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|  February 2021 |
| Evaluating the eRedBagReview of urgent and emergency care data for care homes |

1. The purpose of this note is to provide an update on any changes in urgent and emergency care metrics for care homes in SWL London that have introduced the eRedBag. It is important to note that, at this stage, it is not possible to attribute any changes in metrics to the introduction of the eRedBag, for three key reasons:
* the Covid-19 pandemic has affected the use of urgent and emergency care by care homes but we do not have evidence to determine in what ways and to what degree
* the eRedBag has only been in use by care homes for a relatively short period of time, meaning there is limited data on its effects to date
* the analysis has only employed descriptive statistics and has not used statistical techniques to examine the correlation between the introduction of the eRedBag compared to other variables.

Data used

1. The data used in this analysis was supplied by Epsom St Helier University Hospitals NHS Trust and the London Ambulance Service in respect of St Helier Hospital. The data covered the following metrics for residents of care homes:
* ED attendances
* NEL admission
* Length of Stay (LOS)
* Readmissions
* Ambulance activity.

Care Homes

1. The six care homes using the eRedBag are listed in Table 1. Care Home 5 and Care Home 6 have not been included in the analysis for any of the metrics as they only recently introduced the eRedBag and data on these metrics is not yet available.

*Table 1: Care Homes that have started using the eRedBag*

| Care Home | Number of beds | Start date for eRedBag |
| --- | --- | --- |
| Care Home 1 | 60 | February 2019 |
| Care Home 2 | 43 | October 2019 |
| Care Home 3 | 63 | November 2019 |
| Care Home 4 | 25 | July 2020 |
| Care Home 5 | 45 | September 2020 |
| Care Home 6 | 253 | November 2020 |

Analysis of the data

1. In this review we have calculated the metric for two time periods:
2. ‘Pre-eRedBag’ – the time before the eRedBag went live in the care home
3. ‘Post-eRedBag’ – the time since the eRedBag went live in the care home.
4. The ‘pre-eRedBag’ period is based on the same calendar months as for the ‘post-eRedBag’ period but for the previous year to allow for any seasonality relating. This is shown in Table 2.

Table 2: Time periods used in the analysis for each care home

| Care Home | Pre-eRedBag | Post-eRedBag | Number of months per period |
| --- | --- | --- | --- |
| Care Home 1 | Feb 2017 - Oct 2018 | Feb 2019 - Oct 2020 | 21 |
| Care Home 4 | Jul 2019 - Oct 2019 | Jul 2020 - Oct 2020 | 4 |
| Care Home 2 | Oct 2017 - Oct 2018 | Oct 2019 - Oct 2020 | 13 |
| Care Home 3 | Nov 2018 - Oct 2019 | Nov 2019 - Oct 2020 | 12 |
| Note, the time period for ED attendance data is one month less for both pre- and post-eRedBag as the data was available up until September 2020. |

Source: SQW

ED attendances

1. These data include all ED attendances i.e. those that resulted in an NEL admission and those that returned to the care home without an admission. As shown in Table 3, overall, there were 31 fewer ED attendances during the post-eRedBag period (calculated as the difference between the monthly actual number of ED attendances against the monthly mean – for both pre and post time periods – and summed for the post-eRedBag period). This equates to 24% reduction in ED attendances in the post-eRedBag period. Care Home 4 did have an increase in one attendance (when compared to the mean) although it was based on a small number of attendances since the home only went live with the eRedBag in July 2020. The average number of ED attendances per month for all four care homes also dropped from 3.5 in the pre-eRedBag period to 2.15 in the post-eRedBag period.

