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# The Supporting People Programme Data Linking Project: Emerging Findings Report

The Supporting People (SP) programme provides housing-related support to help vulnerable people to live as independently as possible and to prevent homelessness.

£124.4m is invested in the programme annually and supports more than 57,000 people each year to live as independently as they can. It aims to prevent problems by providing help as early as possible.

Of those it helps, 37,000 are older people. SP also supports households fleeing domestic violence and people threatened with or getting over a period of homelessness as well as people with mental health needs, substance misuse needs or a learning disability.

This bulletin reports the emerging findings of a project using linked anonymised administrative data to explore the impact of the SP programme on the health outcomes of recipients.

## Key Points

- Although the study has broader objectives, the focus of these emerging findings is on identifying any reduction in demand on the NHS for Supporting People service users.
- These emerging findings are being reported to update the research and policy community on the direction of the research and to provide evidence to direct further analysis. More complex statistical analysis is required before sufficiently robust evidence can be provided to inform policy decisions; this more complex analysis will be completed and published in a later report. **All findings should therefore be considered both PROVISIONAL and INDICATIVE and may be subject to revision following more detailed checking and analysis.**
- The analysis compares patterns of NHS use for 24 months before and after the support start date for Supporting People service users from 19 Local Authorities in Wales with a number of comparison groups. SP service users were grouped into 'longer-term' i.e. older people and people with learning disabilities, theorised to be more likely to have chronic health conditions, and 'shorter-term', theorised to be more likely to have acute health needs related to the chaotic or risky lifestyles that may put people at risk of homelessness e.g. substance misuse, domestic violence.
- As expected, rates of Emergency Hospital Admissions (EHA), Accident and Emergency attendances (A&E), Outpatient Appointments (OPA) and General Practice (GP) event days for SP service users were higher than for the comparison groups. Particularly for the 'shorter-term' group, a three-phase 'crisis' pattern was observed:
  - 'Pre-crisis': characterised by slowly increasing health service use
  - 'During-crisis': characterised by a peak in health service use
  - 'Post-crisis': characterised by stabilised health service use
- Comparing the 'shorter-term' Supporting People group with general population comparisons shows that generally, the largest proportional differences for health service use were for mental health and 'injury and poisoning' type conditions.
- For those with 'longer-term' support needs, the comparisons also generally show that mental health and 'injury and poisoning' type conditions are proportionately higher in the Supporting People group; however, age related conditions are more common overall.
- NHS service use was similar when comparing the 'shorter-term' Supporting People group with those who were referred but did not receive support, however, there were some differences to note. A&E use for those not in receipt of support suggests that usage peaks at a later point than for those in receipt of support. This may support the argument that the absence of Supporting People can lead to an increased burden on the NHS; however, further work is needed.
- Dependent on further data acquisition, likely future analyses will include: examining residential stability and independent living; more detailed analysis of NHS data, in particular the reasons for health service use; examining impact on additional public services e.g. Social Care and Criminal Justice.

# 1 Introduction

1.1 The Supporting People (SP) Programme provides housing-related support to help vulnerable people to live as independently as possible with specific aims of:

- helping prevent and tackle homelessness
- helping vulnerable people live as independently as possible
- providing people with the help they need to live in their own homes, hostels, sheltered housing or other specialist housing
- preventing problems in the first place or providing help as early as possible in order to reduce demand on other services such as health and social services
- providing help to complement the personal or medical care that some people may need
- ensuring quality services, which are delivered as efficiently and effectively as possible through joint working between organisations that plan and fund services and those that provide services
- Promoting equality and reducing inequalities.

1.2 There are two key elements to the type of support provided – long-term and short-term. Long-term maintenance support is designed to help people retain or gain independence and avoid the need for more costly interventions such as entering care. Short-term more preventative services are designed to prevent and alleviate homelessness often during a time of crisis. The programme is largely preventative in nature and this is in keeping with the aims of The Housing (Wales) Act 2014.

1.3 The vision of the Supporting People Programme is to help people find and keep a home that meets their needs and encourages independence in a healthy and safe environment.

1.4 Around £124.4m is invested in the programme annually, supporting more than 57,000 people each year to live as independently as they can. It aims to prevent problems by providing help as early as possible. Of those it helps, around 37,000 are older people. However, it also supports households fleeing domestic violence and people threatened with or getting over a period of homelessness as well as people with mental health needs, substance misuse needs or a learning disability. Please see appendix 1 for a full list of the lead needs[1].

1.5 Support focuses on building an individuals' independence and helping them to develop the skills needed to live independently. The programme may complement support provided by health, social care or criminal justice services. Support workers provide assistance to vulnerable people to address problems such as debt, employment, tenancy management, substance misuse, violence against women, domestic abuse and sexual violence, and mental health issues.

1.6 The SP Programme was developed with the expectation that the support offered would help to prevent homelessness, and also help people maintain their independence and continue to live in their own home rather than enter long-term care. As a result of this primary purpose the Programme also expects to reduce the demand on the NHS and other services.

1.7 Although this study has a broader range of aims and objectives, the initial focus, partly driven by the availability of health data in the SAIL Databank, has been on identifying any potential reduction in demand on the NHS.

1.8 In embarking on the exploratory analysis reported here, it was theorised that the pattern of health service use might be affected by a variety of factors, including the fact that an increase in health service use following the Supporting People start date may be a positive impact, given that some health conditions may have gone untreated during more

[1] Lead need: the primary reason for referral to Supporting People as recorded in the Supporting People administrative data.

chaotic periods of service users' lives. Areas where the expectations were clearer were that the presence of a Supporting People services should lead to:

- more appropriate engagement with primary care rather than ad hoc use of emergency `blue light' services; and
- reduced use of health services for reasons that might be associated with the more chaotic and risky lifestyles that may result in individuals being at risk of homelessness.

1.9 It was also theorised that health service use patterns would vary depending on health needs and whether service users generally experienced acute or more chronic types of health conditions. Service users receiving shorter-term support were theorised to be more likely to have acute health needs related to a 'crisis', such as rough sleeping, substance misuse or mental health conditions, or injuries possibly related to events such as domestic violence. Those in receipt of longer-term support, a group including older people and people with learning disabilities, were theorised to be more likely to have chronic health conditions e.g. dementia and frailty-related illness.

1.10 The research literature provides a range of evidence to suggest that people at risk of, or experiencing homelessness have higher levels of health service use than the general population for both physical and mental health conditions (see references 1-3).

1.11 Data linking is a technique for creating links between data sources so that anonymised information that is thought to relate to the same person, family, place or event can be connected for research purposes.

1.12 It should be noted that, for this Emerging Findings Report, it has not been possible to complete the complex kinds of analysis necessary to examine any effects in detail. These emerging findings are being reported in order to update the research and policy community on the direction of the research and to provide evidence to direct further analysis. More complex statistical analysis will be required before sufficiently robust evidence can be provided to inform policy decisions; this more complex analysis will be completed and published in a later report. However, findings where a consistent effect or pattern over time is observed are nevertheless worthy of note and suggest some association between Supporting People and health indicators.

1.13 **All findings should therefore be considered both PROVISIONAL and INDICATIVE** and may be subject to revision following more detailed checking and analysis.

1.14 The Project was carried out by a full-time researcher attached to the ESRC funded Administrative Data Research Centre for Wales (ADRC-W, which is supported by the Welsh Government core-funded SAIL (Secure Anonymised Information Linkage) Databank at Swansea University. The researcher was jointly funded by the Welsh Government and the ESRC. The project was conducted within the information governance, information security and ethical framework of the ESRC-funded UK Administrative Data Research Network.

1.15 More detailed information about the SP Data Linking Project, including details of data collection from Local Authorities across Wales has been reported in the Year One and Year Two Progress Reports.

## 2 Methods

2.1 Supporting People Programme data was supplied from Service Providers to Local Authorities (LAs) and subsequently transferred to the SAIL Databank using a 'split-file' method to maintain anonymity of service users; methods are detailed in the Year One Progress report. Each record represents a service user's interaction with the Supporting People Programme and contains information relating to the support provided, such as support start date, the 'lead need' for which they were referred e.g. substance misuse, and so forth.

2.2 The anonymised and encrypted Supporting People data was provided to a trained researcher in a safe data environment within the SAIL Databank. The Supporting People data was further securely linked to anonymised demographic and health databases to create the datasets required for analysis purposes.

