with all Patients who are likely to be discharged during the ensuing week, and ascertain whether they are satisfied with their treatment, or have any complaints to make, and, except in rare instances, the replies have been of the most satisfactory character.

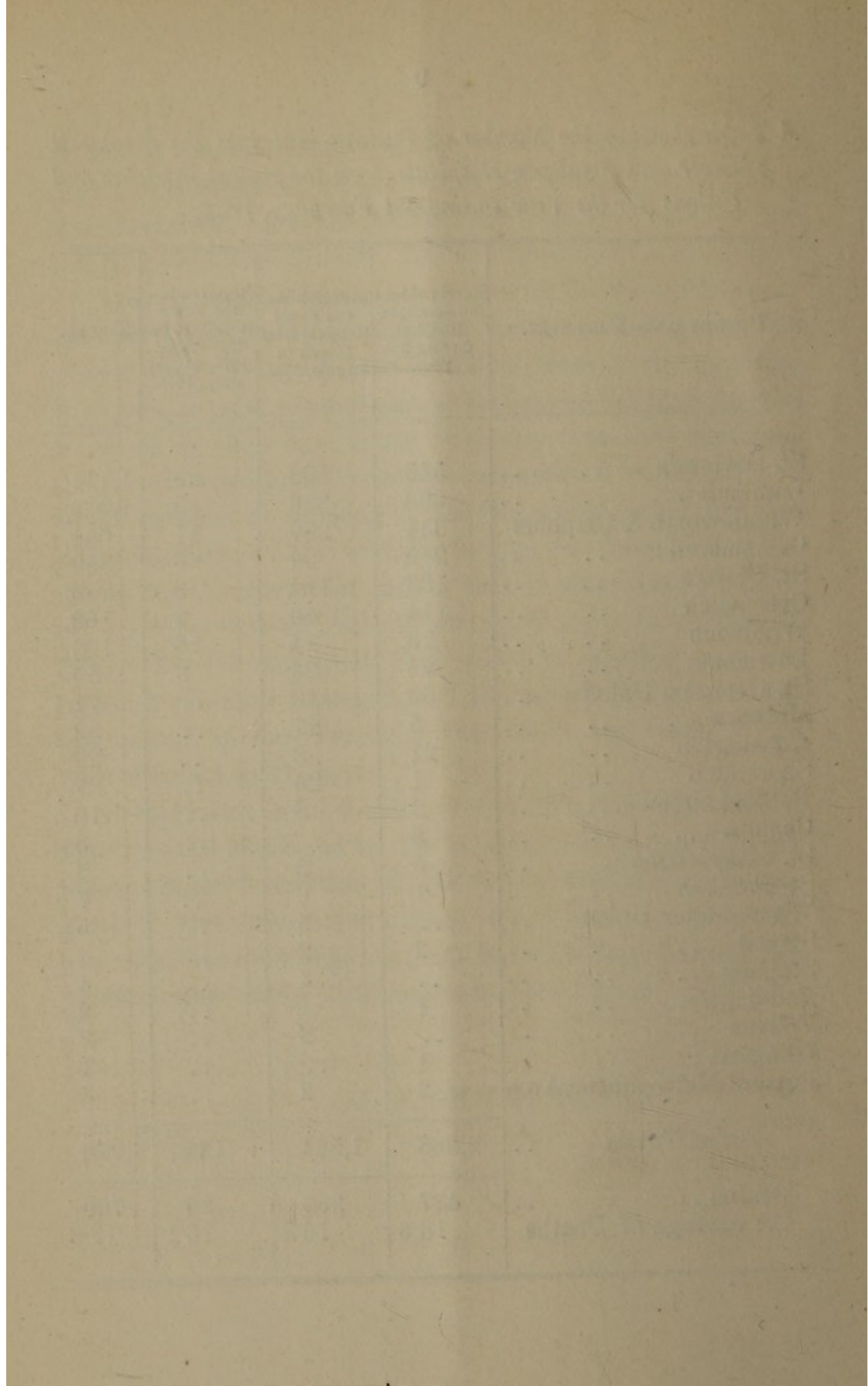
In conclusion, the Committee desire to convey their sincere thanks to the Managers for the confidence they have always reposed in the Committee, and the favorable consideration ever given to their recommendations; the knowledge that they possessed this confidence has much lightened their labours, and rendered their duties a pleasure rather than a toil.

J. A. SHAW STEWART,

*Chairman.*

*A Table showing the Number of Patients sent into the Stockwell Fever and Smallpox Hospitals from the several Parishes and Unions for the Year ending 1st February, 1872.*

UNIONS AND PARISHES.	Received into the Smallpox Hospital during the Year.	Received into the Fever Hospital from March to August, 1871.	Received into the Fever Hospital from Christmas, 1871, to 31st Jan., 1872.	TOTAL.
St. Saviour's .. ..	548	538	25	1,111
Lambeth .. ..	698	336	39	1,073
Wandsworth & Clapham	354	289	11	654
Camberwell .. ..	240	92	20	352
St. Olave's .. ..	133	112	8	253
Greenwich .. ..	114	46	2	162
Woolwich .. ..	73	14	16	103
Lewisham .. ..	26	26	3	55
St. George's Union ..	53	18	..	71
Holborn .. ..	5	27	..	32
Kensington .. ..	21	8	..	29
Shoreditch .. ..	1	26	..	27
Bethnal Green .. ..	2	8	..	10
Chelsea .. ..	8	..	..	8
St. Marylebone .. ..	5	2	..	7
St. Pancras .. ..	1	6	..	7
Westminster Union ..	..	5	..	5
Strand .. ..	2	2	..	4
Stepney .. ..	..	4	..	4
Paddington .. ..	1	1	..	2
Fulham .. ..	..	2	..	2
Islington .. ..	1	..	..	1
Beyond Metropolitan Area	2	2	..	4
Totals .. ..	2,288	1,564	124	3,976
Deaths .. ..	427	253	20	700
Per centage of Deaths	18·6	16·2	16·1	17·6



# SMALLPOX HOSPITAL, STOCKWELL.

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## REPORT

OF THE

MEDICAL SUPERINTENDENT,

*For the Year ending 31st January, 1872.*

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TO THE MANAGERS OF THE METROPOLITAN ASYLUM DISTRICT.

GENTLEMEN,

As you are aware, this Hospital has been in active work for the past twelve months, and this being the first Annual Report issued, I propose to consider, in the first place, the extent to which it has satisfied the requirements for which it was constructed, and to what degree it has alleviated the evils of the serious epidemic through which it is to be hoped we have now passed; in the second place, considering the great advantages I enjoy as Medical Officer of this Institution, I venture to submit to your approval, and to the consideration of the Medical Profession, the results of my experience regarding many important questions yet undecided on the nature and treatment of Smallpox.

For the information of those who are unacquainted with the general plan and management of the Hospital, I shall give a short description of the arrangement of the building; of the accommodation provided for the patients; and shall notice some other important matters connected with its internal administration.

