Public Health Devon

Devon County Council

# Admission Avoidance: Rapid Review for the Better Care Fund Operational Group August 2014

## 1. Introduction

### 1.1 Background

The Better Care Fund (BCF) has an expectation of a minimum of a 3.5% reduction in ALL emergency admissions. Based on demographic change in Devon the number of emergency admissions is likely to increase by 1.2-1.3 % per annum for the next five years or so. In the short-term this is similar to the national average but in the medium to long-term this will have a more significant impact. The earlier indicator; avoidable admissions in Devon were below England and comparator group levels suggesting Devon was doing well in its work to reduce avoidable admissions. The metric now includes all age and a wider range of emergency admissions. This gives a minimum expectation of real time 4.7% reduction from the baseline. In any event the emergency admission reduction will be significant and equate to ~ 2,790 admissions per annum.

This paper considers learning from earlier and related work and does not attempt to repeat the evidence review provided through BCF it suggests areas for local consideration where an increase in pace of current activity or a more targeted emphasis may assist in the reduction of emergency admissions. The paper provides nothing new but builds on current activity relating to integration and transforming community services. The BCF guidance includes a review of the evidence base for the work and provides some areas of robust evidence and many examples of work in other areas. [1]

It should be noted that although higher rates of admissions are seen in older people, admission rates also tend to be higher in areas with higher levels of social deprivation. There is also evidence suggesting that multi-morbidity and not just age are confounding factors for increased admissions and there are a greater number of individuals with multi-morbidity under the age of 65 and as these progress in complexity and need the demand will increase if the impact of multi-morbidity is not considered from an early age. [2] A long term conditions needs assessment is being produced which will consider multi-morbidity.

### 1.2 Prevention and Integration

The paper has not considered prevention upstream although this is important, as results are needed to inform decision making for schemes in the short to medium term.

[1] http://www.local.gov.uk/documents/10180/12193/Evidence+for+integrated+care+-+Review+November+2013/8f73b31d-4ed8-4a4a-831d-9bfa8b2c1ad3

[2] http://www.nice.org.uk/guidance/gid-phg64/resources/disability-dementia-and-frailty-in-later-life-midlife-approaches-to-prevention-draft-guidance2

A rapid literature review on the effectiveness of 256 interventions that had been implemented in Devon was previously conducted and the earlier literature review for had included admission avoidance. The wider review considered emerging best practice. The evidence based support for BCF submissions has been considered in this review. A number of Cochrane Reviews were identified. The review highlights the paucity of robust studies that consider the effectiveness of emerging models of integrated care compared to usual care.

'Co-ordinated Care for People with Complex Needs' (Kings Fund 2013) highlights that programmes should be localised so that they address the priorities of specific communities. This supports the locality approach to integration in Devon. Care co-ordination innovations can take some years to mature and to build legitimacy and acceptance. Successful approaches are very context-specific; care models cannot be transported 'en bloc' from one setting to another. Models of care co-ordination are likely to be more effective when operating as 'fully-integrated' provider teams with some operational autonomy.

The BCF Evidence highlighted some additional examples but evidence from emerging models is not clear.

- **Case management and care co-ordination**

(Case finding, assessment, care planning, care co-ordination, and case closer). The evidence base for case management is 'promising but mixed' this is in part due to the difficulty in attributing any positive change to case management when there are multiple factors at play. [3]This is true of many of the integration and preventative schemes.

- **Reducing avoidable admissions**

Conditions where hospital admissions can be reduced through active management are known as ambulatory care-sensitive conditions (ASC) 5 conditions account for half of all ASC 3 disproportionately affecting older people (UTI's/pyelonephritis, pneumonia and COPD and 2 disproportionately affecting younger people (convulsions epilepsy and ENT infections) [4]. Levels of deprivation are strongly linked to ASC admissions especially for COPD.

Devon has developed many programmes of work focussed on reducing avoidable admissions.