2.3 Records were excluded due to unsuccessful data linkage matches and missing support start dates. Although some service users have multiple records of support, only the first recorded episode of support is used in this analysis; subsequent analyses may take into account multiple episodes of support.

2.4 The analysis was further restricted to those with a minimum of 48 months of routine health records (24 months before and after Supporting People support began), in order to provide an indication of the possible impact of Supporting People on health service use over a sufficient period. By restricting the analysis to those with a complete 48 months of routine health records, a large number of Supporting People records are not used in the analysis. As time passes, the full 48 months of routine health records will become available for additional individuals so future reports will include greater numbers of service users, allowing more detailed analysis to be completed. The 48-month restriction could also be reduced in future to allow a greater number of individuals to be included in the analysis.

2.5 Two Supporting People subgroups were created based on the expected duration of support: 'shorter-term', where the general expectation is that support will tend to last less than two years and 'longer-term', where support will tend to last longer than two years. The 'longer-term' Supporting People group consists of service users with a lead need of 'People over 55 years of age with support needs' and 'People with Learning Disabilities', all other service users were allocated to the 'shorter-term' Supporting People group.

## Creating control or comparison groups

2.6 In order to gather the most credible evidence about whether Supporting People is making a difference in the lives of its service users, the study ideally needs to construct a robust control group. A control group is composed of individuals who do not receive an intervention and are selected to closely resemble the individuals who do receive the intervention. Analysis compares an intervention group to a control group to determine whether an intervention had an effect. By serving as a control group, the analysis can isolate the impact the intervention had.

2.7 In this study no robust control group is available in the sense that the vast majority of people requesting support receive services. Therefore, multiple comparison groups of different kinds were created for analysis purposes, each of which could be used to draw different inferences about the likely impact of SP based on the extent of their comparability with SP services users.

2.8 Three comparisons were agreed with the Research and Evaluation Steering Group:

- Comparison #1: 'overall' Supporting People group compared with the general population of Wales.
- Comparison #2: 'shorter-term' Supporting People group compared with the 'Referred - no support' group and 'younger-matched' comparison group.
- Comparison #3: 'longer-term' Supporting People group compared with the 'older-matched' comparison group.

2.9 The 'general population' group (Comparison #1) was created purely in order to provide a high level comparison of health service use within the 'overall' Supporting People group with that of the general population of Wales; this group included all people over 16 years of age.

2.10 A comparison group was created consisting of anonymised members of the Welsh population matched with anonymised Supporting People service users based on their gender, area level index of deprivation and age. This group was subsequently split by age (less than 50 years or 50 years or more) to create two sub groups for comparison

purposes: the 'younger-matched' group (Comparison #2) and the 'older-matched' group (Comparison #3).

2.11 The 'referred - no support' comparison group was created from individuals referred for services but for whom the support was not taken up (Comparison #2). This group of individuals may not have taken up the support for a number of reasons. Possible explanations include having crises that were more or less severe in nature, or accessing alternative forms of support such as family networks or other services. This group is used in comparisons with the 'shorter-term' Supporting People group as these groups share similar demographic characteristics. As the quality and content of Supporting People data varies by Local Authority, a pragmatic approach was taken to deciding which cases were included in the analysis. Records where no start date was recorded, or where a start date was recorded but an 'exit' reason was given suggesting support was not taken up, were included in the 'referred – no support' group.

2.12 Further comparison groups are being investigated, including a comparison group selected from 'Housing Options' and 'Substance Misuse' datasets; comparison groups created using these datasets may be included in further reports.

2.13 Where the four-year analysis 'window' of the Supporting People groups was based on the support start date, an 'index' date was needed for the members of each comparison group; for the 'referred – no support' group a mix of support start date and referral date was used, whilst the two matched comparison groups received a randomly allocated index date. An index date of June 2014 was selected for the general population of Wales group in order to provide the most recent health data available.

## Indicators of the impact of Supporting People on health service use

2.14 The indicators of the impact of Supporting People on health service use for which analysis is presented in this report are the number of Emergency Hospital Admissions[2] (EHA), Accident and Emergency attendances[3] (A&E), Outpatient Appointments[4] (OPA) and General Practice (GP) event days[5].

2.15 Monthly[6] aggregate counts of health events (i.e. occurrence of one of the health indicators) for each health indicator were calculated over a 48-month period relative to the support start date and plotted as rates[7] to show health service use patterns for 24 months before and 24 months after Supporting People support began. The first month 'after' contains the Supporting People start date.

2.16 The numbers of events were plotted and analysed at an overall level in the first instance. These overall number e.g. of GP Events, are simple proxy indicators of general health, with a higher level representing a greater level of interaction with health services. So for example, for this Emerging Findings Report, all GP Events were counted, potentially including some that may not have been affected by receiving support from Supporting People. Further work could be completed at the next stage of the project to analyse health service use for health conditions more likely to be associated with a risk of homelessness or the Supporting People 'lead needs' e.g. such as mental health and injuries.

2.17 To allow a deeper understanding beyond the general patterns of health service use, the underlying reasons for interaction with health services were also investigated. Health events were split into 'pre-', 'during-' and 'post-' phases with the cut-off points selected

[2] Emergency hospital admissions: obtained from the PEDW dataset, the first episode of a person super spell is counted.

[3] Accident and Emergency: obtained from the EDDS dataset, 'new' attendances only are included.

[4] Outpatient records: obtained from the Outpatient dataset, only records shows as 'attended' are included.

[5] GP event days defined as the number of days a GP event recorded. Multiple GP Events may occur on a single day e.g. each drug prescribed or physical measurement e.g. blood pressure is recorded as a separate event.

[6] 'Monthly' was defined as 30 days

[7] The calculation: count of events in the period divided by number of years' exposure, factored up by 10 to create a rate of number of events per 10 person years, e.g. a 10 year rate of 2.5 equates to 1 event every approximately 4 years.

based on the EHA[8] patterns shown in Figure 1. Due to time constraints, the same boundaries were applied for all four health indicators; future work will tailor the boundaries to the specific patterns observed for each type of health data. The method to define the reason for each health event was as follows:

- EHAs were categorised into ICD-10 chapters using the primary diagnostic code of the first episode in an emergency hospital admission to provide an indication of the reason for attendance.
- For A&E data, reason for attendance is either not recorded at all or is 'unknown' for many records so the decision was made not to include an analysis of the reason for A&E attendance.
- In the absence of detailed diagnosis codes, the 'main treatment speciality area' was used to categorise OPAs into the top three high level groupings: 'Medical Specialities', 'General Specialities' and 'Psychiatry'.
- GP records which record a diagnosis were selected and grouped by ICD-10 chapter.

2.18 The key quality information relating to the study can be found in Section 6 of this Report.

# 3 Findings

## The numbers of individuals in each study group

3.1 As noted above, it was agreed that each individual required a complete 48-month health record to be included in analyses. As routine health records held in the SAIL Databank are available for different time periods for each type of health data[9] this results in different numbers of individuals being included in the analyses for each health indicator, e.g. the EHA and GP analysis was possible for 60%, and 31% of Supporting People service users respectively. The numbers of records included for each analysis are shown in Table 1.

3.2 The younger and older 'matched comparisons' were selected to be similar to, respectively, the 'shorter-term' and 'longer-term' Supporting People study groups in terms of age, gender and deprivation.

3.3 The proportion of lead needs making up the two Supporting People study groups are:

- 'Shorter-term': Generic Floating Support (21%); Mental health issues (20%); Families (11%); Physical and/or sensory disabilities (8%); Domestic Abuse (Women) (8%); all others (32%).
- 'Longer-term': People over 55 years of age with Support needs (81%); People with Learning Disabilities (19%)

3.4 The general population of Wales comparison group referred to in Comparison #1, above, was intended to be used as a high-level comparison and is only included in Figure 1.

[8] Boundaries for the three phases: 'pre-crisis' = '-24' months to '-5' months (a 20-month period); 'during crisis' = '-4' months to '+3'months (a 7-month period), and 'post-crisis' = '+4' months to '+24' months (a 21-month period) relative to the Supporting People start date.