I shall then pass on to consider in detail the following points: the number of Patients admitted during the course

of the year; their ages arranged in periods of five years; the cases in which vaccination had been performed in infancy, and those in which it had been neglected. These details I shall arrange in a tabulated form. In the same table I shall include the cases which terminated fatally, the relation which they bore to the cases where vaccination had been performed or neglected, the general symptoms which characterize them, and the morbid appearances which were observed in the post-mortem examinations. I shall then make some observations on the localities from which Patients were received; and shall conclude with stating the results of my personal knowledge of the commonest causes of contagion amongst the poorer and thickly-populated districts.

### *Construction of the Hospital and Cubic Space.*

In 1867, the Metropolitan Poor Act was passed, whereby power was given to the Managers of the Metropolitan Asylums District to erect Hospitals, and provide accommodation for the poor of London, when suffering from contagious diseases. Accordingly, this Hospital, intended for the reception of Smallpox cases only, was commenced in August, 1869, and completed in January, 1871.

It is constructed on the Pavilion plan, and may be briefly described as consisting of two parallel wings, each wing containing four large wards, with two smaller ones set apart for the treatment of special cases.

A large and spacious corridor, 307 feet long and 12 feet wide, connects the two Wings. At the entrance to each ward, which is from the corridor, there is situated on one side a nurse's room, overlooking the ward, and on the other a small scullery or kitchen. At the remote end of the

ward, and similarly placed, stand a bath-room and water closet, not encroaching on the ward, but separated by a lobby, provided with a thorough cross ventilation.

The same description applies equally to the other wards. At either end of the corridor there is a Head Nurse's room, and a large well-lighted day-room, used as a sitting and dining-room for the Convalescents. These, together with the reception-rooms, one for the Male and the other for the Female side, embrace the chief features of the Hospital proper.

The Hospital provides for the accommodation of 102 Patients. Each of the eight large wards, of 24,000 cubic feet, contains 12 beds, with a window between each bed. The small wards are large enough to contain 3 beds. During the pressure of the epidemic additional beds were placed in the wards, day-rooms, corridor and landings, thus temporarily raising the accommodation to 180 beds. On the west side of the corridor are situated the laundries, disinfecting chambers, engine house, &c.; and on the east the kitchen, and still further removed, the Administrative Block, where the officers, nurses, and servants reside.

The Hospital is erected on a site which combines the advantages of considerable elevation, a gravel soil, and an atmosphere that is generally clear and healthy.

### *Mode of Ventilation of the Wards.*

The ventilation of the Wards is carried out by means of apertures in the walls, which are situated about 19 inches from the floor, and pass obliquely downwards before communicating with the external air. These openings, one of which is placed between each bed, measure on the inner side 16 by 7 inches, and on the outer 17 by 6 inches; they are

protected externally by ordinary metal grating, and on the inner or Ward aspect, by perforated zinc plates. About 20 inches from the ceiling there are similar apertures, furnished with Sherringham's ventilators, so arranged by means of a metal trap, to which a weight and pulley is attached, that they can be opened or closed at pleasure.

There are also outlets near the ceiling, through which the impure air passes, enters a shaft, and is thence carried above the roof. By this arrangement, in conjunction with the cross ventilation from the windows on either side, an abundance of pure air can be admitted, and freshness of atmosphere maintained.

### *Heating of the Wards and Corridors.*

The heating of each Ward is effected by two single-grated stoves, placed in the central line of the Ward, so that all parts are kept of an equal and uniform temperature.

The smoke is carried off by shafts which pass through the centre of the Ward from the basement to the roof of the building, and with which the stoves are connected. The temperature has been maintained throughout the year, from 58 to 60 degrees Fahrenheit. The corridor is heated by hot water passing through a series of circulating pipes and coils. With regard to the lighting, I have only to say, that each of the large globes (of which there are two in every Ward), contains three gas burners, and communicates with an escape pipe, through which the products of combustion are conveyed, and thus the purity of the atmosphere is further preserved.

The supply of hot and cold water in the bath-rooms, lavatories, and other parts of the building, has been satisfactory, and fully sufficient for all requirements.

*Mode of Conveying Patients to and from the  
Hospital.*

The duty and responsibility of conveying Patients to the Hospital with safety and comfort, devolves on the Parish or Union from which they are sent. As there are certain defects in this system, which I have reason to believe require serious attention, I venture to offer a few remarks on the precautions which I think ought to be observed in this respect. In justice, however, to the parochial authorities, it may be said that a great and sudden pressure arose, for which they were not prepared; and they therefore made the best arrangements they could under the circumstances. The only means at their command were very insufficient; for they were obliged to supply themselves with very imperfect vehicles, in which the Patients could not assume the recumbent posture, and receive that attention during their removal to the Hospital which is so necessary in cases of great debility, and where the disease is far advanced. I have already taken an opportunity of bringing under the notice of the Board the dangerous practice of allowing two or three friends, and sometimes more, to ride long journeys shut up in a close vehicle, together with the Patient, and then to return to their homes in the same poisoned atmosphere, thus subjecting themselves to the risk of contracting a disease—to which they are very liable, as they, for the most part, belong to that class who either wholly disregard or neglect to avail themselves of the protective power of vaccination and re-vaccination. Another matter to which I would refer, is the want of separate carriages for the removal of Patients when fit to be discharged. Previously to their being certified as fit



for discharge, great pains are taken to ascertain that the Patients themselves, and the clothes which they had worn when admitted, are free from infection; yet it has sometimes occurred that they have been removed in an Ambulance, which a few minutes before had conveyed a fresh case of Smallpox to the Hospital. This latter evil has been brought under the notice of the Managers by Dr. Gayton, the Medical Superintendent of the Homerton Smallpox Hospital. Although, in such a case, there may be no danger to the Patients themselves, there exists grave apprehension that they may be unconsciously the means of bearing infection in their clothes, and thus spreading disease, if not death, in their homes and amongst their own friends, and thus nullifying the precautions taken at the Hospital. I am glad, therefore, that the Managers have given their attention to these all-important matters, and hope that their interference in behalf of the suffering poor, will bring about an improved condition of Ambulances, calculated to insure the comfort of the Patients during their transfer to the Hospital, as well as safety to the public after their removal.\*

### *Mode of Disinfecting Patients' Clothes.*

The process of disinfecting the Patients' Clothes is carried out in a small brick chamber heated by a furnace. A large metal door forms the entrance, and in this is placed a thermometer indicating the internal heat. Along the whole length

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\* Since this Report was written, the Managers have themselves undertaken the removal to their own homes or to the workhouses of such recovered patients as may require it.

of the chamber near the top, on either side, run two iron bars, on which there are four transverse moveable rods, and from these the clothes are suspended.

Four suits can be disinfected at a time, and each article is opened out separately and subjected to a heat of 230° Fahrenheit, for half an hour. After undergoing the above process the clothes are folded up, with the name of the owner attached, and placed in a wooden shed, through which a constant current of air is passing.