## 2. Learning from Related Work

### 2.1 Prevention – short to medium-term impact

- **Falls**

Identifying people at risk of falls and developing preventative interventions reduces hospital admissions and use of care homes. There were 3,259 admissions due to falls in 2012-13 in Devon for people aged 65 and over. The age standardised rate per 100,000 was 1672.8 in Devon, which is below the South West (1875.6), local authority comparator group (1809.9) and England

[3] Purdy 2012. Avoiding hospital admissions: what does the research evidence say? London: the Kings Fund

[4] Blunt 2013. Focus on preventable admissions: trends in emergency admissions for ambulatory care sensitive conditions, 2001 to 2013. QualityWatch, The Health Foundation, Nuffield Trust.

(2011.0) rates. The rate is Devon is the second lowest in the South West. Within Devon rates were significantly lower in Mid Devon (1363.2). Rates have fallen on 2010-11 levels (1737.6). Age standardised admission rates have remained consistently higher in the most deprived deprivation quintile. Whilst the gap narrowed in 2012-13, the rate is the most deprived areas (2233.1) was still 47% higher than the least deprived areas (1523.9). Rates increase sharply with age with an age-specific rate of 484.2 for persons aged 65 to 69, compared with 6146.8 for those aged 85 and over. Teignbridge and Exeter experiencing the highest rates. Age, deprivation, existing medical conditions and living alone are risk factors for falls. NICE guidance should be considered.[5]

- **Smoking**

The latest figures suggest that 16.8% of the adult population in Devon smoke This is below the South West (18.5%), local authority comparator group (18.2%) and England rate (19.5%) Smoking rates in Devon are higher in people working in routine and manual occupations (27.4%). Levels of smoking are highest in the 16 to 29 age group, and are higher in males than females, although it should be noted that rates have been slower to fall in females. Smoking remains the leading cause of preventable premature mortality and every opportunity to support individuals to quit smoking should be taken. Smoking also causes ill-health and impacts on recovery from surgery. Reducing smoking will specifically but not exclusively impact on respiratory admissions.

- **Alcohol**

Using the new narrow definition, there were around 4,922 alcohol-related admissions to hospital for Devon residents in 2012-13. The Direct Age Standardised Rate of Admissions (631.1 per 100,000) is broadly in line with the South West and national rates but significantly above the local authority comparator group rate. Rates within Devon are highest in Northern Devon. Admission rates are significantly higher in more deprived areas.

Alcohol-Related Admission rates vary by age, with the highest rates in older age groups, reflecting the long-term effects of alcohol-use through life. Acute admissions (accidents and poisonings) are most common in young adults, mental health admissions in persons in their 40s and 50s, and admissions for chronic conditions in older age groups. Admission rates are higher for males than females. [6]

Investment has been made in alcohol outreach posts for Torbay and North Devon and alcohol misuse remains an important area for preventative action. Work is also being developed through RDE.

- **Flu vaccination over 65's and vulnerable under 65's**

The national influenza vaccination programme, based on evidence of cost-effectiveness assembled by the Joint Committee on Vaccination and Immunisation, targets specific groups:

- 65 years and over
- Clinical risk groups six months – under 65 years
- Children aged two, three and four

[5] NICE Clinical guidance 161 'Falls: assessment and prevention of falls in older people' http://www.nice.org.uk/guidance/cg161

[6] http://www.devonhealthandwellbeing.org.uk/jsna/phof/devon_reports/

- Pregnant women
- Carers
- Long term residents in care homes
- Frontline health and social care workers.

The estimated annual impact in Devon of influenza in terms of health service activity is 1,100 GP consultations and 380 hospitalisations and 13 intensive care admissions.[7] Figures vary depending on the influenza strains circulating. Vaccination reduces the impact of the complications of influenza on those vaccinated and in the wider community. Vaccination of pregnant women for example reduces illness in infants, and vaccination of those with clinical risk conditions like COPD reduces exacerbations. Public Health has undertaken a literature review for its work on increasing uptake. Both will have an impact on non-elective hospital admissions.