[9] SAIL Databank records for health indicator data: GP 2004-2017; OPA 2004-2017, A&E 2009-2018; EHA 1999:2018

**Table 1 Number of individuals in each study group by health indicator**

| Study Group | Total number of individuals | Number of individuals with 48 months of data by health indicator | | | |
|---|---|---|---|---|---|
| | | Emergency hospital admissions | A & E attendances | Outpatient attendances | GP event days |
| Shorter-term SP | 30,145 | 18,287 | 15,137 | 12,939 | 12,150 |
| Longer-term SP | 13,503 | 7,976 | 5,098 | 5,653 | 5,852 |
| Referred - no support comparisons | 2,217 | 1,125 | 1,042 | 744 | 618 |
| Younger matched comparisons | 84,077 | 73,224 | 32,550 | 58,939 | 47,156 |
| Older matched comparisons | 39,886 | 32,951 | 15,275 | 26,408 | 21,928 |

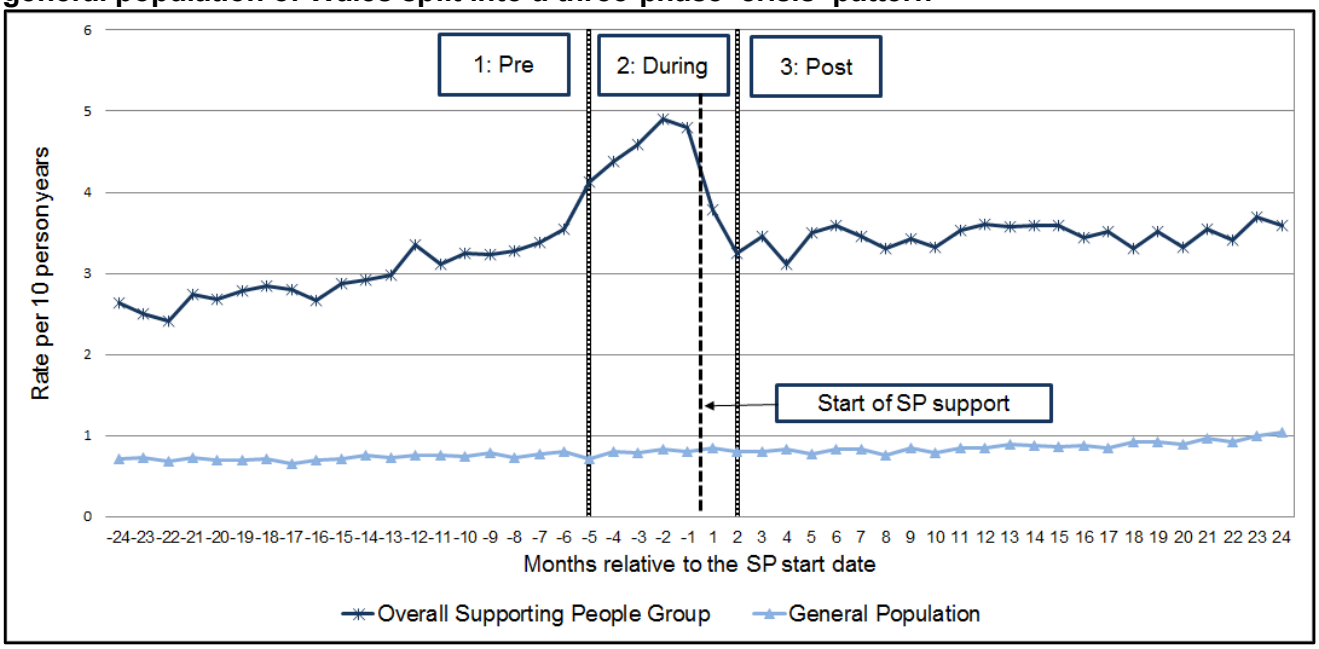
## Comparison #1: Health service use for Supporting People service users compared with the general population of Wales

3.5 Figure 1, below, shows levels of emergency hospital admissions for the entire Supporting People group (i.e. combined 'longer term' and 'shorter term') compared with the general population of Wales over a 48-month period.

3.6 The health service use of the Supporting People group appears to have three distinct phases that we may theorise relate to the 'crisis' that resulted in those individuals being at risk of homelessness. On a purely visual inspection of the pattern of health service use presented in Figure 1, below, this 'crisis' appears to comprise three phases:

- A 'pre-crisis' phase in which an increase in health service use is observable; this phase ends at around 5 months before the support start date;
- A 'during-crisis' phase dominated by a sharp increase and subsequent decrease in health service use over a period of around 7 months;
- A 'post-crisis' phase where health service use appears to stabilise at a level present prior to the sharp increase seen in the 'during crisis' phase; this period appears to begin at around 2 months after support starts.

**Figure 1 Emergency hospital admissions for the overall Supporting People group and the general population of Wales split into a three-phase 'crisis' pattern**




3.7 A difference in the pattern of health service use is evident when comparing the Supporting People group with the general population. The general population shows a

relatively stable level of health service use, although a slow increase over time can be seen – this is as we would expect given the population group is growing older by 48 months. In comparison, the Supporting People group has an overall higher level and a distinctive pattern of health service use.

3.8 These patterns confirm that the overall level of health service use for Supporting People service users was higher than that of the general population. For example, the general population comparison group had an average of just under one emergency hospital admission every 10 years throughout the 48-month study period[10], while the Supporting People group ranged from between approximately 2.5 to 3.5 admissions every 10 years in the 'pre-crisis' phase, to just under 5 admissions every 10 years at the highest point of the 'during crisis' phase, with levels in the 'post crisis' phase falling to a similar level to those seen at the end of the 'pre crisis' phase at around 3.5 admissions every 10 years.

3.9 More work is needed before we can confidently reach any conclusions about the extent to which Supporting People influences the pattern of health service use shown in Figure 1, above. In particular, creation of additional comparison groups using anonymised 'Housing Options' and/or 'Substance Misuse' datasets may be informative because these groups may be more similar to Supporting People service users than the comparison groups presented in this report. However, the following is a non-exhaustive list of **possible explanations** for the patterns seen in Figure 1, above:

- This is just what a crisis looks like in terms of health service use with Supporting People having minimal impact i.e. the graph shows a generalised pattern of a group of people going through a potential homelessness crisis, that crisis is associated with a deterioration in their health leading up to that crisis, reaching a peak at the height of the crisis before stabilising as the crisis subsides;
- Supporting People is having some impact - without Supporting People, health service use may have continued at a higher level, continuing the pre-crisis trajectory of increasing health service use;
- Supporting People is having a higher impact - without Supporting People, health service use may have continued on the 'during crisis' trajectory showing a considerable escalation in health service use.

It should be noted that the patterns described are on average and reported at the level of all Supporting People service users combined, and do not necessarily reflect the health service use of either each individual Supporting People service user or of particular sub groups of Supporting People service users. The health service use of various sub groups of Supporting People service users will be explored in future reports.

For an examination of the reasons for health service use, please see Section 5, below.

