

## **STRICTLY CONFIDENTIAL**

### **Summary of preliminary analyses of data collected from Gosport War Memorial Hospital.**

This report updates the information outlined in the report of 11.11.02. In that report, an initial review of the counterfoils of MCCDs issued by doctors at Gosport War Memorial Hospital (GWMH) from 1987 gave cause for concern about the numbers issued by Dr Barton, and the frequent use by her of bronchopneumonia as the cause of death. However, there were several potential legitimate explanations for these findings, and it was not possible from the data available to draw a reliable conclusion. Since the completion of that report, further information has been obtained. This includes:

- The deaths certified by doctors at GWMH in 2001 (from counterfoils)
- Information on the numbers of beds at GWMH from 1980-1993
- Data from the admissions register for Dryad Ward, 1993-2001
- Data from the controlled drugs registers used on Dryad Ward, March 1995-August 1998.

In addition, information contained in other controlled drugs registers is currently being extracted.

#### **1. Do changes in numbers of beds and bed use explain the numbers of deaths certified by Dr Barton?**

The information analysed thus far tends to indicate a relatively high number of deaths associated with Dr Barton's period at the hospital, although there were changes in the types of cases admitted that could explain this finding. Table 1 shows that the mean number of deaths per year up to 1992 was 104. Between 1993 and 1999 the mean was 175. Dr Barton ceased work as a clinical assistant in July 2000, and the mean number of deaths per year 2000-2001 was 110.

Dr Barton began work at the hospital in 1988. At that time, she had responsibility for patients in Redclyffe Annexe, which has been reported by GWMH staff as having 20 beds classified as continuing care. Many of the certificates issued by Dr Barton for patients in Redclyffe Annexe 1988-1993 indicate that many were mentally infirm.

Until 1993/4, there were also two wards (male and female) at the hospital, having a total of approximately 37 beds, of which 19 were GP beds and 7 as GP day surgery beds. Dr Barton was responsible for the care of patients in the remaining 11 beds. (Note: the precise number of beds on the female ward is uncertain since the information is derived from the memories of staff. It is believed to have been 20 or 21.) The total number of beds under the supervision of Dr Barton was therefore 31 until 1993/4.

From 1993/4, Dr Barton appears to have been responsible for a greater number of beds, and for a different group of patients. Dr Barton appears to have ceased responsibility for Redclyffe Annexe, and taken on responsibility for the new Dryad and Daedalus wards in the new hospital building, the male and female wards being closed. This gives a total of 44 beds under Dr Barton's care, with a mix of continuing

care and rehabilitation. The increase in numbers of certificates from 1993 could very well be explained by these changes at the hospital.

**Table 1. Numbers of MCCD counterfoils each year, 1987-2001, completed by Dr Barton or other doctors at GWMH.**

| YEAR   | Other docs | Dr B | Total |
|--------|------------|------|-------|
| 1987   | 105        | 2    | 107   |
|        | 98.1       | 1.9  |       |
| 1988   | 85         | 29   | 114   |
|        | 74.6       | 25.4 |       |
| 1989   | 71         | 31   | 102   |
|        | 69.6       | 30.4 |       |
| 1990   | 72         | 38   | 110   |
|        | 65.5       | 34.5 |       |
| 1991   | 59         | 31   | 90    |
|        | 65.6       | 34.4 |       |
| 1992   | 68         | 32   | 100   |
|        | 68.0       | 32.0 |       |
| 1993   | 57         | 99   | 156   |
|        | 36.5       | 63.5 |       |
| 1994   | 56         | 106  | 162   |
|        | 34.6       | 65.4 |       |
| 1995   | 74         | 81   | 155   |
|        | 47.7       | 52.3 |       |
| 1996   | 100        | 84   | 184   |
|        | 54.3       | 45.7 |       |
| 1997   | 106        | 86   | 192   |
|        | 55.2       | 44.8 |       |
| 1998   | 107        | 107  | 214   |
|        | 50.0       | 50.0 |       |
| 1999   | 71         | 92   | 163   |
|        | 43.6       | 56.4 |       |
| 2000   | 80         | 34   | 114   |
|        | 70.2       | 29.8 |       |
| 2001   | 103        | 2    | 105   |
|        | 98.1       | 1.9  |       |
| Column | 1214       | 854  | 2068  |
| Total  | 58.7       | 41.3 | 100.0 |

Tables 2 and 3 show respectively the certificates issued by the other doctors at the hospital and Dr Barton for deaths on different wards. These data support the case that Dr Barton ceased responsibility for patients in Redclyffe Annexe and took on the new Dryad and Daedalus wards 1993/4.

The numbers of deaths fell in 2000-2001. Caution is required in drawing conclusions since clinical practice is likely to have been influenced by the concerns raised by the complaints first voiced in 1999, and the consequent investigations. On the basis of the evidence available about the numbers of deaths, it is therefore not appropriate to infer that criminal behaviour explains the patterns observed – changes to the numbers of beds and case mix are a highly plausible explanation.