Having had an opportunity of seeing another disinfecting apparatus at the Fever Hospital adjoining, generally known as Nelson's, I feel convinced that it is superior in all respects to the one in use here, as it is heated by gas, can be raised more speedily to the required temperature, and is less expensive in the consumption of fuel.

### *Nursing.*

As far as practicable Nurses with previous Hospital experience have been selected. A Day Nurse and a Night Nurse are attached to each large and special Ward; and there are, in addition, two Head Nurses, and a Night Superintendent of Nurses; each of the former has charge of one wing during the day, and during the night the responsibility of the entire building devolves on the latter.

The duties of the Day Nurse commence at half-past 7 in the morning and continue till 9 at night, when the Night Nurse comes on duty, and remains till 9 the following morning; so that the early arrangements are effected between them. According to the rule adopted here, namely, of treating the severe cases with and in the same ward as the Convalescents, this number of Nurses was found amply

sufficient. The staff of Nurses did not enjoy a complete immunity; two suffered from Smallpox, both of whom recovered. One of them having had an attack of that disease six years before, it was not thought necessary to re-vaccinate; the second was re-vaccinated on arrival at the Hospital, but, no doubt, the poison was in the system before it could take its proper effect; it nevertheless modified the disease to such an extent, that it was not found necessary to confine her to her bed for a single day. This result must be looked upon as a satisfactory proof of the efficacy of re-vaccination,—these being the only cases in which the disease appeared amongst those engaged in the service of the Institution; the number of whom, including Officers, Nurses and Servants has been 93.

### *Medical Report.*

During the past year 2,288 Patients have been admitted, 1,733 were discharged recovered, and 427 died. The monthly admissions have undergone considerable variation; from 201 in February, they fell to 173 in March, then they rapidly increased, to 238, 318 and 258 in April, May and June respectively. In July there was again a falling off, which may be said to have continued to the end of November, being in July 192, August 189, September 128, October 146, and November 127. An increase took place in December, during which month 192 were admitted, the largest number since July. In January, the last month of this Report, 126 were received.

In the following No. 1 Table, the total monthly admissions, discharges and deaths are given during the 12 months, commencing 31st January, 1871, and ending 31st January, 1872:—

No. I. TABLE.

MONTH.	ADMISSIONS.				DEATHS.				RECOVERED.			Convalescents removed to Hampstead, "Dreadnought," Ascot, and Upper Clapton.			Monthly Average in Hospital.		
	Males.		Females.		Males.		Females.		Males.	Females.	Total.	Males.	Females.	Total.	Highest.	Lowest.	Mean.
	Over 10.	Under 10.	Over 10.	Under 10.	Over 10.	Under 10.	Over 10.	Under 10.									
AGE. ...																	
February	98	15	78	10	17	6	9	35	19	15	34	...	...	141	32	86	
March.....	78	5	77	13	12	...	8	21	72	68	140	...	...	144	124	134	
April .....	120	9	93	16	15	4	17	46	73	50	123	...	...	189	123	156	
May.....	156	23	120	19	24	8	22	59	46	90	136	...	...	193	149	171	
June .....	137	13	93	15	24	6	19	53	45	79	124	...	...	178	149	163	
July .....	87	11	78	16	13	4	15	37	55	79	134	...	...	165	127	146	
August ...	95	16	69	9	15	2	13	33	21	79	100	...	...	130	90	110	
September	61	12	42	13	13	4	5	26	40	54	94	...	...	128	106	117	
October ...	60	10	61	15	11	8	14	36	38	38	76	...	...	134	97	115	
November ...	64	7	46	10	8	1	7	18	56	42	98	...	...	128	88	108	
December	89	12	79	12	21	2	11	35	41	39	80	...	...	137	109	123	
January...	62	12	45	7	15	3	8	28	35	37	72	...	...	133	111	122	
TOTAL....	1,107	145	881	155	188	48	148	427	541	670	1,211	416	106	522	Remaining in Hospital }	128	

In Table No. II. the Patients are arranged in periods of 5 years, showing the number of the vaccinated and unvaccinated, together with the mortality occurring in each period.

No. II. TABLE.

Under	ADMISSIONS.				DEATHS.				MORTALITY PER CENT. IN EACH CLASS OF CASES.					
	MALES.		FEMALES.		MALES.		FEMALES.		VACCINATED.		UNVACCINATED.			
	Vac.	Unvac.	Vac.	Unvac.	Vac.	Unvac.	Vac.	Unvac.	Males.	Females.	Combined Average.	Males.	Females.	Combined Average.
5 years	17	27	21	39	2	17	2	22	11.7	9.5	10.5	62.9	56.4	59.0
5 to 10	57	44	63	32	9	20	7	12	15.8	11.1	13.3	45.4	37.5	42.1
10 to 15	111	18	122	19	9	9	7	8	8.1	5.7	6.8	50.0	42.1	45.9
15 to 20	254	17	211	17	18	13	15	12	7.1	7.1	7.1	76.4	70.6	73.5
20 to 25	247	34	193	18	22	26	20	11	8.9	10.3	9.5	76.4	61.1	71.1
25 to 30	152	10	92	10	20	10	10	6	13.1	10.8	12.3	100.0	60.0	80.0
30 to 35	103	5	53	13	16	4	13	9	15.5	24.5	18.5	80.0	69.2	72.2
35 to 40	68	6	47	2	13	6	8	2	19.1	17.0	18.2	100.0	100.0	100.0
40 to 45	35	1	34	2	9	1	10	2	25.7	29.4	27.5	100.0	100.0	100.0
45 to 50	16	4	11	2	5	3	1	1	31.2	9.1	22.2	75.0	50.0	66.6
50 to 55	8	2	12	..	1	1	5	..	12.5	41.6	30.0	50.0	..	50.0
55 to 60	8	..	12	..	1	..	5	..	12.5	41.6	30.0	..	..	..
60 to 65	3	..	7	..	..	..	1	..	..	14.3	10.0	..	..	..
65 to 70	3	..	2	..	..	..	1	..	..	50.0	20.0	..	..	..
70 to 75	2	..	..	..	1	..	..	..	50.0	..	50.0	..	..	..
75 to 80	..	..	2	..	..	..	1	..	..	50.0	50.0	..	..	..
Total	1,084	168	882	154	126	110	106	85	11.6	12.0	11.8	65.4	55.2	60.5