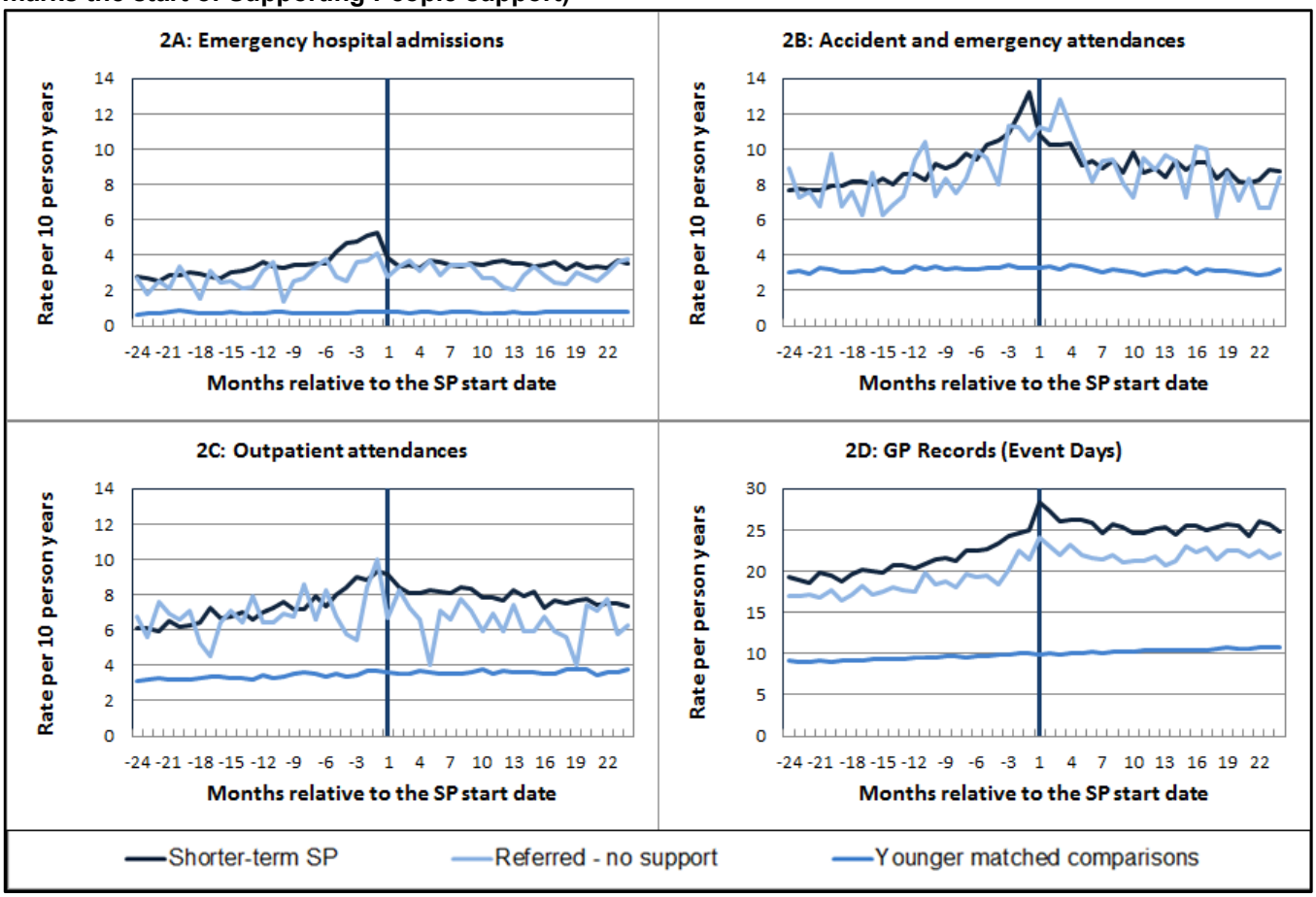
3.10 It is difficult to comment as to what level Supporting People services effect patterns of health service use. In the absence of a robust comparison group it is not possible to confirm that the Supporting People service influences the post 'crisis' pattern, or whether it reflects the fact that individuals are naturally coming to the end of a 'crisis'. Future aims of this study include plans to acquire more data for more comparison groups to explore this. However, it should be noted that deriving a robust comparison group is not always possible.

## Comparison #2: 'Shorter-term' Supporting People service users compared with 'referred - no support' and 'younger matched comparisons'

3.11 Figures 2A to 2D, below, compare the health service use of three groups: the 'shorter-term' Supporting People, the 'referred - no support' and the 'younger-matched' groups in terms of EHA, A&E, OPA and GP events.

[10] NWIS published figures for non-elective admissions are 0.12 per year, or 1.2 per person over a 10-year period which is comparable to the figures quoted for the general population of Wales here.

**Figures 2A to 2D Health service use: 'shorter-term' Supporting People, 'referred - no support' and 'younger matched comparisons' (please note differences in scale for GP figure; the vertical lines marks the start of Supporting People support)**




3.12 It should be noted that the 'referred - no support' comparison group contains a relatively small number of individuals and as a result the monthly levels and plotted lines for this group are more volatile in nature.

3.13 For all four indicators:

- As might be expected, the 'younger-matched comparisons' group had a generally lower and more stable pattern of health service use compared with both the 'shorter-term' Supporting People and 'referred - no support' groups, both of which had higher and more variable patterns of health service use.
- In comparison with the 'shorter-term' Supporting People group, the 'referred - no support' group generally has a similar pattern whilst having slightly lower health service use.

3.14 However, there are some ways in which the pattern of health service use varies by indicator:

- Figure 2A shows that the 'shorter-term' Supporting People group follows the three-phase crisis pattern for EHAs as described for Figure 1. Although the observed pattern for the 'referred - no support' group may purely be explained by volatility due to small numbers, a lower peak may be discernible during the 'crisis' phase. The fact several of the 'reasons' for EHAs shown in Figure 4, below (see Page 12), have peaks in the 'during crisis' phase may suggest volatility is not the only explanation. However, in order to explore this issue further, more detailed analysis could be completed in future, exploring in more detail the health service use of those cases whose records contribute to the peaks in Figure 4 (see Page 12) and when more time has elapsed so that greater numbers of individuals become available for analysis in the comparison group. This further analysis would contribute to our understanding of how suitable a comparison group the 'referred - no support' group is.

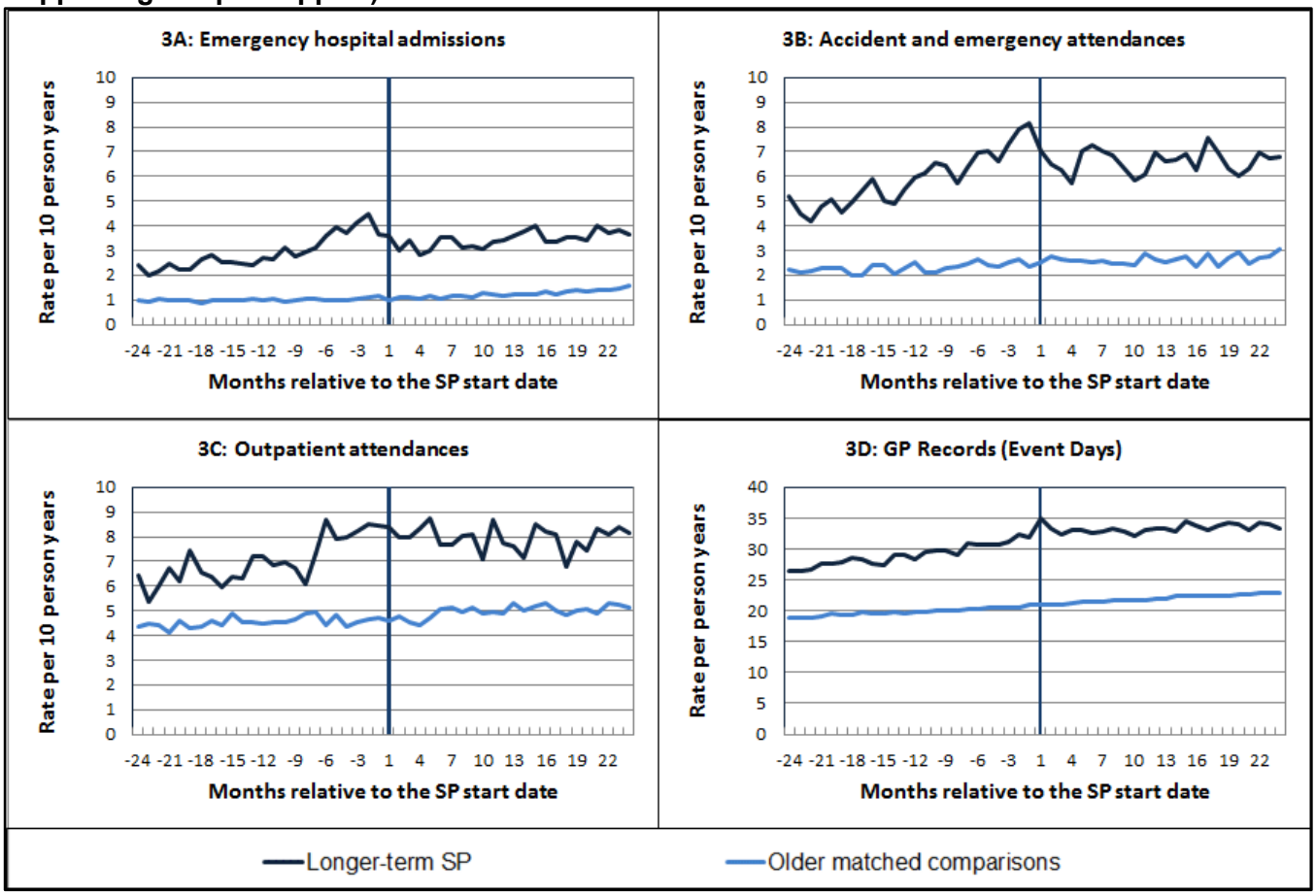
- One further possible explanation, if the peak in the 'during' period is lower in the 'referred-no support' group this could be because people in this group were having fewer of the kinds of severe health events that would lead to an EHA than those in the 'shorter-term' Supporting People group.
- The use of A&E for the 'shorter-term' Supporting People group shown in figure 2B follows the three-phase 'crisis' pattern but with a longer 'during' phase, ranging from around 4 months before and extending to a point around 3 months after the start date of support. Compared with the 'shorter-term' Supporting People group – and based purely on a visual inspection - the 'referred - no support' group appears to have an additional, 'later peak' that reaches its height at around 3 months after referral date; this possible 'later peak' could be worthy of further exploratory analysis, partly because a 'later peak' in this comparison group would potentially provide evidence of the impact of Supporting People, giving weight to the argument that the absence of Supporting People services can lead to an increased burden on the NHS. A 'later peak' might also provide valuable evidence for practitioners and policymakers, who may wish to consider how additional support could be provided to those who for whatever reason do not take up support in order to help them avoid what perhaps, in some cases, becomes a later crisis. More detailed analysis could be completed in future to explore the health service use, 'lead need' and other available information for those cases whose records contribute to the possible 'later peak' of A&E visits in the 'referred - no support' group.
- The three-phase 'crisis' pattern is also apparent in Figure 2C for OPA for the 'shorter-term' Supporting People group. In comparison, the 'referred - no support' group tends to have a lower attendance level in the 'post crisis' phase. Since the OPA indicator records 'attended appointments', one possible explanation for the higher levels observed in the Supporting People group is that it may indicate Supporting People service users are missing fewer appointments, indicating more appropriate and/or consistent use of health services .
- Figure 2D shows that compared with EHA and A&E, a shorter 'during-crisis' phase is observable in GP events for the 'shorter-term' Supporting People group with an increase in events ahead of a narrower 'during' phase followed by a more level 'post crisis' phase. The higher 'post-crisis' phase may be an indication of more appropriate use of GP services vs. 'blue light' services after support begins or, as suggested above, service users getting treatment for conditions left untreated in the absence of support.