**Box 1. Reported bed usage at the hospital (information provided by GWNH staff:**

1980-1993:

Northcott house, 11-12 continuing care beds

Redclyffe annexe 20 continuing care beds

Male ward - 17 beds (9 continuing care, 8 GP beds)

Female ward – 20 beds (2 continuing care, 7 GP day surgery, 11 GP beds)

Total beds 1980-1993=69

From 1994:

Redclyffe annex was still used;

Sultan ward – 24 GP beds

Dryad ward – 20 continuing care beds

Daedalus – 24 beds in total (8 slow stream stroke from April 1994, 16 continuing care [24 prior to April\94]); from 2000, the Daedalus beds were used for intermediate care, comprising 8 fast stream stroke, 8 slow stream stroke, 8 general rehabilitation.

Dr Barton appears to have been responsible for Redclyffe annex until 1993/4, when she took charge of Dryad and Daedalus wards.

**Table 2. Deaths certified by the other doctors on wards at GWMH (only 7 MCCD counterfoils from 1986 available; GWMH=Gosport war memorial hospital, ward not stated; Northcote, Mulberry and Collingwood are other wards at GWMH; the other wards are mentioned above, or are not in the hospital).**

|      | place of death |           |                 |                   |                        |               |            |             |          |                   |             |           | Total |
|------|----------------|-----------|-----------------|-------------------|------------------------|---------------|------------|-------------|----------|-------------------|-------------|-----------|-------|
|      | GWMH           | Redcliffe | male ward, GWMH | female ward, GWMH | Northcott Annexe, GWMH | Daedalus ward | Dryad Ward | Sultan Ward | Mulberry | Coldeart hospital | Collingwood | ark royal |       |
| 1986 | 7              |           |                 |                   |                        |               |            |             |          |                   |             |           | 7     |
| 1987 | 66             | 9         | 9               | 11                | 10                     |               |            |             |          |                   |             |           | 105   |
| 1988 | 61             | 3         | 13              | 5                 | 3                      |               |            |             |          |                   |             |           | 85    |
| 1989 | 52             | 3         | 3               | 10                | 3                      |               |            |             |          |                   |             |           | 71    |
| 1990 | 52             | 2         | 9               | 9                 |                        |               |            |             |          |                   |             |           | 72    |
| 1991 | 37             | 1         | 10              | 11                |                        |               |            |             |          |                   |             |           | 59    |
| 1992 | 35             | 1         | 16              | 15                |                        |               |            |             |          |                   |             |           | 67    |
| 1993 | 34             | 2         | 3               | 6                 |                        | 3             |            | 8           |          |                   |             |           | 56    |
| 1994 | 15             | 5         |                 |                   |                        | 2             |            | 33          |          |                   |             |           | 55    |
| 1995 | 12             |           |                 |                   |                        | 12            | 5          | 35          | 10       |                   |             |           | 74    |
| 1996 | 28             | 7         |                 |                   |                        | 10            | 6          | 37          | 11       | 1                 |             |           | 100   |
| 1997 | 10             | 3         |                 |                   |                        | 8             | 7          | 45          | 33       |                   |             |           | 106   |
| 1998 | 23             | 5         |                 |                   |                        | 12            | 11         | 35          | 18       |                   |             |           | 104   |
| 1999 | 12             | 7         |                 |                   |                        | 6             | 9          | 27          | 10       |                   |             |           | 71    |
| 2000 | 20             | 5         |                 |                   |                        | 13            | 12         | 22          | 3        |                   | 5           | 1         | 81    |
| 2001 | 59             | 8         |                 |                   |                        | 1             | 4          | 25          | 2        |                   | 4           |           | 103   |
|      | 523            | 61        | 63              | 67                | 16                     | 67            | 54         | 267         | 87       | 1                 | 9           | 1         | 1216  |