**Figure 1. Influenza vaccination uptake, NEW and South Devon and Torbay CCG, 2013/14**

| CCG | 65 years and over | 6 months to under 65 years in clinical risk groups | Pregnant women |
|---|---|---|---|
| **NEW Devon** | **72.2%** | **49.2%** | **40.3%** |
| **SD & Torbay** | **69.1%** | **47.6%** | **38.2%** |
| **England** | **73.2%** | **52.3%** | **39.8%** |

Red = significantly lower than national average
Amber = no significant difference from national average

Action to increase uptake in the clinical risk groups in particular should have a considerable impact on the levels of influenza in the community leading to complications and hospital admissions. Actions include Devon Public Health, CCG and LMC are part of a multi-agency network across the Peninsula, including PHE and NHSE partners, supporting increases in influenza vaccination uptake in all groups, especially those at increased risk because of their clinical condition.

- **Cardiovascular disease prevention and early intervention**

The national health check programme provides an opportunity to intervene early when early signs or cases of cardiovascular disease are identified. It also provides an opportunity for primary prevention. Coverage and uptake of the offer of a health check will improve effectiveness, at end Quarter 1 Devon achieved over 20,000 health checks and in the last quarter the uptake rate was 54%. Services are commissioned to support lifestyle change relating to smoking, alcohol and healthy weight. The opportunity should be maximised as part of any preventative approach. (CMG 45)[8]. CCG based commissioning for value CVD packs have been produced and consider each CCG with benchmarking to develop overarching messages from the available data and highlight:

- **NEWDCCG**

[7] Sources: JCVI estimates; Severe Influenza Surveillance ICU Scheme; Devon Public Health

[8] http://www.nice.org.uk/guidance/CMG45/chapter/executive-summary

- Public health focus on prevention; specifically smoking cessation
- Significant benefit to patients if improvement to primary care management indicators were made.
- High costs for: CVD emergency admissions, CVD elective admissions, CHD emergency admissions, CHD elective admissions, heart failure emergency admissions, angiography procedures, CABG procedures
- High numbers of admissions for: angioplasty procedures

- **SDTCCG**
- Public health focus on prevention; specifically obesity
- Significant benefit to patients if improvement to primary care management indicators were made
- High costs for: CHD elective admissions
- High numbers of admissions for: stroke emergency admissions, angiography procedures, angioplasty procedures

- **Choose well and Winter planning**
  Learning from previous winter planning experiences and the successful Choose Well campaign will assist in admission avoidance, ensuring the most appropriate option for minor ailments and supporting self-care. [9]

## 2.2 Role of Primary Care

The BCF guidance highlights the role of primary care through pro-active and personalised care and support for self-care, case management and the falls prevention DES. In addition the named professional for the most vulnerable older patients provides an opportunity for enhanced care planning and support.

## 2.3 Care Closer to Home

One way to decrease or avoid admissions to hospital is to provide people with acute care treatment at home. Typically, these people would require treatment in an acute care hospital for a period of time. The evidence shows that when compared to in-hospital care, hospital at home services may reduce the chances of dying. However, later on, admissions to hospital may increase. Admission avoidance through hospital at home may not reduce or improve quality of life, function, or cognitive abilities (such as mental alertness and thinking) more than in hospital care. And while it may improve satisfaction in people at home, it is not known how it affects the carers of the people at home. With respect to costs, hospital at home services may be less expensive than in hospital care. From this review however, it is not known which people would most benefit from hospital at home services. In the studies in this review, however, most people were on average 70 to 80 years old.[10]

There is a view that case management (such as virtual wards) may generate net savings from averted unplanned hospital admissions whilst improving the quality of life for high-risk patients. Research on virtual wards forms part of a

[9] http://www.devonhealthandwellbeing.org.uk/wp-content/uploads/2012/10/Report_on_Winter_Pressures_2012.pdf

[10] Shepherd et al. 2011. Hospital at home admission avoidance. Cochrane database of systematic reviews

growing body of evidence that realising benefits presents a major challenge and suggests further research is needed on the characteristics of individual patients who are particularly amenable to preventive care and to tailor different preventive interventions to such characteristics.[11]

There is robust evidence from a Cochrane Systematic review, and other supporting sources, that hospital at home patients have similar or reduced levels of mortality, similar levels of readmissions and fewer patients being in residential care at follow up than in-patient care. Hospital at home also significantly increased patient satisfaction. The evidence relating to virtual wards is not clear but local schemes are providing early evidence of success. Both schemes require consideration of patient selection.