*Mode of stamping out Smallpox.*

On reading over the above figures, one circumstance cannot fail to attract your attention: viz., the large number of deaths occurring in the unvaccinated, as compared with the vaccinated, even unsatisfactorily as the process is carried out in London. I would also specially call attention to the great value of Re-vaccination, as affording almost certain immunity from the disease, for I may state that not a single case, where undoubted successful re-vaccination had been performed, presented itself for admission. Under any circumstances, whether an epidemic prevail or not, this important fact ought to rouse us, and, having such safe and powerful means at our command, urge us not only to retard, but to stamp out altogether the presence of a malady so fatal and repulsive. And now it may be asked, how this end is to be attained? The question has often been answered; by a prompt, compulsory house-to-house re-vaccination, and, as far as possible, the complete isolation of those already affected, by removing them to some Hospital provided for the treatment of such diseases, as well as the immediate and thorough disinfection of the sick chambers from which they have been removed. Of the great importance of complying with the first condition, namely, vaccination and re-vaccination, nothing need be said. Of the second, namely, the isolation of the Patients, I fully concur in the statements contained in Dr. Seaton's admirable handbook of vaccination, where he says—"When an airy room can be given up to a case of Smallpox, there will be no necessity whatever to move the case to a Hospital, even where the opportunity for such removal exists; but where, as among most of the labouring class, &c., there are no such means of isolation, but the case would have to remain in a room to which many must have

access, and in which, perchance, some part of the family, or perhaps the whole family might be sleeping, if not altogether living, removal to a Hospital or place of proper isolation is of the utmost consequence, and wherever it is practicable, should never be omitted." To the third condition, namely, the thorough disinfection of the sick chamber from which a Patient has been removed, I must especially direct the attention of the Managers, as I am strongly of opinion, from various enquiries made both from the Patients themselves at their houses, as well as when visiting their friends, that although a matter deserving the strictest attention, it is but very imperfectly carried out. Illustrative of the above, I may mention the following instances out of many. On asking a mother, during her visit to this Hospital to see her children, if any steps were taken to disinfect her dwelling, or if she received any instructions to that effect, she replied that she had received no instructions, but, at the suggestion of a neighbour, she had applied at the vestry, and obtained some chloride of lime, which she sprinkled over the room; and this she looked upon as a sufficient precaution. The second case was as follows—after the removal of a member of a family of 4 or 5 in number, some disinfectants were thrown about, and the apartment shut up for a few hours. The same night the room was occupied by the remainder of the family, who, not long after, were attacked with smallpox, and admitted into the Hospital. In referring to the above suggestion, I am quite aware of the many difficulties to be encountered, and the disagreeable duties to be performed by the parish authorities; and I cannot help expressing my conviction that the proper disinfection of houses cannot be efficiently carried out as long as the inmates reside in them, and that too onerous duties

are imposed on those intrusted with the parochial sanitary arrangements.

About each form of the disease, I now propose to make a few general remarks.

### *Forms of Smallpox.*

Although much has been written, hitherto, about Smallpox, its varieties, eruption, and treatment, it may not be wholly uninteresting to place before you in this Report, a brief account of the principal forms of that disease, as seen at this Hospital during the past twelve months. Of the "benign" form of Smallpox, or that occurring for the most in those protected by vaccination, but not sufficiently so to ward off the disease entirely, little need be said. The mildness of the premonitory symptoms, the course which it runs, and its almost absolute freedom from a fatal termination, renders it little alarming, except in the danger of its extending to others.

The "confluent," or that form in which the pustules run into each other, deserves more attention; not only on account of the greater mortality, the increased suffering, and protracted convalescence, but in consequence of the permanent serious injury that so frequently results.

In this, the "confluent" form, the premonitory symptoms are of grave import; the headache, furred tongue, vomiting, and pain in the back, of such slight moment in the former, are now much more severe. In consequence of the disinclination to apply for relief prevailing among the labouring classes, Patients are not brought under notice until the fourth or fifth day after the appearance of the eruption, and sometimes not till



the seventh or eighth day, when the more urgent symptoms show themselves. A sufficient number, however, have been under observation, to enable me to state the usual progress of such cases, from the beginning to their termination. It is well known, that in these cases the eruption may be confluent on the head and face, and sparse on the chest and extremities; or, what is still more dangerous, this confluent condition may exist over the entire surface of the body. On arrival at the Hospital, the patient usually complains of sore throat and pains in the back. The face is very often of a deep red colour; and by passing the finger over it, numerous minute and closely aggregated papules may be felt beneath the skin. The appearance of the eyes, and the general expression of the countenance, even at this early period, are often characteristic, and denote approaching delirium, so as to enable proper precautions to be taken in the treatment of the case. The soreness of the throat, almost an invariable complication, usually passes away in from 48 to 72 hours, but the presence of the eruption on the tongue, throat, and fauces very often causes great difficulty of deglutition.

The delirium before mentioned generally sets in towards the evening, and may continue throughout the disease, or pass off in from 24 to 48 hours. The pulse varies from 100 to 110; the temperature is about  $100^{\circ}$ , and the respirations not much above the average. During the further progress of the disease, swelling of the face and eyelids sets in, and the patient cannot be readily recognized. There is in many cases a copious discharge of viscid mucus from the throat, so that the sufferer is constantly struggling for breath, and is in fear of suffocation. This condition is attended with considerable risk when occurring in children.

During the first seven or eight days of the eruption, the swelling of the face, sore throat, and the painful condition of the body from so large an extent of irritation, render the patient restless and irritable. He is unable to take a proper amount of sleep, without which, should he not succumb to the severity of the attack before the advent of the secondary fever, which occurs at the period when the pustules begin to discharge their contents, he is rendered unable to bear up against the exhaustion that occurs at this stage of the disease.

This is the most critical period: the pulse ranges from 120 to 130, the temperature from  $103^{\circ}$  to  $106^{\circ}$ , and in some cases even this temperature is exceeded; the respirations are hurried; then commences a craving for liquids, and a thirst which cannot be allayed; the restlessness becomes aggravated, and continues without intermission. This deplorable condition of the sufferer stimulates one to use every exertion to give relief; but I regret to say, I know of no plan of treatment which succeeds in allaying the serious symptoms I have described.

In some less severe cases, the secondary fever passes off after a few days, the pulse and temperature subside, and a gradual return to health takes place. Should not this desired result occur, many serious complications may arise, still further endangering life, or threatening to afflict the unfortunate sufferer with those lamentable sequelæ which too often set in. The principal of these are ulceration of the cornea, with loss of sight; otitis, resulting in permanent deafness; and other complications, such as pneumonia, pleurisy, bronchitis, peritonitis, and gangrene of the scrotum. Should the patient be unfortunately attacked with either of the latter affections,

the fatal termination soon arrives, and puts an end to his misery. The system, already weakened by a disease so exhausting, is readily overcome by the advent of a second equally serious.

In that form of the disease, which may be called "suppressed," but which is only a variety of the "confluent," differing from the latter, as its name implies, in the eruption being scarcely perceptibly raised above the skin, the surface generally assumes a pale, pasty appearance, and this variety is attended with a greater amount of prostration from the commencement. No attempt at maturation is apparently made; large blebs, containing a serous-looking fluid, form on the hands and various parts of the body; there is rarely any swelling of the face, as in the other variety; and it is almost as surely fatal as the third or "hæmorrhagic form," of which I have now to speak.

The "Hæmorrhagic" form resembles, in its premonitory symptoms, those already mentioned, but is nearly always fatal. The Patient's appearance on admission is characteristic; the face is of a more or less purple colour, which very soon becomes intensified; the eyes are injected, and an effusion of blood subsequently occurs beneath the conjunctiva, either in patches or entirely surrounding the cornea. Petechiæ are found, more or less numerous, according to the severity of the disease, occupying, in all cases, the groins and lower part of the abdomen, and frequently the outer surface of the thighs, as well as the axillary and clavicular regions.