**Table 3. Deaths certified by Dr Barton on different wards at GWMH.**

|               |      | place of death |           |                    |                      |                              |               |            | Total |                |
|---------------|------|----------------|-----------|--------------------|----------------------|------------------------------|---------------|------------|-------|----------------|
|               |      | GWMH           | Redcliffe | male ward,<br>GWMH | female ward,<br>GWMH | Northcott<br>Annexe,<br>GWMH | Daedalus ward | Dryad Ward |       | Sultan<br>Ward |
| year of death | 1987 | 1              | 1         |                    |                      |                              |               |            |       | 2              |
|               | 1988 | 2              | 6         | 11                 | 1                    | 9                            |               |            |       | 29             |
|               | 1989 | 1              | 19        | 8                  | 1                    | 2                            |               |            |       | 31             |
|               | 1990 |                | 23        | 13                 | 2                    |                              |               |            |       | 38             |
|               | 1991 |                | 18        | 11                 | 2                    |                              |               |            |       | 31             |
|               | 1992 |                | 23        | 8                  | 1                    |                              |               |            |       | 32             |
|               | 1993 |                | 51        | 7                  | 6                    |                              | 35            |            |       | 99             |
|               | 1994 |                | 58        | 1                  |                      |                              | 42            |            | 4     | 105            |
|               | 1995 | 1              | 4         |                    |                      |                              | 42            | 33         | 1     | 81             |
|               | 1996 |                |           |                    |                      |                              | 48            | 32         | 3     | 83             |
|               | 1997 |                |           |                    |                      |                              | 39            | 47         |       | 86             |
|               | 1998 |                |           |                    |                      |                              | 51            | 51         | 5     | 107            |
|               | 1999 |                |           |                    |                      |                              | 42            | 49         | 1     | 92             |
|               | 2000 |                |           |                    |                      |                              | 15            | 17         | 2     | 34             |
|               | 2001 |                |           |                    |                      |                              |               | 1          | 1     | 2              |
| Total         |      | 5              | 203       | 59                 | 13                   | 11                           | 314           | 230        | 17    | 852            |



## 2. Is there a difference between Dr Barton and other doctors in the use of different causes of death?

Table for shows the numbers of deaths certified as primarily due to one of six groups of conditions (cancers, heart problems including myocardial infarction and heart failure, strokes, bronchopneumonia in association with other conditions such as dementia, bronchopneumonia as the sole cause of death, and other conditions, including dementia, renal failure etc).

**Table 4. Cause of death in groups, according to whether Dr B (2) or other doctors (1) signed the certificate.**

|                     |                               | Other doctors | Barton | Total |
|---------------------|-------------------------------|---------------|--------|-------|
| cause of death code | cancer                        | 464           | 50     | 514   |
|                     | heart                         | 170           | 100    | 270   |
|                     | stroke                        | 112           | 139    | 251   |
|                     | bronchopneumonia plus another | 247           | 367    | 614   |
|                     | bronchopneumonia only         | 35            | 163    | 198   |
|                     | other                         | 180           | 31     | 211   |
| Total               |                               | 1208          | 850    | 2058  |

Dr Barton was more likely to give bronchopneumonia or stroke as the cause of death (Chi 0.000, Table 4). A potential explanation is case mix – patients with dementia or stroke would have been admitted to Redclyffe, Dryad and Daedalus wards. A possibility that must be borne in mind is the excess use of sedative medication, leading to development of bronchopneumonia.

## 3. Deaths on Dryad Ward

The admissions book for Dryad Ward has been retained by the hospital, and contains information about all admissions from 1993. I have assumed that the admissions book dates from the first opening of the ward. There are occasional errors in the book, for example the admissions of some patients were not entered on the day of admission, and some data are sometimes missing, for example the source of admission. Nevertheless, the book was reasonable complete, and can be assumed to represent a fair description of admissions throughout the period.

It should be noted that Daedalus Ward did not have a similar book, but instead a day-book appears to have been employed. This was not helpful in providing information for this review.

The admissions book recorded the date of admission and the date of discharge or death, and it was therefore possible to calculate the length of admission. Table 5 shows the mean length of admissions by year of admission. There was some variation between years, with admission during 1998 having the shortest mean length of admission.

**Table 5 Mean length of stay on Dryad ward, days, 1993-2001 (anova  $p < 0.000$ ).**

|       | N   | Mean  | Std. D | 95% CI for Mean |       | Minimum | Maximum |
|-------|-----|-------|--------|-----------------|-------|---------|---------|
|       |     |       |        | Lower           | Upper |         |         |
| 1993  | 37  | 148.6 | 182.7  | 87.6            | 209.5 | 4       | 652     |
| 1994  | 68  | 41.7  | 70.2   | 24.7            | 58.7  | 1       | 326     |
| 1995  | 52  | 88.8  | 168.4  | 41.9            | 135.6 | 1       | 856     |
| 1996  | 43  | 56.0  | 72.6   | 33.6            | 78.3  | 1       | 345     |
| 1997  | 67  | 33.9  | 60.0   | 19.3            | 48.6  | 1       | 365     |
| 1998  | 103 | 36.0  | 40.5   | 28.1            | 43.9  | 0       | 195     |
| 1999  | 131 | 42.5  | 58.6   | 32.4            | 52.6  | 0       | 406     |
| 2000  | 90  | 65.8  | 87.8   | 47.4            | 84.2  | 1       | 487     |
| 2001  | 85  | 67.5  | 88.1   | 48.5            | 86.6  | 4       | 409     |
| Total | 676 | 57.1  | 93.4   | 50.0            | 64.1  | 0       | 856     |

The causes of death of patients of Dryad certified by Dr Barton are shown in Table 6. These data are taken from the MCCD counterfoils. Almost all the counterfoils completed by Dr Barton indicate place of death, although the other doctors do not record this information consistently.