An early evaluation from the Torrington pilot suggests an 8% reduction (from 2012) in admissions to NDDH from Torrington residents during the care closer to home model. This could be replicated across other suitable communities. (Awaiting independent evaluation).[12]

The BCF guidance categorises 4 types of intermediate care: crisis repsonse, home-based intermediate care, bed-based intermediate care and reablement. It concludes from the evidence that home care reablement is almost certainly cost effective.

Devon has effective reablement when benchmarked with LA comparators and England and southwest but has low coverage. Investment in reablement services should be cost effective.

## 2.4 Acuity Audit

The acuity audits undertaken in Devon looked at delayed discharge rather than admission avoidance, but it is reasonable to look at how a care closer to home model could extend to keep some of the patients at home who were admitted for services currently only rapidly accessible in a health setting.
The main need of the patients who were in hospital but could be cared for at home was basic essential care. This had reduced over the 3 years of the acuity audit but still represented over 50% of patients considered to be fit to leave. Access to community occupational therapy and physiotherapy was also cited as an issue so that patients remained in hospital longer rather than have a break in therapy if they were discharged when medically fit to leave.

Enhancement of community care / services available for admission avoidance would probably have reduced admissions although this wasn't tested in the audit. Use of step up or admission to CH rather than acute may be removed with wider community services. Breakdown of identified needs have a social care/health overlap supporting integration. In the 2012 audit 39% in community hospitals were fit to leave and 28% from acute, this was statistically different. Age correlates with medically fit to leave – and suggests social care requirements. [13]

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[11] Lewis et al. 2013. Impact of 'Virtual Wards' on hospital use: a research study. NIHR

[12] http://torringtoncares.co.uk/wp-content/uploads/2013/09/Review-of-the-Torrington-Pilot-03-02-14.pdf

[13] http://www.devonhealthandwellbeing.org.uk/wp-content/uploads/2012/10/Acuity-Audit-2012-FINAL.pdf

Admissions to community hospitals are included in the BCF metric so care at home remains important for discharge facilitation and admission avoidance.

## 2.5 Readmissions Audit

In Devon in 2010-11, 10.29% of patients discharged after an emergency admission were readmitted within 30 days. This is significantly below the South West (10.93%), local authority comparator group (10.95%) and England (11.78%) rates. The rate in Devon was the third lowest in the South West and the lowest in the local authority comparator group. Exeter (11.72%) had a readmission rate above the South West and Devon rate. Readmission rates have increased over time, but slowed recently.

A readmission audit was undertaken for North Devon and RDE in 2014 and found there are potentially large reductions in admissions. **If all avoidable readmissions were avoided then overall reduction would be a reduction of 2.7% overall.**

The readmissions audit included purely health related readmissions but some were joint social care/health.

NDDH – readmission rate of 10% (9.9) nationally avoidable readmissions 27%. Readmission audit was consistent with this rate.

- Quick wins for North Devon would include **post–op pain management** and **out of hours care home admissions.**

RD&E – readmission rate of 10% (10.1) nationally avoidable readmissions 27%. Readmission audit was consistent with this rate.

- Quick wins – **open access to the wards.** Some patients appeared to have open access to return to wards where they had received in-patient care.

- Other issues that were identified via the two readmission audits were coding discrepancies.

- Coding issues – patient admitted for a procedure (planned), which needed to be delayed for a variety of reasons until the following day. Patient went home overnight and then returns and is coded as ‘emergency’ admission.

- Transfers from One acute (often specialists such as cardiology) return to a local acute RD&E / SD or NDDH and are coded emergency.

## 2.6 Long Term Conditions Management

People with LTC account for 70% of in-patient bed-days and significant emergency admissions. Consideration of health inequalities is important and any targeting should consider deprivation.

In Devon between January and September 2013, 68.1% of people with a long-term condition in the GP survey, felt they had enough support to manage their own condition. This is significantly higher than the national (64.0%),

South West (66.1%) and local authority comparator group (64.7%). Rates in NEW Devon CCG (67.2%) and South Devon and Torbay CCG (67.9%) were similar and highest in the Moor-to-Sea locality (71.7%). Rates have also increased slightly on 2012-13 levels.