As the disease advances, the face becomes swollen; black patches, due to effused blood, appear on the forehead, and soon extend over the face. Hæmorrhage from the mucous membranes, sometimes slight, but often in alarming quantities,

sets in, and the breathing, imperfect in the commencement, becomes rapidly impeded. The eruption, if any, consists of a few vesicles, which rarely pass beyond that stage. Throughout the disease the condition of the Patient is one of agony and distress, and, unfortunately, little can be done either to relieve the symptoms or conduce to recovery.

Death generally takes place about the fifth day, and sometimes as early as the third. The pulse ranges from 120 to 140, the temperature from  $101^{\circ}$  to  $106^{\circ}$ , and in the cases which came under my notice, both fell about 24 hours before the fatal termination.

I now place before you a few typical cases of the varieties above described. The points to which attention is principally directed are the Temperature and Pulse.

#### NO. 1.—SEVERE CONFLUENT SMALLPOX.

S. S., æt. 34, Boilermaker, a strong, muscular man, was admitted on 7th March, the second day of the eruption. On arrival at the Hospital his face was somewhat flushed, and he complained very much of sore throat. His eyes were slightly injected, and numerous papules, small and closely set, could be distinctly felt on the face.

The eruption was confluent over the entire surface of the body. He had two very indifferent primary vaccination marks on the left arm. Temperature at 9 p.m.,  $102^{\circ}\cdot 1$ ; Pulse 98. He was placed on low diet, which consists of milk, beef tea, and arrowroot. 8th, at 10 a.m., T.  $101^{\circ}\cdot 2$ , P. 96, had passed a restless night, but took his nourishment well. At 3 p.m., T.  $101^{\circ}\cdot 4$ , P. 98.; 11 p.m. gave him a Hydrate of Chloral draught (30 grains), but this did not appear to give any relief. 9th, 10 a.m., T.  $100^{\circ}\cdot 3$ , P. 100; 3 p.m., T.  $102^{\circ}\cdot 4$ ,

P. 100. 9 p.m., T.  $103^{\circ}\cdot 1$ , P. 106. 10th, 10 a.m., T.  $102^{\circ}\cdot 1$ , P. 110; slept fairly during the night, eruption on face beginning to crust, but of a pale colour on body and extremities. 11th, 10 a.m., T.  $102^{\circ}\cdot 2$ , P. 100; 3 p.m., T.  $104^{\circ}$ , P. 106, Patient suddenly became restless and wandering. 12th, 10 a.m., T.  $104^{\circ}\cdot 1$ , P. 120; during the night great difficulty had been experienced in administering nourishment. 13th, 10 a.m., T.  $106^{\circ}\cdot 2$ , P. 132. Died at 2 p.m. on the 8th day of eruption.

No. 2.—Also SEVERE CONFLUENT SMALLPOX.

T. G., æt. 24, Groom, was admitted on 4th March, being the second day of the eruption. This Patient complained of sore throat and severe pains in his back, and stated he had been vaccinated, but there were no marks visible. He had lately come from the country, and was apparently a very healthy man. At first the eruption did not appear copious, but subsequently developed into a severe confluent form. March 5th, 10 a.m., T.  $99^{\circ}$ , P. 96, had no sleep during the night, and stated he had no rest for the last three nights. 6th, 10 a.m., T.  $99^{\circ}\cdot 2$ , P. 98; 3 p.m., T.  $100^{\circ}\cdot 2$ , P. 96. 7th, 10 a.m., T.  $101^{\circ}\cdot 2$ , P. 98; 3 p.m., T.  $100^{\circ}\cdot 2$ , P. 106. 8th, 10 a.m., T.  $100^{\circ}\cdot 4$ , P. 110, passed a restless night, talked in his sleep about his horses, &c., but took drink freely. 9th, 10 a.m., T.  $102^{\circ}\cdot 2$ , P. 116; 3 p.m., about the same. 10th, 10 a.m., T.  $103^{\circ}\cdot 2$ , p. 120, passed a better night, but seemed rather desponding, and did not think he would recover. 11th, 10 a.m., T.  $104^{\circ}\cdot 0$ , P. 120; 3 p.m., T.  $104^{\circ}\cdot 3$ , P. as before. 12th, 10 a.m., T.  $103^{\circ}\cdot 1$ , P. 130, small and jerking, ordered, in addition to his low diet, two eggs and 8 ozs. Port wine. 13th, 10 a.m., T.  $103^{\circ}\cdot 0$ , P. 128, seemed a little better and took more nourishment. 14th, 10 a.m., T.  $102^{\circ}\cdot 3$ , P. 120,

passed a quiet night, and was evidently improving. 15th, 10 a.m., T.  $102^{\circ}\cdot 2$ , P. 120. 16th, 10 a.m., T.  $101^{\circ}\cdot 3$ , P. 110. 17th, 10 a.m., T.  $100^{\circ}\cdot 4$ , P. 106. 18th, 10 a.m., T. unusually low, being  $97^{\circ}\cdot 0$ , P. 100. 19th, had an attack of shivering during the day; Temperature, at 8.30 p.m., rose to  $105\cdot 2$ ; and on the following morning, 20th, he had an attack of Erysipelas in right leg, to which fomentations were ordered; his temperature had fallen to  $101^{\circ}\cdot 3$ . 21st. Leg much swollen, T.  $100^{\circ}\cdot 4$ , P. 98, ordered 8 ozs. brandy and 4 eggs (wine omitted). 22nd, 10 a.m., T.  $100^{\circ}\cdot 0$ , P. as before, leg less painful, and Patient expressed himself much better. 23rd, 10 a.m., T.  $99^{\circ}\cdot 0$ , P. 98, slept well, and asked to be placed on meat diet; no unfavorable symptoms occurred during convalescence.

### NO. 3.—HÆMORRHAGIC SMALLPOX.

M. S., æt. 30, single woman, was admitted on Feb. 8, first day after appearance of the eruption. Previous to this attack, I was informed by her friends that she never had any illness, but was always strong and healthy. She was born in London, and lived in a very healthy locality. Had three faint marks of primary vaccination. On her arrival at the Hospital her face was observed to be of a dark appearance, and rather puffy; her eyes were injected, and she seemed in a very weakly condition. 8.30 p.m. her temperature was found to be  $104^{\circ}\cdot 1$ , P. 120, R. 36. 9th, 10 a.m., T.  $104^{\circ}\cdot 0$ , P. 110, R. 40; had no sleep during the night, and, from the difficulty of breathing, could not rest long in one position; 3 p.m., T.  $104^{\circ}\cdot 2$ , P. 116, R. 38; 10th, 10 a.m., T.  $103^{\circ}\cdot 3$ , P. 120, R. 30, complained of great pain in the lower part of the abdomen, and subsequently uterine hæmorrhage set in; 3 p.m., T.  $103^{\circ}\cdot 2$ , P. 126, R. 34;

hæmorrhage increased very much, and no doubt could be entertained that the fatal termination was not far distant; 8 p.m., T.  $102^{\circ}4$ , P. 136, R. 36; death took place at 2 a.m. on 11th. In the treatment of this case the usual astringents were employed, but without producing any beneficial result.