3.15 The above findings should be considered alongside the findings about reasons for health events in Section 5, below, and further investigation will examine the above patterns further e.g. by 'lead need' and exploring further the reasons for the health event.

## Comparison #3: 'Longer-term' Supporting People service users compared with 'older matched comparisons'

3.16 Figures 3A to 3D, below, compare the four indicators of health service use for the 'longer-term' Supporting People and 'older matched comparison' groups. It should be noted that the numbers of individuals in these groups are relatively small and as a result the plotted lines are more volatile in nature.

**Figures 3A to 3D Health service use: 'longer-term' Supporting People and 'older matched comparisons' (please note differences in scale for GP figure; the vertical lines marks the start of Supporting People support)**




3.17 As expected, health service use for all four health indicators for the 'longer-term' Supporting People group is higher than for the 'older matched comparison' group.

3.18 The 'older matched comparisons' show a slowly increasing pattern of health events over the 48-month study period, likely influenced by the increased health use as people age.

3.19 The three-phase crisis pattern is present for the 'longer-term' Supporting People group for EHA, A&E and GP; however, as expected it is less pronounced than for the 'shorter-term' Supporting People group as seen in Figures 2A to 2D, above. This is likely due to the fact, as discussed above (Paragraph 1.9), that the 'longer-term' Supporting People group is theorised to have greater numbers of 'chronic' rather than 'acute' health conditions. The 'post crisis' phase for the 'longer-term' Supporting People group is also characterised by a slow increase similar to that seen in the 'older matched comparison' group, which, as discussed above (Paragraph 3.17), is likely explained by increased health service use as people age.

3.20 The OPA patterns shown in Figure 3C do not appear to show the three-phase 'crisis' pattern, nor does the 'post 'crisis phase appear to show a reduction over time.

## 4 Reason for health service use

4.1 The Research and Evaluation Steering Group wished to examine whether, irrespective of whether the level of health service use changed, the reasons for accessing a particular health service changed, since this may indicate whether Supporting People service users were making more appropriate use of the NHS in Wales once they began receiving support. This work should be regarded as exploratory and more qualitative in nature and it should be noted that further work could examine this in more detail in future.

4.2 The sections below show the main reason for EHA, OPA and GP attendance in the 'pre-crisis', 'during crisis' and 'post-crisis' phases for each of the study groups. For EHA and

GP data the 'top 5' reasons in the 'shorter-term' Supporting People group were selected, then compared with the same reasons for the two comparison groups ('referred – no support' and 'younger matched' comparisons). A similar method was repeated separately for the 'longer-term' Supporting People group and the 'older matched' comparison group; however, the approach was modified to increase the number of 'reasons' reported to include specific conditions of mental health and 'injuries and poisoning' as they are known to be associated with homelessness, but were not present in the top 5 for the 'longer-term' Supporting People group. For OPA the same method was applied but using the 'top 3' reasons because they account for the vast majority of records.

4.3 For EHA, OPA and GP attendances, the health events responsible for the majority of the differences between the 'shorter-term' Supporting People and the 'younger matched' comparison group are mental health conditions and 'injury and poisoning[11]' related conditions. Mental health and 'injury and poisoning' type conditions are also higher in the 'longer-term' Supporting People group compared with the 'older-matched' comparisons but less noticeably so.

4.4 The method used in this section was chosen based on the three phase patterns described, allocating health events to each phase; however, future work could plot each condition by each monthly period to allow more understanding of how admissions for specific conditions change over time and in relation to Supporting People services.

## Reason for emergency hospital admission

4.5 Each EHA record was categorised according to ICD-10 chapter; the top five, and top seven reasons for the 'shorter-term' Supporting People and 'longer-term' Supporting People groups respectively are shown in Figures 4 and 5, below, compared with the same reasons for their respective comparison groups. The method of grouping attendances at ICD-10 chapter level is necessarily at a relatively high level due to the time constraints for this report. However, future work could provide more insight into the reasons, for example, the 'injury and poisoning' chapter can be explored down to the type of injury (e.g. ankle injury), or type of poisoning (e.g. poisoning by drugs); this would allow conditions thought to be unrelated to Supporting People or the risk of homelessness to be excluded.

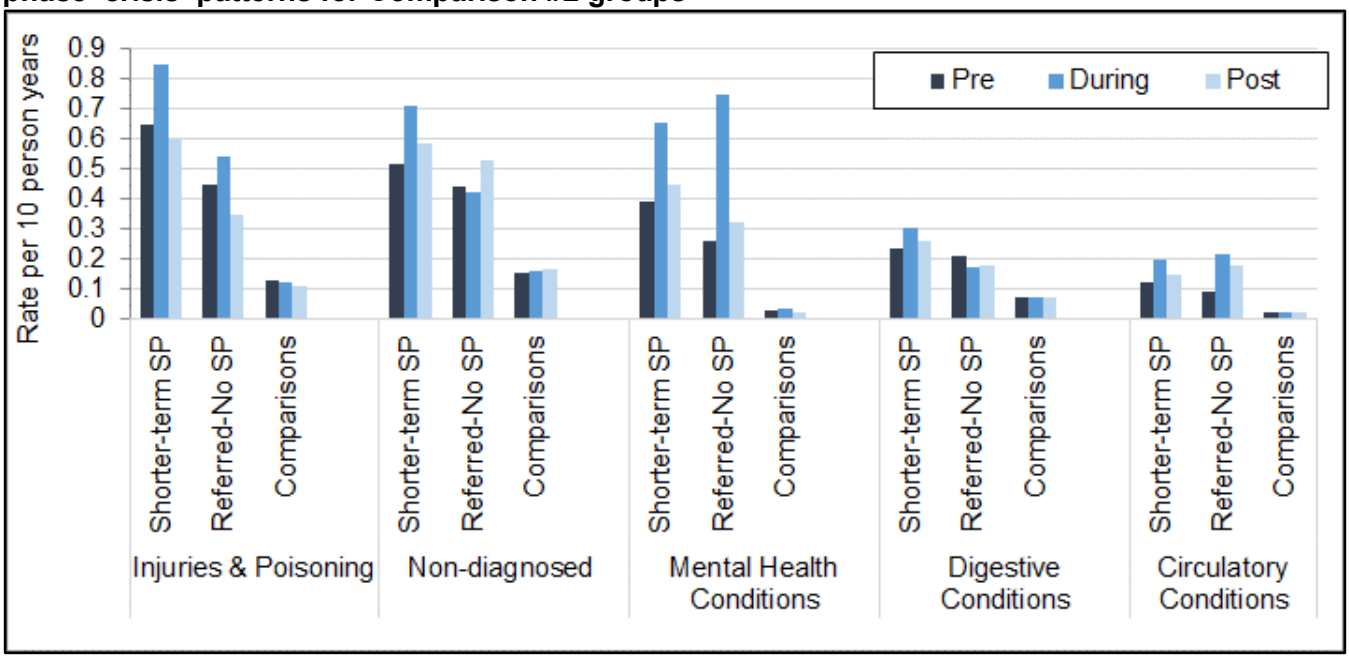
4.6 The bars in Figures 4 and 5 labelled 'non-diagnosed' admissions relate to the ICD-10 chapter 'symptoms and signs'[12]; these are admissions that do not have a confirmed diagnosis; further work would be required in order to more accurately assign events to other chapter types. As 'non-diagnosed' admissions are in the 'top 2' for both Supporting People groups further work would be beneficial.