**Table 6. Deaths on Dryad ward certified by Dr Barton**

|      | cause of death |       |        |                               |                       |       | Total |
|------|----------------|-------|--------|-------------------------------|-----------------------|-------|-------|
|      | cancer         | heart | stroke | bronchopneumonia plus another | bronchopneumonia only | other |       |
| 1995 | 2              | 4     | 2      | 15                            | 8                     | 1     | 32    |
| 1996 | 1              | 3     | 5      | 17                            | 5                     | 1     | 32    |
| 1997 | 2              | 11    | 4      | 23                            | 6                     | 1     | 47    |
| 1998 | 3              | 4     | 6      | 15                            | 18                    | 5     | 51    |
| 1999 | 7              | 6     | 5      | 12                            | 15                    | 4     | 49    |
| 2000 | 3              | 2     | 3      | 2                             | 6                     | 1     | 17    |
| 2001 |                |       |        |                               | 1                     |       | 1     |
|      | 18             | 30    | 25     | 84                            | 59                    | 13    | 229   |

The mean age of patients on admission to Dryad Ward is shown in Table 7, according to year of admission. There is no difference between years. The admissions book does not record the gender of patients.



**Table 7. Mean age (yrs)at admission to Dryad ward, 1993-2001. (p ns.)**

|       | N   | Mean | Std. Deviation | 95% CI for Mean |       | Minimum | Maximum |
|-------|-----|------|----------------|-----------------|-------|---------|---------|
|       |     |      |                | Lower           | Upper |         |         |
| 1993  | 38  | 82.1 | 7.2            | 79.7            | 84.4  | 66.0    | 97.0    |
| 1994  | 75  | 83.7 | 7.2            | 82.0            | 85.3  | 64.4    | 100.0   |
| 1995  | 56  | 82.6 | 7.2            | 80.6            | 84.5  | 66.9    | 99.0    |
| 1996  | 45  | 83.0 | 6.5            | 81.0            | 84.9  | 69.8    | 95.2    |
| 1997  | 71  | 81.8 | 8.3            | 79.9            | 83.8  | 66.3    | 98.0    |
| 1998  | 105 | 83.2 | 7.5            | 81.7            | 84.6  | 67.1    | 100.0   |
| 1999  | 133 | 83.6 | 7.1            | 82.3            | 84.8  | 65.0    | 98.2    |
| 2000  | 89  | 82.7 | 7.1            | 81.2            | 84.2  | 67.0    | 100.0   |
| 2001  | 96  | 80.9 | 8.4            | 79.2            | 82.6  | 61.0    | 100.0   |
| Total | 708 | 82.7 | 7.5            | 82.1            | 83.21 | 61.0    | 100.0   |

The Dryad ward admissions book records whether the patient died or was discharged. Table 8 indicates that the proportion of patients who were discharged alive was less than 50% until 1999. Between 1993-5, 80% of admitted patients died on the ward.

**Table 8. Numbers (%) of admissions followed by death or discharge, Dryad ward, 1993-2001 (p <0.000).**

| year |   | outcome |            | Total  |
|------|---|---------|------------|--------|
|      |   | died    | discharged |        |
| 1993 | N | 29      | 7          | 36     |
|      | % | 80.6%   | 19.4%      | 100.0% |
| 1994 | N | 59      | 11         | 70     |
|      | % | 84.3%   | 15.7%      | 100.0% |
| 1995 | N | 42      | 10         | 52     |
|      | % | 80.8%   | 19.2%      | 100.0% |
| 1996 | N | 31      | 13         | 44     |
|      | % | 70.5%   | 29.5%      | 100.0% |
| 1997 | N | 48      | 21         | 69     |
|      | % | 69.6%   | 30.4%      | 100.0% |
| 1998 | N | 64      | 40         | 104    |
|      | % | 61.5%   | 38.5%      | 100.0% |
| 1999 | N | 58      | 74         | 132    |
|      | % | 43.9%   | 56.1%      | 100.0% |
| 2000 | N | 35      | 56         | 91     |
|      | % | 38.5%   | 61.5%      | 100.0% |
| 2001 | N | 39      | 47         | 86     |
|      | % | 45.3%   | 54.7%      | 100.0% |
|      | N | 405     | 279        | 684    |
|      | % | 59.2%   | 40.8%      | 100.0% |

The admissions book recorded brief information about the patient's illnesses at the time of admission. On a few occasions, this information included an indication of the reason for admission, for example respite care. Table 9 summarizes the findings. Medical/mental problems indicates either dementia of a mix of medical conditions and confusion or dementia, post-op indicates people who have had a recent operation, the most common of which was for treatment of fractured hips.