#### No. 4.—HÆMORRHAGIC SMALLPOX.

H. C., æt. 22, Servant, admitted August 26th. Had two good primary vaccination marks. A few vesicles appeared on 24th, and two days afterwards she was received into the Hospital. On admission she had the usual symptoms, sore throat, &c. Her tongue was coated and eyes injected. 27th, 10 a.m., T.  $101^{\circ}4$ , P. 120, a number of small umbilicated vesicles were to be seen on the face, which was dark and swollen. 28th, 10 a.m., T.  $103^{\circ}2$ , P. 126, lost a large quantity of blood from the uterus during the night; 3 p.m., no alteration in the symptoms, but refused to take any nourishment. 29th, 10 a.m., T.  $104^{\circ}0$ , P. 140, passed a restless night; face purple and swollen; the vesicles were of a general slaty blue appearance. In afternoon had, at frequent intervals, suffered from great restlessness, apparently hysterical, marked by a loud stertorous breathing, groaning, and upturned eyes. 30th, 10 a.m., T.  $105^{\circ}2$ , P. 138, breathing much more distressed; died in the afternoon, the 6th day of the eruption. In this case, also, uterine hæmorrhage ensued, but not to such an extent as in the previous case.

#### No. 5.—SUPPRESSED SMALLPOX.

J. S., æt. 29, admitted March 5th, the fourth day of eruption. On arrival at the Hospital he was found to be suffering from an eruption, scarcely raised above the skin, and of a pale, whitish appearance. He complained of sore throat, as

met with in other confluent cases. 5th, 8 p.m., T.  $101^{\circ}\cdot 2$ , P. 98. 6th, 10 a.m., T.  $100^{\circ}\cdot 1$ , P. 98; did not sleep during the night, but took his nourishment fairly; 3 p.m., T.  $101^{\circ}\cdot 0$ , P. 100; 8 p.m., T.  $101^{\circ}\cdot 4$ , P. 110. 7th, 10 a.m., T.  $101^{\circ}\cdot 3$ ; Pulse as before; ordered a mixture of Strychnine and Iron every four hours; 3 p.m., T.  $102^{\circ}\cdot 0$ , P. 106; 9 p.m., T.  $102^{\circ}\cdot 4$ , P. 110. 8th, 10 a.m., T.  $101^{\circ}\cdot 2$ , P. 120, appeared very low; ordered 12 ozs. port and 4 eggs; 3 p.m., T.  $101^{\circ}\cdot 2$ , P. 110. 9th, 10 a.m., T.  $102^{\circ}\cdot 2$ , P. 116; 3 p.m., T.  $102^{\circ}\cdot 2$ , P. 110; 8 p.m., T.  $102^{\circ}\cdot 4$ , P. 120. 10th, 10 a.m., T.  $103^{\circ}\cdot 4$ , P. 136, was delirious during the night, and constantly endeavouring to leave his bed. 11th, 10 a.m., T.  $105^{\circ}\cdot 2$ , P. 140; ordered the following mixture—Quinæ Disulph, grs. v., Acid. Sulph. dil: M. xv. and aqua, Camph.  $\zeta$ j, every four hours; 3 p.m., T.  $107^{\circ}\cdot 1$ , P. 130. Died at 9.30 same evening.

It is right to mention, that of the 2,288 Patients admitted and treated to their termination, 7 of those left under treatment on the 31st January last subsequently died, in addition to those mentioned in the Statistical tables, thus raising the percentage to 18.9. Deducting, however, 4 dead on arrival at the Hospital, 26 who died within 24 hours, and 38 within 48 hours after admission, and who cannot be fairly reckoned as having been under treatment, the percentage is reduced to 16.1. Deducting 10 patients who died of other diseases following Smallpox, the mortality is still further reduced to 15.7 per cent.

### *Treatment.*

The mode of treatment pursued at this Hospital may be briefly referred to. In the early and acute stage, Salines, Diaphoretics, &c., were administered, while the food consisted



principally of milk, beef-tea, and arrowroot. In the later stages, as exhaustion came on, port wine and eggs, and brandy and eggs, were given in addition. Various medicinal agents have been employed in severely confluent and hæmorrhagic cases, in the hope of cutting short or lessening the severity of the secondary fever in the former, and relieving the fatal hæmorrhagic tendency in the latter. The following drugs have had a fair trial; and, although at first impressed with their usefulness, further experience has only served to convince me, that they exercise no marked or beneficial effect on the disease. Quinine in small and large doses, Strychnine alone, and in combination with iron, Chlorate of Potash and Turpentine, have been used, and I must state that, after the treatment of over 2,000 cases, their efficacy is not very apparent. Of the administration of stimulants, except when a great degree of exhaustion is present, such as may arise from a long continued illness, or from the supervention of other diseases, I have formed the same opinion.

The external applications used were Olive Oil, Glycerine, and Carbolic Acid, Collodion and Castor Oil, Sulphur Ointment, with Oxide of Zinc and Nitrate of Silver. The latter of these I have found the most effectual in preventing the pitting and in drying up the offensive discharges, which occur in some of the worst cases. Lately, instead of confining this application to the face, I have applied it to the entire surface of the body, and I have reason to think, that it not only serves to diminish the amount of disfigurement, but also exercises a beneficial influence over the course of the eruption, and, consequently, the disease itself. More extended experience, however, is required before speaking with any certainty as to its results.

## POST-MORTEM APPEARANCES IN THE VARIOUS FORMS OF SMALLPOX.

### No. 1.—SEVERE CONFLUENT SMALLPOX.

There is no condition of the internal organs in this form of the disease which requires special notice, with the exception of the intestines, which are seriously affected in some cases with the variolous eruption. The lower part of the small intestine and the large intestine are the parts in which this principally occurs. The surface is covered with numerous slightly elevated white spots, in some parts situated close together, in others isolated. There is no depression of the centre, nor are the glandular structures of the intestine particularly the seats of eruption. The elevation is due in great measure to effusion into the sub-mucous tissue, as was easy to observe on making microscopic sections of the diseased parts. To some extent it was also due to an increase in the number and size of the epithelial elements.

### *Suppressed Smallpox.*

The morbid appearances are by no means well defined, beyond the fact, that there is observed that general condition which is met with in diseases of a similar character to variola, and where it is generally admitted that the fatal termination is due to the influence of a morbid poison. The lungs are nearly always congested, and contain frothy fluid; the inferior parts being most affected. The heart has no signs of recent disease. The blood is found fluid, both in the ventricles and auricles. The liver and kidneys are rather softer and paler in

colour than is usually found; the secreting structures are well marked and contain an excess of oil globules.