Table 3: ED attendances at St Helier Hospital from care homes in SWL using the eRedBag

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Care Home | Total number of ED attendances across both pre and post periods | Mean number of ED attendances per month across both periods | Difference in total ED attendances from post-eRedBag period with the mean number of attendances\* | Average number of ED attendances per month by time period |
| Care Home 1 | 110 | 2.75 | -18 | Pre | 3.65 |
| Post | 1.85 |
| Care Home 4 | 4 | 0.67 | +1 | Pre | 0.33 |
| Post | 1 |
| Care Home 2 | 46 | 1.92 | -11 | Pre | 2.83 |
| Post | 1 |
| Care Home 3 | 100 | 4.55 | -3 | Pre | 4.82 |
| Post | 4.27 |
| **Total** | **260** | **-** | **-31** | **Pre** | **3.5**  |
| **Post** | **2.15** |

*Source: ESHUHT*

*\***Calculated as the difference between the monthly actual number of ED attendances against the monthly mean (for both pre and post time periods), and summed for the post-eRedBag period*

NEL admissions

1. As shown in Table 4, overall, there were 28 fewer NEL admissions during the post-eRedBag period (calculated as the difference between the monthly actual number of NEL admissions against the monthly mean – for both pre and post time periods – and summed for the post-eRedBag period). This equates to a 28% reduction in NEL admissions in the post-eRedBag period. The average number of NEL admissions per month for all four care homes also dropped from 3.42 in the pre-eRedBag period to 2.83 in the post-eRedBag period.

Table 4: NEL admissions at St Helier Hospital from care homes in SWL using the eRedBag

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Care Home | Total number of NEL admissions across both pre and post periods | Mean number of NEL admissions per month across both periods | Difference in total NEL admissions from post-eRedBag period with the mean number of NEL admissions\* | Average number of NEL admissions per month by time period |
| Care Home 1 | 74 | 1.76 | -14 | Pre | 2.43 |
| Post | 1.10 |
| Care Home 4 | 2 | 0.25 | 0 | Pre | 0.25 |
| Post | 0.25 |
| Care Home 2 | 47 | 1.81 | -11 | Pre | 2.62 |
| Post | 1.00 |
| Care Home 3 | 75 | 3.13 | -4 | Pre | 3.42 |
| Post | 2.83 |
| **Total** | **198** | **-** | **-28** | **Pre** | **2.54** |
| **Post** | **1.42** |

*Source: ESHUHT*

*\*Calculated as the difference between the monthly actual number of NEL admissions against the monthly mean (for both pre and post time periods), and summed for the post-eRedBag period*

LOS

1. As shown in Table 5, overall, there were 293 fewer LOS days during the post-eRedBag period (calculated as the difference between the monthly actual number of LOS days against the monthly mean – for both pre and post time periods – and summed for the post-eRedBag period). This equates to a 41% reduction in the total number of days in the post-eRedBag period. When taking into account the number of admissions into hospital during the post-eRedBag period (71), 293 fewer LOS days equates to a LOS reduction of four days per admission. Care Home 4 did have an increase in seven days although it was based on a small number of admissions since the home only went live with the eRedBag in July 2020. The average number of LOS per month for all four care homes also dropped from 20.08 days in the pre-eRedBag period to 8.38 days in the post-eRedBag period.

Table 5: LOS at St Helier Hospital from care homes in SWL using the eRedBag

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Care Home | Total number of LOS days across both pre and post periods | Mean number of LOS days per month across both periods | Difference in total LOS days from post-eRedBag period with the mean number of LOS days\* | Average number of LOS days per month by time period |
| Care Home 1 | 463 | 11.02 | -112 | Pre | 16.33 |
| Post | 5.71 |
| Care Home 4 | 14 | 1.75 | 7 | Pre | 0.00 |
| Post | 3.50 |
| Care Home 2 | 353 | 13.58 | -116 | Pre | 22.46 |
| Post | 4.69 |
| Care Home 3 | 593 | 24.71 | -73 | Pre | 30.75 |
| Post | 18.67 |
| **Total** | **1423** | **-** | **-293** | **Pre** | **20.08** |
| **Post** | **8.38** |

*Source: ESHUHT*

*\*Calculated as the difference between the monthly actual number of LOS days against the monthly mean (for both pre and post time periods), and summed for the post-eRedBag period*

Readmissions

1. A readmission is defined as a patient being re-admitted into hospital within 30 days of being discharged from the hospital.
2. As shown in Table 6, overall, there were seven fewer readmissions during the post-eRedBag period (calculated as the difference between the monthly actual number of readmissions against the monthly mean – for both pre and post time periods – and summed for the post-eRedBag period). This equates to 35% reduction in readmissions in the post-eRedBag period. The average number of readmissions a month for all four care homes also dropped from 0.22 in the pre-eRedBag period to 0.15 in the post-eRedBag period.