4.7 Figure 4 shows the levels of EHAs in the 'shorter-term' Supporting People group are higher than in the 'referred – no support' and 'younger matched comparison' groups and, as expected, a three phase 'crisis' pattern is evident for the Supporting People group. Two of the top three reasons i.e. 'Injury and poisoning' and 'Mental Health Conditions', are suggestive of the kinds of 'risky and chaotic' lifestyles that can lead individuals to need Supporting People support e.g. domestic violence, substance misuse.

[11] Full ICD-10 chapter title: 'Injury, poisoning and certain other consequences of external causes'

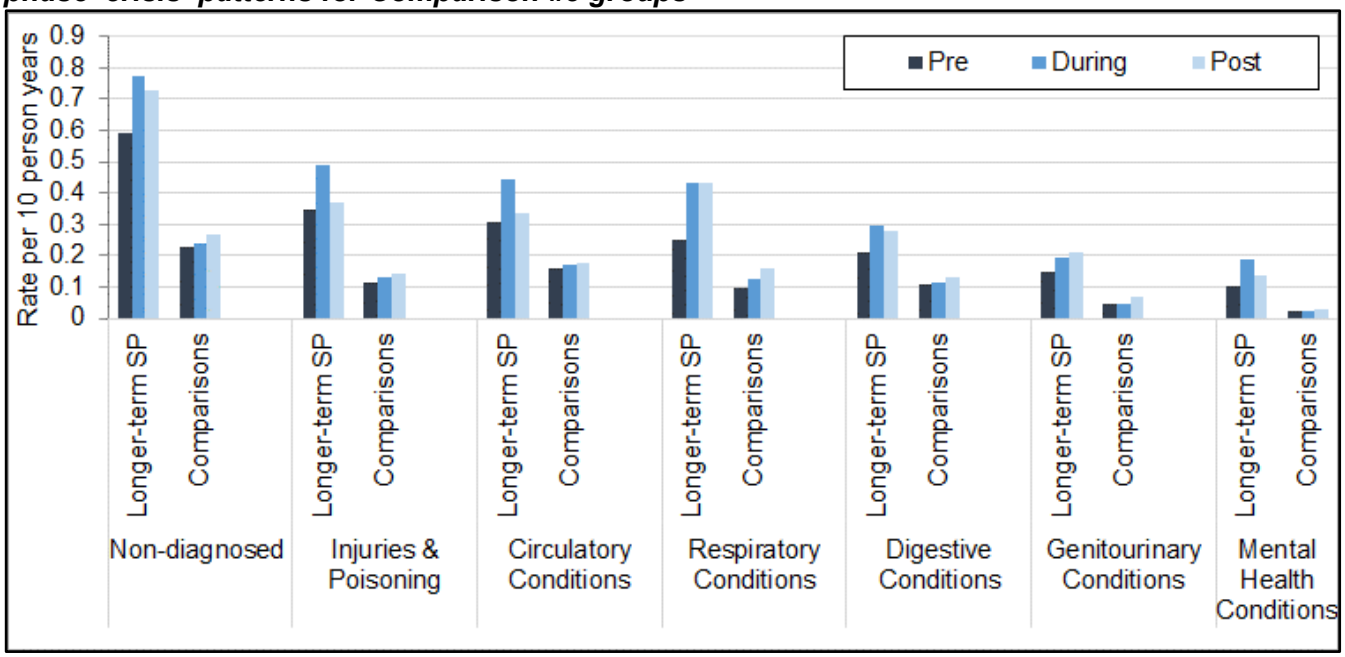
[12] Full ICD-10 chapter title: 'Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified'

**Figure 4 Reasons for emergency hospital admission (ICD-10 chapter) by study group and three phase 'crisis' patterns for Comparison #2 groups**




4.8 For the 'longer-term' Supporting People group compared with the 'older-matched' comparison (see Figure 5, below) the 'non-diagnosed' chapter stands out as the highest reason. Further work could investigate the true reason behind these admissions to further understand the patterns. Injury type admissions are relatively high compared to that of the comparison group.

***Figure 5 Reasons for emergency hospital admission (ICD-10 chapter) by study group and three phase 'crisis' patterns for Comparison #3 groups***




4.9 Mental health conditions appear as the seventh most frequent reason for admission. Whilst lower in the overall list when compared to the 'shorter-term' Supporting People group this is to be expected as other conditions become more common with age. There are proportionately higher levels of mental health condition admissions compared with the comparison group.

## Reason for outpatient attendance

4.10 The main 'treatment speciality area' code was used to categorise attendances which, although it doesn't provide as much detail as EHA and GP data, does provide some

indication of reason for attendance; further detail is available and will be investigated in future. The top three speciality groupings are shown in Figures 6 and 7.

4.11 As we might have expected, there were many more attendances classed as 'Psychiatry' in the Supporting People groups and the 'referred – no support' group than in the 'younger matched' and 'older matched' comparison groups and the levels of OPAs were higher for the 'shorter-term' Supporting People group than for the 'longer-term' Supporting People group. Also of note are the higher levels for 'psychiatry' reasons in the 'referred - no support' group in the 'during crisis' phase than for the 'shorter-term' Supporting People group; this could be examined in future reports to help understand any differences between the two groups, especially as to the severity of crises as discussed in Paragraph 2.11, above.

**Figure 6 Reasons for outpatient attended appointments by Speciality of treatment area and by study group and three phase 'crisis' patterns for Comparison #2 groups**