**Table 9. Category of cases admitted to Dryad ward, 1993-2001 (p<0.000).**

|      |   | Diagnostic group |                                |                                |                   |        |                    |                                     | Total  |
|------|---|------------------|--------------------------------|--------------------------------|-------------------|--------|--------------------|-------------------------------------|--------|
|      |   | stroke           | general<br>medical<br>problems | medical/<br>mental<br>problems | heart<br>problems | cancer | post op eg<br>~nof | respite<br>care/social<br>admission |        |
| 1993 | N | 9                | 19                             | 6                              | 2                 | 2      |                    |                                     | 38     |
|      | % | 23.7%            | 50.0%                          | 15.8%                          | 5.3%              | 5.3%   |                    |                                     | 100.0% |
| 1994 | N | 10               | 31                             | 14                             | 2                 | 3      | 14                 |                                     | 74     |
|      | % | 13.5%            | 41.9%                          | 18.9%                          | 2.7%              | 4.1%   | 18.9%              |                                     | 100.0% |
| 1995 | N | 7                | 23                             | 13                             |                   | 7      | 5                  | 1                                   | 56     |
|      | % | 12.5%            | 41.1%                          | 23.2%                          |                   | 12.5%  | 8.9%               | 1.8%                                | 100.0% |
| 1996 | N | 1                | 20                             | 10                             |                   | 7      | 2                  |                                     | 40     |
|      | % | 2.5%             | 50.0%                          | 25.0%                          |                   | 17.5%  | 5.0%               |                                     | 100.0% |
| 1997 | N | 4                | 29                             | 16                             | 5                 | 8      | 8                  |                                     | 70     |
|      | % | 5.7%             | 41.4%                          | 22.9%                          | 7.1%              | 11.4%  | 11.4%              |                                     | 100.0% |
| 1998 | N | 6                | 42                             | 11                             | 3                 | 9      | 23                 | 10                                  | 104    |
|      | % | 5.8%             | 40.4%                          | 10.6%                          | 2.9%              | 8.7%   | 22.1%              | 9.6%                                | 100.0% |
| 1999 | N | 10               | 47                             | 10                             | 6                 | 11     | 38                 | 9                                   | 131    |
|      | % | 7.6%             | 35.9%                          | 7.6%                           | 4.6%              | 8.4%   | 29.0%              | 6.9%                                | 100.0% |
| 2000 | N | 8                | 38                             | 8                              | 2                 | 10     | 20                 | 3                                   | 89     |
|      | % | 9.0%             | 42.7%                          | 9.0%                           | 2.2%              | 11.2%  | 22.5%              | 3.4%                                | 100.0% |
| 2001 | N | 11               | 30                             | 16                             | 1                 | 8      | 9                  | 14                                  | 89     |
|      | % | 12.4%            | 33.7%                          | 18.0%                          | 1.1%              | 9.0%   | 10.1%              | 15.7%                               | 100.0% |
|      | N | 66               | 279                            | 104                            | 21                | 65     | 119                | 37                                  | 691    |
|      | % | 9.6%             | 40.4%                          | 15.1%                          | 3.0%              | 9.4%   | 17.2%              | 5.4%                                | 100.0% |

The data indicate that stroke was more common as the reason for admission in 1993/4, dementia with or without other medical problems was more common 1995-7, and patients recovering from fractures etc more common from 1998. Social admissions/respite care was also a more common reason from 1998.

The admissions book also recorded information about the source of admissions. This information is summarised in Table 10. Please note that Dolphin Day Hospital is a unit at GWMH.

**Table 10. Sources of admission to Dryad Ward, 1993-2001 (p<0.000).**

|      |   | home  | rest/nursi<br>ng home | acute<br>hospital | sultan ward | a ward at<br>GWMH | dolphin day<br>hospital |        |
|------|---|-------|-----------------------|-------------------|-------------|-------------------|-------------------------|--------|
| 1993 | N | 4     | 2                     | 23                | 8           | 1                 |                         | 38     |
|      | % | 10.5% | 5.3%                  | 60.5%             | 21.1%       | 2.6%              |                         | 100.0% |
| 1994 | N | 8     | 2                     | 56                | 8           | 1                 |                         | 75     |
|      | % | 10.7% | 2.7%                  | 74.7%             | 10.7%       | 1.3%              |                         | 100.0% |
| 1995 | N | 6     | 2                     | 42                | 3           | 1                 | 1                       | 55     |
|      | % | 10.9% | 3.6%                  | 76.4%             | 5.5%        | 1.8%              | 1.8%                    | 100.0% |
| 1996 | N | 2     | 4                     | 36                | 2           | 1                 |                         | 45     |
|      | % | 4.4%  | 8.9%                  | 80.0%             | 4.4%        | 2.2%              |                         | 100.0% |
| 1997 | N | 3     |                       | 56                | 7           | 3                 | 2                       | 71     |
|      | % | 4.2%  |                       | 78.9%             | 9.9%        | 4.2%              | 2.8%                    | 100.0% |
| 1998 | N | 13    |                       | 82                | 4           | 5                 | 1                       | 105    |
|      | % | 12.4% |                       | 78.1%             | 3.8%        | 4.8%              | 1.0%                    | 100.0% |
| 1999 | N | 19    | 2                     | 103               | 1           | 4                 | 3                       | 132    |
|      | % | 14.4% | 1.5%                  | 78.0%             | .8%         | 3.0%              | 2.3%                    | 100.0% |
| 2000 | N | 8     | 1                     | 76                | 1           | 4                 | 1                       | 91     |
|      | % | 8.8%  | 1.1%                  | 83.5%             | 1.1%        | 4.4%              | 1.1%                    | 100.0% |
| 2001 | N | 23    | 2                     | 49                | 8           | 12                |                         | 94     |
|      | % | 24.5% | 2.1%                  | 52.1%             | 8.5%        | 12.8%             |                         | 100.0% |
|      | N | 86    | 15                    | 523               | 42          | 32                | 8                       | 706    |
|      | % | 12.2% | 2.1%                  | 74.1%             | 5.9%        | 4.5%              | 1.1%                    | 100.0% |