Self-management programmes show some evidence for reducing unplanned admissions. There is a need to tailor to condition, involve patients in co-creating self-care plans, telephone coaching and change programme.[14]

As part of the LTC HNA some early indications from the literature review suggest that most forms of intervention, whether provider based or patient based, are outside patients' workday and social activities, so fail to embed themselves into their everyday lives. It may be that greater efforts to integrate support for self- management into patients' personal social networks (family, friends, and other social groups) or using means that are more pervasive in people's lives, such as mobile technology, would prove a more effective approach to engaging patients with self-management and the behaviour changes necessary to that end.[15]

Kirk et al 2012 looked at children and self-care and found strong evidence of the effectiveness of interventions that target children/young people; use e-health or group-based methods; that are delivered in community settings. There is no evidence that interventions that focus on parents alone or are delivered only in hospital settings are effective. [16]

Audits have identified patients being admitted with known LTC (noticeably respiratory). Investments in **OOH** access to support may reduce these admissions. Extended use of patient care plans in identified scenarios.

Seasonal increased admissions for respiratory diseases could be improved by increasing uptake of flu vaccine particularly in the under 65 at risk groups.

The care homes needs assessment identified areas where admissions were higher than the general population of that age including asthma, COPD and diabetes complications. The assessment and discussions with stakeholders during its development also identified variable support for care homes from specialists especially homes with nursing.[17]

## 2.7 Care Homes Health Needs Assessment

The care homes needs assessment was published in 2014 and considers local services, the evidence base and local need, the assessment was produced to inform the work of the Care Home Quality Collaborative (CHQC), which is driving the quality and improvement work. Some important considerations include:

- Training of care home staff based on local intelligence of skill gaps for examples end of life, inhaler use

[14] Naylor et al. 2013. Long term conditions and mental health –the cost of co-morbidities

[15] BMJ 2013;346:f2882

[16] 2012 Blackwell Publishing Ltd, *Child: care, health and development*, **39**, 3, 305–324

[17] http://www.devonhealthandwellbeing.org.uk/wp-content/uploads/2014/05/Care-Homes-Residents-HNA-FINAL-April-2014.pdf

- Driving interventions through local intelligence such as admissions and safeguarding alerts
- Falls prevention
- Medicines management
- Collaborative working between agencies and teams ensuring care homes are part of integrated community teams.

The CHQC should drive this work. The readmissions audit also highlighted some care home issues previously mentioned.

- Specialist nurses for nursing homes and relationship with community services
- OOH in care homes

## 2.8 Dementia

In 2012-13, 5,483 people in Devon were on a GP register for dementia, compared with an expected prevalence of 13,093, this is a diagnosis rate of 41.9%. This is the third lowest ratio in the South West, and is below the South West (46.5%) and England (48.1%) rates. Diagnosis rates have improved in recent years, increasing from 28.0% in 2006-07, however national ratios have increased at similar rates.

There are no significant differences in Devon based on area deprivation. Dementia prevalence rates are higher in females. This, coupled with longer life expectancy, means females with dementia outnumber males by more than two to one. Prevalence rates for dementia increase rapidly with age, with one in 1400 affected under the age of 65, compared with more than one in five in those aged 85 and over.

Increasing dementia diagnosis is a local BCF metric and priority in the JHWBS. If individuals are diagnosed the right support services can be put in place included carer support. Dementia emergency admissions as a primary and secondary cause are significant. The current dementia workstream should improve local services and have an impact on admissions. The role of dementia support workers should include a focus on avoiding unnecessary emergency admissions.