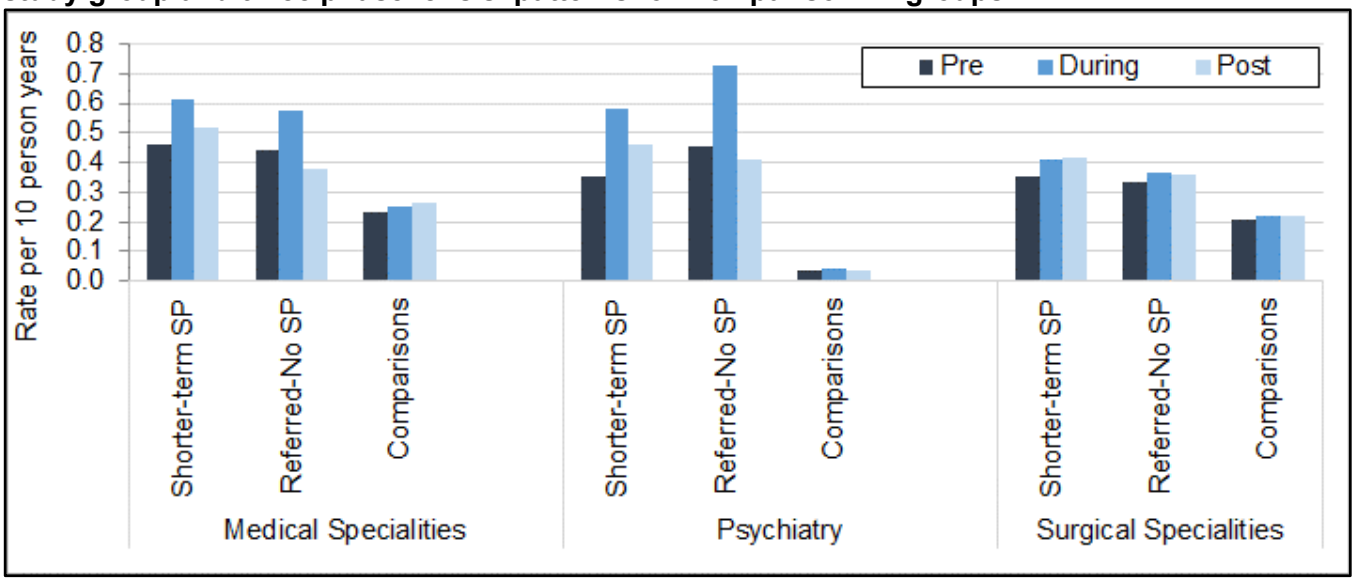
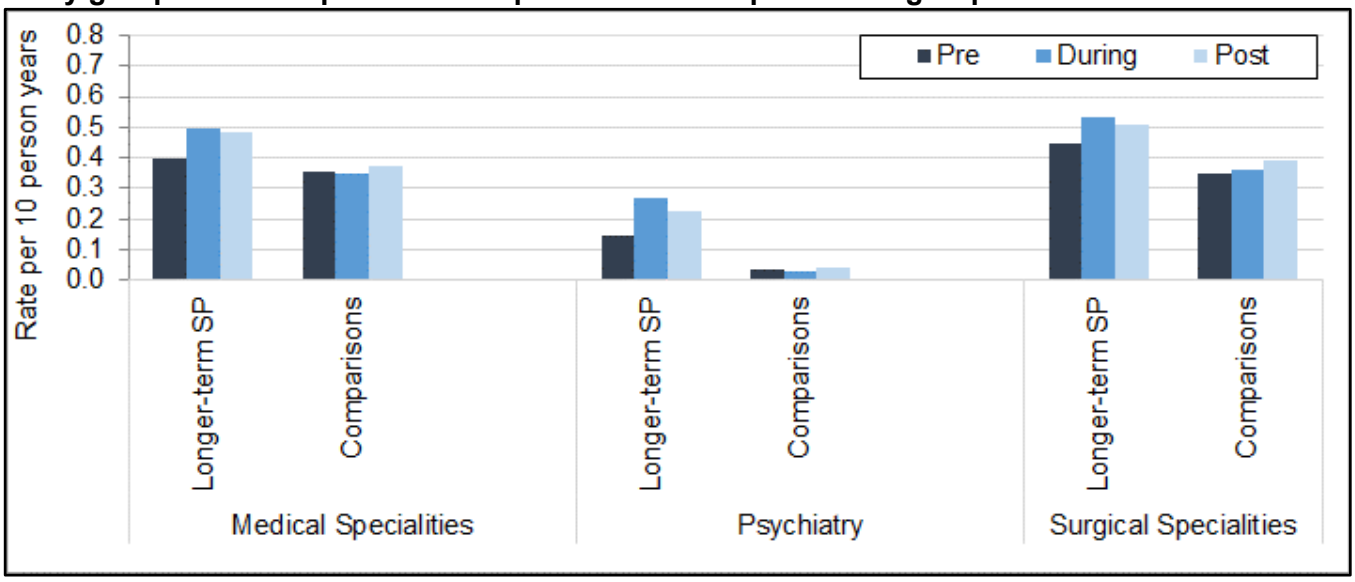



**Figure 7 Reasons for outpatient attended appointments by Speciality of treatment area and by study group and three phase 'crisis' patterns for Comparison #3 groups**




## Reason for GP event

4.12 The analysis is restricted to GP diagnoses only (as opposed to e.g. prescriptions or examinations) with records being categorised by ICD-10 chapter.

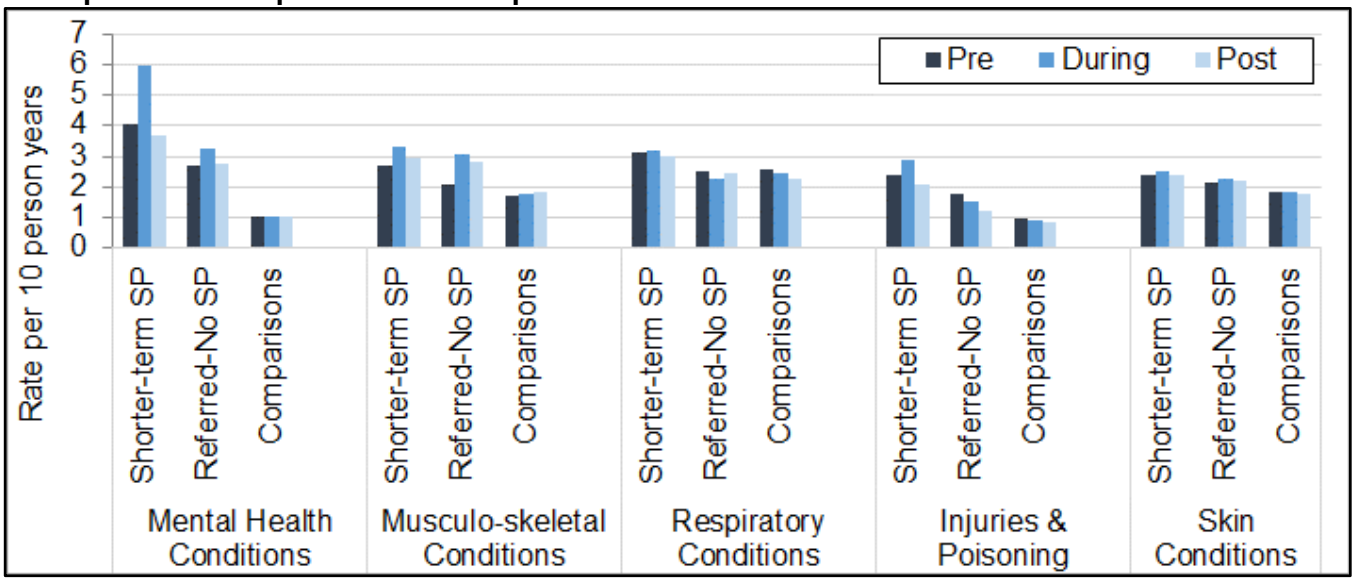
4.13 It should be noted that 'diagnosis' codes are the least common GP event codes, with 'prescriptions' and 'examinations' being more common. In addition, this analysis selects diagnosis records only within the 48-month study period; conditions that are more chronic

in nature will therefore be under-counted where the initial diagnosis occurred more than 24 months before Supporting People support began. Future work could be done in future to examine 'prescriptions' and 'examinations' in order to provide a more detailed and comprehensive indication of the reason for GP events.

4.14 Comparison #2 (Figure 8):

- As would be expected, the 'shorter-term' Supporting People group had more diagnoses relating to mental health conditions compared with the 'younger-matched comparisons'; the 'musculo-skeletal' and 'injury' type diagnoses are also higher for the 'shorter-term' Supporting People group than for the 'younger-matched comparisons'.
- The mental health conditions diagnoses for the 'shorter-term' Supporting People group has a particularly high 'during crisis' peak relative to the other four most common reasons.
- The 'referred – no support' group has similar patterns to the 'shorter-term' Supporting People group, although with a lower level of mental health conditions diagnoses.