Most patients admitted to Dryad ward had been discharged from acute hospitals (Table 10). Only in 2001 did the proportion of admissions from home approach 25%.

The time of death had been recorded in the admissions book in 260 cases (64.2% of deaths on the ward). Deaths are reasonably equally distributed among hours of the day.

**Table 11. Time of death (data only recorded in 260 cases) (p ns).**

| hr |   | year of admission |        |        |        |        |        |        |        |        | Total  |
|----|---|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|    |   | 1993              | 1994   | 1995   | 1996   | 1997   | 1998   | 1999   | 2000   | 2001   |        |
| 0  | N | 1                 | 4      |        | 1      | 1      |        |        | 4      |        | 11     |
|    | % | 5.0%              | 11.4%  |        | 5.9%   | 3.3%   |        |        | 15.4%  |        | 4.2%   |
| 1  | N | 1                 | 2      | 2      | 1      |        | 1      |        |        | 1      | 8      |
|    | % | 5.0%              | 5.7%   | 6.7%   | 5.9%   |        | 2.3%   |        |        | 4.3%   | 3.1%   |
| 2  | N | 1                 | 1      | 3      |        | 1      | 2      | 1      | 1      |        | 10     |
|    | % | 5.0%              | 2.9%   | 10.0%  |        | 3.3%   | 4.5%   | 2.9%   | 3.8%   |        | 3.8%   |
| 3  | N | 1                 | 1      |        |        | 1      | 2      | 5      | 1      |        | 11     |
|    | % | 5.0%              | 2.9%   |        |        | 3.3%   | 4.5%   | 14.3%  | 3.8%   |        | 4.2%   |
| 4  | N |                   | 3      | 2      |        | 2      | 1      | 3      | 1      | 1      | 13     |
|    | % |                   | 8.6%   | 6.7%   |        | 6.7%   | 2.3%   | 8.6%   | 3.8%   | 4.3%   | 5.0%   |
| 5  | N | 1                 |        | 1      | 1      | 2      | 2      |        | 2      | 1      | 10     |
|    | % | 5.0%              |        | 3.3%   | 5.9%   | 6.7%   | 4.5%   |        | 7.7%   | 4.3%   | 3.8%   |
| 6  | N |                   |        | 1      |        | 2      | 3      |        |        | 1      | 7      |
|    | % |                   |        | 3.3%   |        | 6.7%   | 6.8%   |        |        | 4.3%   | 2.7%   |
| 7  | N | 1                 | 2      | 2      | 1      | 3      |        | 1      | 1      |        | 11     |
|    | % | 5.0%              | 5.7%   | 6.7%   | 5.9%   | 10.0%  |        | 2.9%   | 3.8%   |        | 4.2%   |
| 8  | N |                   | 2      | 1      | 2      | 1      |        |        |        | 3      | 9      |
|    | % |                   | 5.7%   | 3.3%   | 11.8%  | 3.3%   |        |        |        | 13.0%  | 3.5%   |
| 9  | N | 1                 |        |        |        | 1      | 3      | 1      |        | 1      | 7      |
|    | % | 5.0%              |        |        |        | 3.3%   | 6.8%   | 2.9%   |        | 4.3%   | 2.7%   |
| 10 | N | 1                 | 3      | 1      |        | 2      | 5      | 2      |        | 1      | 15     |
|    | % | 5.0%              | 8.6%   | 3.3%   |        | 6.7%   | 11.4%  | 5.7%   |        | 4.3%   | 5.8%   |