## 2.9 End of Life Care

A systematic review considered if the provision of end of life home care reduces the likelihood of dying in hospital and what effect this has on patients' symptoms, quality of life, health service costs and care givers compared with inpatient hospital or hospice care. It reported that the provision of end of life home care does increase the probability of dying at home. However, it is not clear if this also results in more people being transferred to hospital during this phase of their illness. It concluded that there is little evidence of the impact these services have on family members and lay care givers.[18]

The readmission audit identified care home admissions for end of life patients and raised issues of training needs for end of life. There have been anecdotal concerns raised about a risk averseness impacting on admissions at end of

[18] Shepperd et al. 2011. Hospital at home: home based end of life care. Cochrane database of systematic reviews.

life from care homes. Adherence to guidance and quality standards for end of life care is important. [19]

The end of life care profiles 2012 [20] showed that 49% of Devon residents died in hospital compared to 42% in Torbay and 45% in Plymouth. 23% die in care homes and 20% at home.

## 2.10 Relationship with Elective Work

As all procedures have some risk and some can be potentially quite risky then ensuring policies are robust and then reducing the number of people having LVP could reduce the number who end up with an emergency admission.

Smoking/obesity are pre-operative considerations (potential larger impact on elective admissions). Implementing a non-smoking requirement and BMI threshold for some elective surgery should reduce the complication rate and therefore further readmissions. The evidence should be reviewed and commissioning policies developed.

## 2.11 Social isolation and Wider Determinants of Health

Older people are particularly vulnerable to social isolation or loneliness owing to loss of friends and family, mobility or income. Social isolation and loneliness impact upon individuals' quality of life and wellbeing, adversely affecting health and increasing their use of health and social care services. When planning services to reduce social isolation or loneliness, strong partnership arrangements need to be in place between organisations to ensure developed services can be sustained.

The health impact is becoming better understood. Research has indicated that among the health effects are lower immunity to disease, 50 per cent higher risk of death and a greater need for health services including GPs and A&E. One study put the health effect as equivalent to 15 cigarettes a day. Loneliness is not only having a profound effect on the quality of life of many older people, it also has serious implications for their physical and mental health.

40.6% of social care users surveyed in Devon in 2012-13 reported being satisfied with their social situation, this is slightly below the South West, local authority comparator group and England rates at 44.8%, 45.2% and 43.2% respectively.

55% of pensioners as a proportion of all pensioners are lone pensioners in Devon and 14.3% experience income deprivation. Fuel poverty is more prevalent in groups with low household incomes, including pensioners, people on benefits and working families with below average incomes. House condition and warmth are important considerations in any care model out of hospital. Home adaptations will be needed for certain individuals to maintain independence at home.

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[19] CMG 42 http://www.nice.org.uk/guidance/CMG42/chapter/1-commissioning-services-for-end-of-life-care-for-adults QS 13 http://www.nice.org.uk/guidance/qs13

[20] ONS Mortality data 2008-10 http://www.endoflifecare-intelligence.org.uk/end_of_life_care_profiles/la_2012_pdfs

Activity to reduce social isolation and the role of the individual, communities and voluntary and community sector are less well tested and evaluated in Devon but remain important in an integrated care model.

## 3. Summary

### 3.1 Themes

The review has considered many of the strands of work predominantly supported by public health and includes some emerging work. A number of themes emerge which are consistent with work underway across the area. The review of spend needs to determine whether investment needs to be shifted, removed, mainstreamed or uplifted to impact on emergency admissions to meet the necessary targets to allow a shift in resources. These can be themed as followed:

- Prevention including falls, smoking, alcohol, CVD work and influenza vaccination
- Care closer to home supported by integrated teams
- Understanding the future role of community hospitals and care homes in the transforming community services programme
- Appropriate crisis response with clarity on respective roles from primary care and community teams
- Long term conditions management (including multi-morbidity) and development of a self- care model
- Recognition of the importance of dementia diagnosis and support
- End of life care pathway to minimise unnecessary hospital admissions

The 2011 census reported that there were 84,492 unpaid carers in Devon. Carers work is well established and based on evidence of need and remains important. The role of the voluntary and community sector and the approach to support social isolation are less clear and need to be developed based on local assets to support local need. The importance of health inequalities should be considered and a focus on all age rather than just the older population as the indicator includes all age.

## 4. Next Steps

Some of this work will be carried forward with the development of the commissioning for prevention strategy; although this work will be more upstream. In addition a further report on frailty will be submitted to the Devon Health and Wellbeing Board on the 11th September 2014, which will further inform decision-making.

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**AUGUST 2014**