Table 6: Readmissions at St Helier Hospital from care homes in SWL using the eRedBag

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Care Home | Total number of readmissions across both pre and post periods | Mean number of readmissions per month across both periods | Difference in total readmissions from post-eRedBag period with the mean number of readmissions\* | Average number of readmissions per month by time period |
| Care Home 1 | 10 | 0.14 | -4 | Pre | 0.19 |
| Post | 0.04 |
| Care Home 4 | 0 | 0.00 | 0 | Pre | 0.00 |
| Post | 0.00 |
| Care Home 2 | 9 | 0.18 | -3 | Pre | 0.21 |
| Post | 0.13 |
| Care Home 3 | 21 | 0.25 | -1 | Pre | 0.28 |
| Post | 0.20 |
| **Total** | **40** | **-** | **-7** | **Pre** | **0.22** |
| **Post** | **0.15** |

*Source: ESHUHT*

*\*Calculated as the difference between the monthly actual number of readmissions against the monthly mean (for both pre and post time periods), and summed for the post-eRedBag period*

Ambulance activity

1. This analysis uses data supplied by the London Ambulance Service which showed the number of incidents, conveyances, non-conveyances and blue calls for each care home using the eRedBag.
2. As shown in Table 7, there were 12% more non-conveyances (as a proportion of incidents) during the post-eRedBag period.

Table 7: London Ambulance Service incidents and non-conveyances from care homes in SWL using the eRedBag

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Care Home | Time period | Number of incidents per time period | Number of non-conveyances (NC) per time period | NC as a proportion of incidents per time period |
| Care Home 1 | Pre | 72 | 8 | 11% |
| Post | 55 | 11 | 20% |
| Care Home 4 | Pre | 1 | 1 | 100% |
| Post | 4 | 1 | 25% |
| Care Home 2 | Pre | 36 | 4 | 11% |
| Post | 20 | 6 | 30% |
| Care Home 3 | Pre | 65 | 3 | 5% |
| Post | 53 | 10 | 19% |
| **Total** | **Pre** | **174** | **16** | **9%** |
| **Post** | **132** | **28** | **21%** |

Source: SQW analysis of LAS data

1. Blue calls are commonly used to warn ED departments of the impending arrival of a seriously ill or injured patient. An increase in the number of blue calls as a proportion of conveyances could indicate that conveyances are increasingly comprised of very sick patients. However, when looking at Blue calls across the care homes, overall, there were 98 Blue calls made within the period resulting in 37% of all conveyances. For care homes where the eRedBag is live, this proportion is unchanged (as shown in the table below).

Table 8: London Ambulance Service conveyances and Blue calls from care homes using the eRedBag

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Care Home | Blue calls as a proportion of conveyances across both time periods  | Time period | Number of conveyances per time period | Number of blue calls per time period | Blue calls as a proportion of conveyances per time period |
| Care Home 1 | 29% | Pre | 64 | 20 | 31% |
| Post | 44 | 11 | 25% |
| Care Home 4 | 0% | Pre | 0 | 0 | 0% |
| Post | 3 | 0 | 0% |
| Care Home 2 | 50% | Pre | 32 | 15 | 47% |
| Post | 14 | 8 | 57% |
| Care Home 3 | 42% | Pre | 62 | 25 | 40% |
| Post | 43 | 19 | 44% |
| **Total** | **37%** | **Pre** | **158** | **60** | **38%** |
| **Post** | **104** | **38** | **37%** |

Source: SQW analysis of LAS data