| 11 | N | 2                 |        | 1      | 1      | 1      | 1      | 1      |        | 1      | 8      |
|    | % | 10.0%             |        | 3.3%   | 5.9%   | 3.3%   | 2.3%   | 2.9%   |        | 4.3%   | 3.1%   |
| 12 | N |                   |        | 2      | 2      | 4      | 2      |        | 2      | 1      | 13     |
|    | % |                   |        | 6.7%   | 11.8%  | 13.3%  | 4.5%   |        | 7.7%   | 4.3%   | 5.0%   |
| 13 | N |                   | 3      |        | 2      | 1      | 2      |        |        |        | 8      |
|    | % |                   | 8.6%   |        | 11.8%  | 3.3%   | 4.5%   |        |        |        | 3.1%   |
| 14 | N | 2                 | 1      |        |        | 1      | 3      | 1      | 3      | 1      | 12     |
|    | % | 10.0%             | 2.9%   |        |        | 3.3%   | 6.8%   | 2.9%   | 11.5%  | 4.3%   | 4.6%   |
| 15 | N |                   | 1      | 1      |        | 2      |        | 2      | 1      |        | 7      |
|    | % |                   | 2.9%   | 3.3%   |        | 6.7%   |        | 5.7%   | 3.8%   |        | 2.7%   |
| 16 | N |                   |        |        |        |        | 1      | 2      | 2      | 2      | 7      |
|    | % |                   |        |        |        |        | 2.3%   | 5.7%   | 7.7%   | 8.7%   | 2.7%   |
| 17 | N | 1                 | 1      | 2      | 1      | 1      | 2      | 2      | 1      | 2      | 13     |
|    | % | 5.0%              | 2.9%   | 6.7%   | 5.9%   | 3.3%   | 4.5%   | 5.7%   | 3.8%   | 8.7%   | 5.0%   |
| 18 | N |                   | 2      | 2      | 2      |        | 1      | 3      | 2      |        | 12     |
|    | % |                   | 5.7%   | 6.7%   | 11.8%  |        | 2.3%   | 8.6%   | 7.7%   |        | 4.6%   |
| 19 | N | 4                 | 1      | 2      | 1      |        | 1      | 3      |        | 1      | 13     |
|    | % | 20.0%             | 2.9%   | 6.7%   | 5.9%   |        | 2.3%   | 8.6%   |        | 4.3%   | 5.0%   |
| 20 | N | 1                 | 2      | 3      | 2      |        | 1      | 3      | 3      | 3      | 18     |
|    | % | 5.0%              | 5.7%   | 10.0%  | 11.8%  |        | 2.3%   | 8.6%   | 11.5%  | 13.0%  | 6.9%   |
| 21 | N |                   | 1      |        |        | 2      | 3      | 2      |        | 2      | 10     |
|    | % |                   | 2.9%   |        |        | 6.7%   | 6.8%   | 5.7%   |        | 8.7%   | 3.8%   |
| 22 | N | 1                 | 2      | 2      |        | 1      | 3      | 1      | 1      |        | 11     |
|    | % | 5.0%              | 5.7%   | 6.7%   |        | 3.3%   | 6.8%   | 2.9%   | 3.8%   |        | 4.2%   |
| 23 | N | 1                 | 3      | 2      |        | 1      | 5      | 2      | 1      | 1      | 16     |
|    | % | 5.0%              | 8.6%   | 6.7%   |        | 3.3%   | 11.4%  | 5.7%   | 3.8%   | 4.3%   | 6.2%   |
|    | N | 20                | 35     | 30     | 17     | 30     | 44     | 35     | 26     | 23     | 260    |
|    | % | 100.0%            | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