### *Hæmorrhagic Smallpox.*

In this variety the lungs and heart are in the same condition as in the last class of cases. The liver is more anæmic, softer, larger than is natural and more oily, and the kidneys are affected in the same manner. The tissues in which the chief changes are observed are the serous and mucous membranes. The mesentery presents an unusual colour; it is stained universally of a brownish red tinge, and may be compared to the well-known appearance often seen on the internal surface of the aorta. This appearance does not depend as far as could be ascertained on diffusion of the blood corpuscles in the tissues, and their destruction may be regarded as one of the effects of the poison. Loose coagula are sometimes seen in the pelvic cavity in women, where the delicate termination of the Fallopian tubes appears to be the source of the hæmorrhage. No actual lesion, however, was discovered to account for the hæmorrhage in the cases examined. With regard to the mucous membranes, particularly that of the vagina, their surfaces present no evidences of lesion, but there are numerous small collections of extravasated blood in the sub-mucous tissues, though actual rupture of the blood vessels is not observable. This brief account of the changes observed in the various organs and tissues of the body from the effects of the variolous poison, is presented to your notice with considerable hesitation, as I am well aware, how imperfectly I have been able to carry out investigations into the pathology of the disease.‡

*Remarks on the Cases in which Delirium occurs,  
and Method of Treatment.*

Before concluding the Medical part of this Report, I wish to make some remarks on the importance which is to be attributed to the symptom of delirium, and on the method of treatment which I have generally adopted and found most successful. I have rarely met with it in cases of "Discrete" Smallpox, and never in the Hæmorrhagic form; and whenever it does occur in the former, it is usually of short duration, and unattended by serious consequences. In "Confluent" Smallpox, however, at two periods of the disease, namely, on the first or second day of the eruption, and at the time when the secondary Fever is commencing, that is to say, about the 8th or 9th day, it is usual for delirium to show itself. This disturbance of the mental faculties is liable to assume a variety of forms. In some, the mind is so little affected, that only very gentle means are necessary to control the Patients, while in others, there is such a complete loss of self-restraint, that much stronger measures must be resorted to, not only for the safety of the Patients themselves, but also for that of their Attendants and those around them. It is obvious that the cases in which delirium occurs, are those which require the most attention and create most anxiety.

There seems to be in a large proportion of these cases a strong inclination to escape from all restraint. To effect this, they take advantage of any opportunity which remission in careful watching may afford, or, failing in this, will resort to the most violent efforts to accomplish their purpose.

This tendency requires different modes of treatment on the part of the Attendant. With regard to the effects of

any medicinal remedies in diminishing it, I think I may say consistently, that there are none to be relied upon. It is often possible to control the Patient by moral influence, without resorting to forcible means of restraint; but it is in the treatment of violent cases that the greatest difficulty is experienced, and to this class I now confine my remarks. The two methods usually employed are, either to have a sufficient number of Attendants to overcome the efforts of the Patient, or to use some mechanical means of preventing him from leaving his bed; and this is best accomplished by folded sheets, fastened to the bed on either side, and passing over the chest and extremities.

I am in favour of the latter plan for the following reasons:—In the first place, the actual state of excitement and restlessness seems to be increased by the presence of several persons in immediate attendance on the Patient; secondly, it is of the greatest importance to diminish as much as possible any kind of injury to the surface of the body, which is to some extent unavoidable, and certainly more likely to occur from the exercise of manual force, than from the softer pressure of broad folds of linen sheets. When such means are employed, care, of course, must be taken that the sheets produce no injurious pressure, and this is best prevented by fixing them over the bed clothes, so that they are not in direct contact with the body. In this way, the presence of one Attendant at the bedside is quite sufficient.

Between 40 and 50 cases of violent delirium came under my notice; and having frequently tried both plans, I feel quite satisfied that the method I have spoken in favour of, is the safer and more humane.

### *On Vaccination.*

In some of the cases I have entered in the Tables as having been vaccinated, I feel great doubt whether the operation had been properly performed. Wherever a mark was clearly discernible on the arm, and was reported by the Patient himself, or his relatives, as having been the result of vaccination, I have assumed, that such was the case; but the mark was often so faint, and possessed of so few or none of the characteristics which belong to a successful vaccination cicatrix, that I am inclined to think the operation is very often inadequately performed, and that a large number of those presented at our Hospitals "as vaccinated cases," were not protected at all.

When, therefore, a considerable mortality occurring from Variola, is seen amongst those reported in Statistical Tables as having been vaccinated, great allowance must be made for the correctness of any conclusion formed from them; for I feel convinced, that not more than 20 per cent. of all the cases admitted into the Hospital bore cicatrices of vaccination undoubtedly genuine.

### *Prejudices against Vaccination.*

It may be interesting to examine the reason why certain prejudices are entertained by the poor against the Vaccination of their children. One of the most common of these arises from the belief, that injurious effects are produced on the constitution of the child, by the introduction of matter which has been taken from a diseased subject; and in support of this view, cases are constantly brought forward, in which constitutional diseases, particularly cutaneous eruptions, have been said to follow vaccination. It is not at all uncommon to

hear the mothers of children asserting, that the eruption on the skin for which they are asking advice, followed after vaccination in a very short time, and in their minds is not unnaturally attributed to that cause. I have also reason to believe that, occasionally, re-vaccination has been performed in cases where well-marked symptoms of the disease have already shown themselves, even after the appearance of the eruption. As an instance of this, a rather severe case came under my treatment.

Before concluding this part of my Report, I have to refer to the unsettled state of medical opinion as to the length of time a patient should be retained in the Hospital before all danger of infection is passed; and upon this I will simply say, that the rule adopted at this Institution has been to retain patients until desquamation is complete, the secretions and excretions are healthy, and the pulse and temperature becomes normal.

This plan has been followed in the treatment of over 2,000 cases, and in no instance has it given rise to any unfavorable result to deter us from a continuance of the practice. In compliance with this rule, the time of detention in Hospital may be said to vary with the severity of the case.

In a case of modified Smallpox, the above indications are fulfilled in about 21 days, whereas, in severe confluent cases, the same end is not attainable in less than eight or ten weeks.

Therefore, it is clear, that the average period during which a patient should remain under treatment ought to be regulated by the particular form and severity of the case; and the precautions taken seem to have been sufficient to obviate all danger of the patients carrying infection to others, or suffering personally from any of the consequences of the attack.

## No. 3 TABLE.

Total Monthly Admissions from each Parish or Union during the year ending 31st January, 1872.