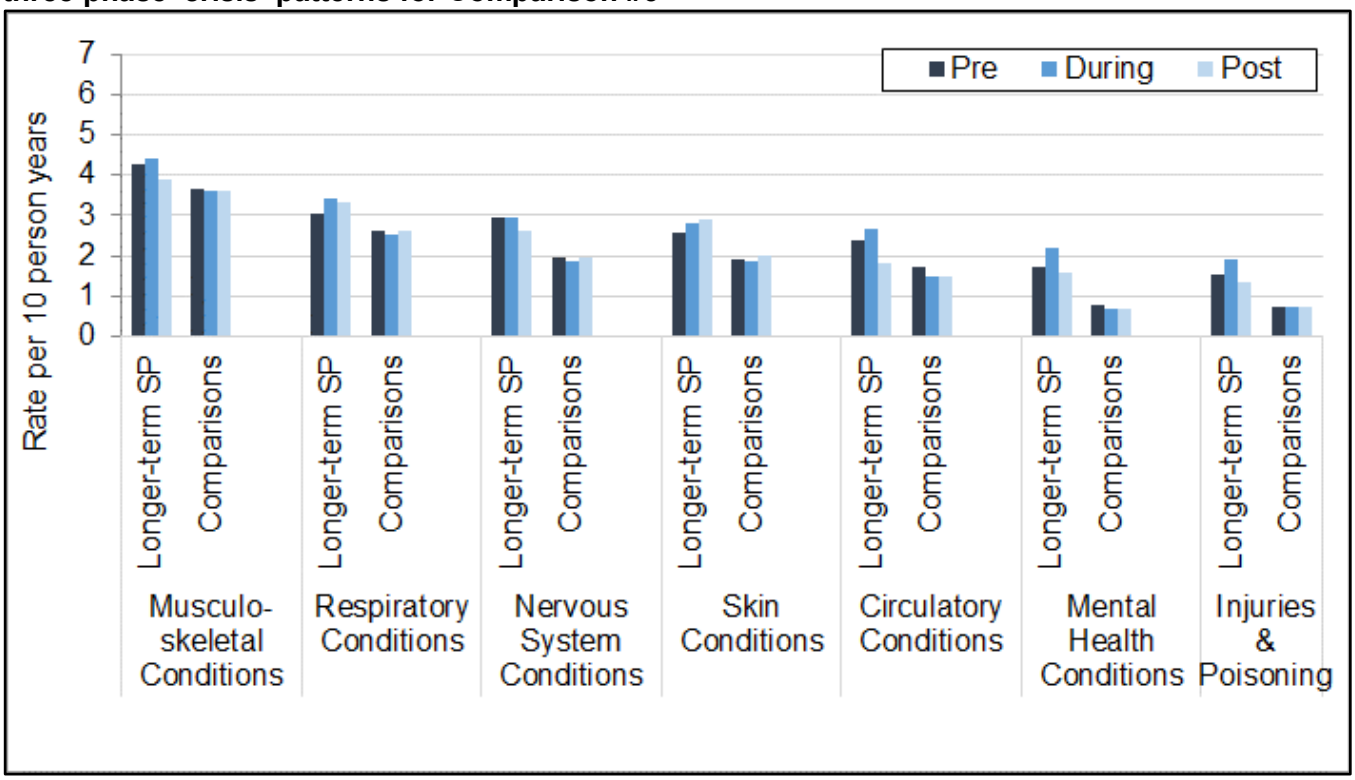
**Figure 8 Reasons for GP diagnosis records categorised by ICD-10 chapter, study group and three phase 'crisis' patterns for Comparison #2**




4.15 Comparison #3 (Figure 9):

- The GP diagnosis recording levels for the 'longer-term' Supporting People group are higher than for the 'older matched comparisons'. Mental health and 'injuries and poisoning' type conditions are lower in the 'top' list in comparison with the 'shorter-term' Supporting People group; in sixth and seventh positions respectively. As discussed in Paragraph 4.9, above, this is likely due to other conditions becoming more common as people age. Both types of diagnoses show higher relative differences compared to the comparison group than for the other conditions.

**Figure 9 Reasons for GP diagnosis records categorised by ICD-10 chapter, study group and three phase 'crisis' patterns for Comparison #3**




## 5 Next Steps

5.1 This report presents findings from an initial analysis of linked administrative data for the Supporting People Programme. Future analysis and publication plans will be considered by the Supporting People Research and Evaluation Steering Group, and may include:

- Updated analysis to include additional anonymised Supporting People data acquired from Local Authorities as part of the overall Data Linking project;
- An investigation of patterns of health service use by additional sub groups of Supporting People service users e.g. by 'lead need';
- Creation of other, potentially more robust control or comparison groups for use in the analysis in order to examine whether differences in health patterns between Supporting People service users and comparison groups can be attributed to the Supporting People programme;
- More detailed investigation of health conditions more likely to be associated with a risk of homelessness or the Supporting People 'lead needs' e.g. mental health conditions, 'poisoning and injuries', including removing from the analysis conditions unlikely to relate to Supporting People or risk of homelessness;
- More detailed investigation of other aspects of health service use, such as cost or length of hospital stay;
- Preparation of a peer review journal article documenting the methodology in full and discussing the findings in greater detail;
- The analysis completed for this report excluded individuals without a complete 48-month health record, including individuals who died within 24-months of the Supporting People start date. Further analysis could therefore be completed to investigate any impact on mortality rates for Supporting People service users.

5.2 The project will seek to acquire additional anonymised administrative data in order to examine impact on a broader range of issues e.g. tenancy sustainability, and public services, e.g. Social Care and Criminal Justice.

5.3 If resource allows, work will continue to create a cost offset model for Supporting People in Wales.

# 6 Key Quality Information

6.1 As noted above, more detailed information about the Supporting People Data Linking Project, including details of data collection from Local Authorities, linking methods and rates, data quality, content and coverage over time is available in the Year One and Two Progress Reports.

6.2 As part of the overall 4-year project Supporting People data from 19 Local Authorities has been collected and imported into the SAIL databank. The data varies in terms of quality, content and coverage over time e.g. Swansea and Blaenau Gwent provide many years of data, whereas other LAs have provided data starting in 2017; as a result, the analyses carried out for this report will not contain data from all 19 LAs.

6.3 Data linking rates for the majority of Supporting People datasets acquired from Local Authorities across Wales were generally over 85%. Work has been carried out with Local Authorities as part of the overall project to improve linking rates where possible.

6.4 GP Event records are currently available for around 78% of the population of Wales on a practice by practice basis and are therefore not randomly or geographically evenly spread. Work by SAIL means this figure is increasing all the time. There is no simple way in SAIL to distinguish between individuals who have no GP Events because they have not visited their GP and individuals who have no GP Events because their practice is not signed up to provide data to SAIL.

6.5 As noted in section 3.6 the 'boundaries' for the three phases discussed within the report were chosen on a purely visual inspection of the pattern of health service use presented in Figure 1; a more systematic method could be used in future analyses, as well as potentially refining the method to be specific for each health indicator.

6.6 These emerging findings are being reported to update the research and policy community on the direction of the research and to provide evidence to direct further analysis. More complex statistical analysis is required before sufficiently robust evidence can be provided to inform policy decisions; this more complex analysis will be completed and published in a later report. **All findings should therefore be considered both PROVISIONAL and INDICATIVE and may be subject to revision following more detailed checking and analysis.**

6.7 Therefore, many factors, such as individual demographic characteristics, and factors relating to the Supporting People programme will be included in future analysis, including but not limited to the following:

- The number of episodes of Supporting People support recorded for each individual
- Segmentation analysis to identify subgroups of Supporting People based on either the Supporting People data provided (e.g. lead need, support type, duration of support) or patterns of health service use (e.g. separating out cases whose records contribute to the possible 'later peak' of A&E visits in the 'referred - no support' group).
- Pre-existing comorbidity of service users

# 7 Acknowledgements

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**Views expressed in this report are those of the researchers and not necessarily those of the Welsh Government or other organisations mentioned above.**

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Mae'r ddogfen yma hefyd ar gael yn Gymraeg.
This document is also available in Welsh.

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## Appendix 1: List of 'Lead Needs'

| Lead Need |
|---|
| 1. Alarm Services (including in Sheltered/extra Care)* |
| 2. Families with Support Needs |
| 3. Generic Floating Support to prevent homelessness (tenancy support services which cover a range of services which cover a range of user needs but which must be exclusive of fixed site support) |
| 4. Men Experiencing Domestic Abuse |
| 5. People over 55 years of age with Support needs (this category must be exclusive of alarm services) |
| 6. People with Chronic Illnesses (including HIV, Aids) |
| 7. People with Criminal Offending History |
| 8. People with Developmental Disorders (i.e. Autism) |
| 9. People with Learning Disabilities |
| 10.People with Mental Health Issues |
| 11.People with Physical and/or Sensory Disabilities |
| 12.People with Refugee Status |
| 13.People with Substance Misuse Issues (Alcohol) |
| 14.People with Substance Misuse Issues (Drugs and Volatile substances) |
| 15.Single Parent Families with Support Needs |
| 16.Single People with Support Needs |
| 17.Women Experiencing Domestic Abuse |
| 18.Young People who are Care Leavers |
| 19.Young People with Support Needs (16-24 years) |

* Records with the 'lead need' 'Alarm Services' are not included in this analysis as they relate to a property, not an individual