#### **4. Prescribing of opiates on Dryad**

Many of the concerns about deaths at GWMH relate to the use of opiates. We have obtained information from the controlled drugs registers of Dryad ward, for the period 1995-1998. Thus far, we have collected incomplete data from 1998 to 2001, but anticipate being able to obtain full data for these later years.

Since we have information about admissions to Dryad ward, some indication of the reason for admission, and whether the patient was discharged alive or died on the ward, it has been possible to estimate the proportions of patients admitted with different types of illnesses who received opiates, and whether they died. Those patients who received at least one dose of opiate were included in this analysis.

The findings are summarized in Table 12. The illness groups are stroke, general medical problems, medical and mental problems, heart problems, cancer, post-operative cases such as fractured neck of femur, and respite care. Thus, of the 17 patients admitted with strokes between March 1995 and August 1998, 10 died, of whom 8 received an opiate. None of those discharged alive had received an opiate. Some patients in all illness groups received an opiate except for those in the respite care group. Of those who were admitted with strokes, 47% received an opiate, the proportion for general medical problems was 71.7%, medical and mental problems 73.2%, heart problems 71.4%, cancer 66.7 %, and post-operative cases 60.9%.

Some qualifications must be made about these data. First, 10 patients had been recorded as receiving an opiate although the admissions book did not record them as having been admitted. These patients were omitted from the analysis. Second, no account has been made of the dose, numbers of doses, type of opiate received or administration route. The data will therefore include a number of patients who received only one or two doses, but my impression is that the numbers of such patients would not be sufficiently high to change the general conclusion from the table. Third, it is difficult to judge whether individual patients did have a level of pain that justified the use of opiate medication. Without a case by case review, the appropriateness of opiate medication for each patient cannot be determined. Nevertheless, it should be borne in mind that at least some of the complaints made by relatives of deceased patients involve the alleged excessive use of opiate medication. The CHI review also suggests high use of these drugs until 2000.

The findings reported in Table 12 are compatible with a liberal policy on the use of opiate medication. Two thirds of all patients admitted to the ward between March 1995 and August 1998 received an opiate.

**Table 12. Patients on Dryad ward who received an opiate, March 1995 – August 1998, according to illness group and outcome (died or discharged). N=209.**

| illness group                  | had an opiate |   | outcome |            | Total  |
|--------------------------------|---------------|---|---------|------------|--------|
|                                |               |   | died    | discharged |        |
| stroke                         | No            | N | 2       | 7          | 9      |
|                                |               | % | 22.2%   | 77.8%      | 100.0% |
|                                | yes           | N | 8       |            | 8      |
|                                |               | % | 100.0%  |            | 100.0% |
|                                | total         | N | 10      | 7          | 17     |
|                                |               | % | 58.8%   | 41.2%      | 100.0% |
| general medical problems       | No            | N | 7       | 19         | 26     |
|                                |               | % | 26.9%   | 73.1%      | 100.0% |
|                                | yes           | N | 55      | 11         | 66     |
|                                |               | % | 83.3%   | 16.7%      | 100.0% |
|                                | total         | N | 62      | 30         | 92     |
|                                |               | % | 67.4%   | 32.6%      | 100.0% |
| medical/mental problems        | No            | N | 3       | 8          | 11     |
|                                |               | % | 27.3%   | 72.7%      | 100.0% |
|                                | yes           | N | 29      | 1          | 30     |
|                                |               | % | 96.7%   | 3.3%       | 100.0% |
|                                | total         | N | 32      | 9          | 41     |
|                                |               | % | 78.0%   | 22.0%      | 100.0% |
| heart problems                 | No            | N |         | 2          | 2      |
|                                |               | % |         | 100.0%     | 100.0% |
|                                | yes           | N | 5       |            | 5      |
|                                |               | % | 100.0%  |            | 100.0% |
|                                | Total         | N | 5       | 2          | 7      |
|                                |               | % | 71.4%   | 28.6%      | 100.0% |
| cancer                         | No            | N | 5       | 3          | 8      |
|                                |               | % | 62.5%   | 37.5%      | 100.0% |
|                                | yes           | N | 16      |            | 16     |
|                                |               | % | 100.0%  |            | 100.0% |
|                                | Total         | N | 21      | 3          | 24     |
|                                |               | % | 87.5%   | 12.5%      | 100.0% |
| post op eg ~nof                | No            | N | 3       | 6          | 9      |
|                                |               | % | 33.3%   | 66.7%      | 100.0% |
|                                | yes           | N | 12      | 2          | 14     |
|                                |               | % | 85.7%   | 14.3%      | 100.0% |
|                                | Total         | N | 15      | 8          | 23     |
|                                |               | % | 65.2%   | 34.8%      | 100.0% |
| respite care/ social admission | No            | N |         | 5          | 5      |
|                                |               | % |         | 100.0%     | 100.0% |
|                                | Total         | N |         | 5          | 5      |
|                                |               | % |         | 100.0%     | 100.0% |

## Commentary

The data extracted from Dryad Ward admissions book tends to give some reassurance about the patterns of deaths. A high proportion of patients were admitted from other wards or acute hospitals with major medical conditions. The high proportion of those admitted who died appears to be at least partly explained by this factor, and the death rate among admissions did not fall until a greater proportion of cases were admitted from home, and were for respite care, a trend evident from approximately 1999. The data about time of death does not suggest an unusual pattern.

In contrast, information about the use of controlled drugs on Dryad Ward is cause for concern since the findings are compatible with a liberal policy on the use of opiate medication. Further investigation of the prescribing of opiates in more recent years, and of prescribing on other wards, is required.

In addition to further investigation of data extracted from the controlled drugs registers, the following steps are required in this review:

1. Review of the clinical records of those patients about whom concerns have been raised by relatives. I have now obtained agreement of the police to this plan.
2. The clinical records of samples of cases identified as receiving controlled drugs must be reviewed to determine the appropriateness of their care. A procedure for ensuring the valid appraisal of the probably large number of records requiring review is being put in hand. The police have undertaken to consider whether the records of the cases that have been reported to them can be made available for review.
3. Statistical information to enable a comparison between the observed and expected numbers of deaths is required. This work is in hand. However, the influence of case-mix among admissions will present some challenges to interpretation.
4. A review of the numbers of deaths in the practice is also in hand.

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13.12.02