PARISH OR UNION.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	TOTAL.
Lambeth .....	61	48	77	102	65	80	49	37	36	43	61	39	698
St. Saviour's.....	46	50	47	76	79	23	66	32	51	31	31	16	548
Wandsworth and Clapham..	20	27	48	64	34	27	25	33	32	15	22	7	354
Camberwell .....	16	11	11	24	43	28	26	16	8	9	27	21	240
St. Olave's.....	6	14	3	21	25	23	12	3	10	7	8	1	133
Greenwich.....	10	4	11	23	7	9	7	4	5	7	13	14	114
Lewisham.....	3	1	..	..	..	..	1	2	..	3	6	9	25
Woolwich .....	1	4	3	4	1	1	1	1	3	12	24	19	74
St. George's.....	27	8	14	2	2	..	..	..	..	..	..	..	53
Kensington .....	8	6	7	..	..	..	..	..	..	..	..	..	21
Holborn.....	..	..	3	..	1	1	..	..	..	..	..	..	5
Chelsea.....	2	..	5	..	1	..	..	..	..	..	..	..	8
Bethnal Green .....	..	..	1	..	..	..	1	..	..	..	..	..	2
Marylebone .....	..	..	5	..	..	..	..	..	..	..	..	..	5
Shoreditch .....	..	..	1	..	..	..	..	..	..	..	..	..	1
Islington .....	..	..	..	..	..	..	1	..	..	..	..	..	1
St. Pancras .....	..	..	1	..	..	..	..	..	..	..	..	..	1
Paddington .....	..	..	..	1	..	..	..	..	..	..	..	..	1
Strand .....	1	..	1	..	..	..	..	..	1	..	..	..	2
Beyond Metropolitan Area..	..	..	..	1	..	..	..	..	..	..	..	..	2
TOTAL.....	201	173	238	318	258	192	189	128	146	127	192	126	2288



*Locality of Smallpox and mode of Spreading.*

With regard to the localities in which Smallpox principally existed, and to the mode of its dissemination, I have now to express my opinion, not derived from hearsay, but based on experience derived from a personal inspection of the streets, and in many cases, of the houses in which the disease prevailed. That Smallpox has been confined, in the majority of cases, to the poorer classes does not admit of any doubt, and when we consider the circumstances and surroundings under which they live, we cannot be surprised to find them an easy prey to an epidemic disease such as the one now under consideration. Time has not allowed me to pay more than a few hurried visits to the parishes or unions allocated to this Hospital; but each successive visit strengthened my conviction that in the poorer streets where once Smallpox gained a footing, it there formed its stronghold, and diffused the poison around. I will briefly state a few of the cases that came under my notice. Whilst passing through one of those streets situated in a poor neighbourhood, in answer to my inquiries a house was pointed out to me as containing a case of Smallpox. I gained admission, and saw the patient. The dwelling consisted of six small ill-ventilated rooms, and on inquiry, I found, to my surprise, that there were 13 human beings in that wretched place, all unprotected by re-vaccination. At the date of my visit, the sufferer, a married woman, aged 37, and her husband, occupied a room on the ground floor. She was in a most pitiable condition, having lost both her eyes, and being afflicted with bad bedsores. Her husband was her only nurse during her illness, extending over six weeks. In the two rooms above, lived another family,

consisting in all, of seven members, and on the floor above that, lived a family of four; in the two latter, Smallpox made its appearance, as one would expect. The first floor had been previously occupied by another family of five people, and amongst them also Smallpox broke out, proving fatal in two cases. Before leaving this case, I may mention that daily visits were interchanged between the members of this household and their friends living in another parish some distance away; the consequence was the appearance of Smallpox among the second family, of whom three had a severe attack, and a fourth, a young man of 19 or 20, had the disease in a mild form, of which he was not cognisant, and continued his work to the danger of others. A lodger in a good street, also some distance away, contracted the disease, being a frequent visitor to the above No. 2 family. Second case:—Harriett H., a married woman with two children, aged 4 and 6 respectively, occupied a miserable room on the first floor of another house. The mother, was then recovering from Smallpox, her only nurse during the early and acute stage of her illness having been her eldest boy. In a second room on the same floor, lived a young married couple, and on the ground floor, consisting of two rooms and a kitchen, five people lived, and here also Smallpox made its appearance. Visited a third house in the same street, and saw a small room, where four children slept; three were re-vaccinated, and escaped, whilst the fourth, unprotected, was attacked. Several other cases occurred in the same street, and in the others adjoining. W. G., being asked if she could give any information as to the manner in which her children contracted Smallpox, replied that she didn't know, but it was ascertained that she left an infected house, and in all probability carried contagion to her new home,

where Smallpox subsequently appeared. Of another family, who could give no information, it was found that their children were in the habit of playing with children in another court, who had the disease in a mild form. In another street, the origin seems clearly traceable to its importation in a travelling van used for selling goods, three children had the disease in a very virulent form and died; the remainder of the family then took lodgings in another street, and there, too, Smallpox broke out in the house they removed to, and spread in the immediate neighbourhood. J. J. considered he caught Smallpox from another man, who, from the description given, appears to have returned to his employment before he was free from infection. Before leaving this subject, I may refer to the condition of the houses and streets in which the disease has caused the greatest mortality. As might be expected, it raged with greatest virulence in the houses of the poor, well fitted, by overcrowding, imperfect ventilation, and neglect of sanitary precautions, as well as by the neglect of vaccination and re-vaccination, to lay the foundation for the introduction of epidemic diseases, and for their diffusion when once they have arisen. In the houses above mentioned—at least, the few in which I inspected the condition of the cisterns, and water closets—I found the former as a rule uncovered, thereby rendering the water they contained impure, and the latter in a highly dangerous state from a deficient supply of water, and neglect, probably on the part of the householders, who generally disregard all efforts at cleanliness.

It has been often stated, that the present epidemic is not remarkable for having peculiar dens, the disease being more scattered over the poorer streets, and often breaking out in the houses of the rich, far removed, as is supposed,

from any contagious influence. This, indeed, has been the case; but when we come to make strict inquiries, and carefully analyze the evidence, we find the disease is chiefly confined to the domestic servants, who, in many cases, contract it whilst visiting their friends, who, as a rule, inhabit the narrow, wretched streets so numerous throughout London. Several instances can be adduced, affording satisfactory proof that in many cases the disease is so contracted. When asked any question as to the manner in which they caught the disease, the reply is, that they have been nowhere, or that they caught it in church, or that it arose from a cold. There is probably some restraint placed on them by their employers, and so they learn to conceal everything calculated to throw a light on this matter.

Thus it is, in my opinion, that many cases arise, for which it is supposed that no cause can be traced. It cannot, however, be denied that a great number still remain unaccounted for. How many cases may arise in our large Hospitals and Infirmaries, where one may see, occasionally, a Patient suffering from Smallpox or Scarlet Fever waiting, with a number of others in the out-patient department, for medical advice, it is impossible to say; and considering the perfect freedom of communication that takes place, whether in travelling, or in our daily intercourse in the world, it does not appear a matter of surprise that such should be the case.

In conclusion, I must say that I am deeply impressed with the advantages I have enjoyed of studying the various forms of the disease which have come under my care during the year I have held the appointment of Medical Officer to

this Hospital; and I feel most grateful to the Managers for the encouragement and assistance I have received in carrying out the responsible duties of the office.

I have the honour to remain, Gentlemen,

Your obedient Servant,

C. M'CANN,

*Medical Superintendent.*