

# **Pathway Needs Assessment at** **Brighton and Sussex** **University Hospital**

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## **Draft for consultation November 2011**

This draft is provided subject to any final amendments following the seminar on 17<sup>th</sup> November 2011.

## **Executive Summary**

Brighton and Sussex University Hospitals NHS Trust has commissioned this needs assessment in collaboration with a charity called Pathway. The aim was to explore the impact of homelessness and multiple deprivation on our Trust and to consider the potential for implementing a pilot project funded by an NIHR research grant. The research project will assess the impact of GP ward rounds for homeless patients in collaboration with a specialist hospital nurse, over a 12 month period. It is proposed that the project should commence in the first months of 2012.

## **Introduction**

Pathway is a new charity formed to transform the quality of healthcare for homeless people and other socially excluded groups. It works in partnership with NHS organisations to develop, test, evaluate and support new integrated models of care.

The Marmot review<sup>1</sup> highlights the fundamental unfairness and injustice inherent in the increasing inequalities of our society, and the economic and social consequences that impact on the rich as well as the poor. He proposes a system of "proportionate universalism" – helping all sections of society "but with a scale and intensity that is proportionate to the level of disadvantage". For the homeless population this raises the possibility of improving outcomes by targeted investment, with the very real prospect of reducing unscheduled expenditure in secondary care. Marmot encourages us in the words of Pablo Neruda to "rise up with me against the organisation of misery". Working with homeless people to improve the health of their peers gives health professionals the opportunity to re-ignite the passion and vocation that took them into the caring professions, and offers the prospect of improving health care systems for the benefit of us all.

## **Background**

### Statistics

Half of England's rough sleepers are in London<sup>2</sup> and over a third of No Fixed Abode (NFA) hospital admissions occur in the NHS London area<sup>4</sup>. But homelessness is a national issue - there are significant concentrations of homeless people in most large cities and many coastal towns and the problem can be hidden and easily ignored in rural areas. There are similar trends for single young homeless people, and for homeless families.

There were 47,093 people using Supporting People funded hostel places in England during 2009/10 and rough sleeping in London increased by 30% over the 5 years to 2009/10<sup>3</sup>.

Outcomes are poor; for example the average age of death of a homeless person is between 40 and 42 years<sup>4</sup>, and a homeless drug user admitted to hospital is seven times more likely to die over the next five years than a housed drug user

admitted with the same medical problem<sup>5</sup>. Homeless children and young people are likely to enter such a cycle without early intervention.

The root causes of homelessness are both complex and multi-factorial. Simply providing adequate housing is of course a fundamental first step, but is not enough. Many people who go on to be homeless will have suffered significant emotional and/or physical trauma in childhood, will have suffered from poor familial relationships, and poverty in its many manifestations is an ever present factor. Other factors implicated in homelessness include the general lack of sufficient affordable housing, unemployment, mental ill health, physical ill health, low educational attainment and substance misuse. These factors operate at both individual and societal levels.

### Definitions

Homelessness is often the end point and consequence of multiple disadvantage. We have tried to avoid narrow definitions of homelessness, but while obviously including rough sleepers this needs assessment also includes hostel dwellers and the insecurely housed.

### Economic modelling

Research by Professor Barry McCormick<sup>4</sup>, DH Chief Analyst has shown that homeless people attend A&E six times as often as the housed population, are admitted four times as often and stay three times as long – because they are three times as sick. This results in secondary care costs that are eight times higher than average, largely consisting of unscheduled emergency admissions. The Nuffield Trust recently reported an overall increase of 11.8% in emergency admissions in England over the past five years at a cost of £330 million per year<sup>6</sup>. Professor McCormick's analysis produces a conservative estimate of £85 million spent each year on secondary care for NFA patients, most resulting from emergency admissions. In fact this is likely to be a considerable underestimate, as many homeless people will give a hostel or "care of" address and not be revealed by this type of analysis.

### Homelessness is a health care issue

There is a growing understanding, supported by international research<sup>7</sup>, that chronic homelessness is an associated but probably non-causative marker for tri-morbidity, complex health needs and premature death.

Tri-morbidity is the combination of physical ill health with mental ill health and drug or alcohol misuse. This complexity is often associated with advanced illness at presentation, in the context of a person lacking social support who often feels ambivalent both about accessing care and their own self worth.

Simply housing long-term homeless people (although an essential first step) does not, of itself, resolve the underlying problems. When homeless people die they do not commonly die as a result of exposure or other direct effects of homelessness, they die of treatable medical problems, HIV, liver and other gastro-intestinal disease, respiratory disease, acute and chronic consequences of drug and alcohol dependence<sup>7</sup>.

#### Care coordination and integrated care

The Kings Fund is preparing a report called "avoiding the gaps" which addresses the issue of care coordination within secondary care and between secondary care and the community. The model of care developed by Pathway can be seen as a care coordination approach, which has the potential to encourage models of integrated care. Professor McCormick's paper highlights the potential for developing such a new model of health care delivery for homeless patients, based on the highly successful service provided in Boston USA<sup>8</sup>. This model is of a fully integrated primary and secondary health care service including specialist primary care, out-reach services, intermediate care beds and in-reach services to acute beds.

#### The Pathway Charity

Pathway is a company limited by guarantee and a registered charity. Company number 7210798. Charity registration number 1138741. Our charitable purpose is to improve the quality of healthcare for single homeless people and other multiply excluded groups in the United Kingdom.

Pathway is a model of integrated healthcare for single homeless people. It puts the patient at the centre of their own care pathway and works to transform health outcomes for one of the most vulnerable and deprived groups in our society. We believe that our model of healthcare developed for and with homeless people will also help other multiply excluded groups get better health services. We have established the Pathway as a charity in order to share the model, train and support a new cohort of homeless healthcare nurse practitioners and care

navigators, and to challenge the health service to deliver better quality healthcare to the most excluded.

Pathway is based on a set of fundamental values. We believe generosity, kindness, and compassion combined with a passionate commitment to professional quality should be the defining characteristics of health services for rough sleepers and single homeless people.

Our web site will give you more information about our board of trustees, our staff and our history at [www.londonpathway.org.uk](http://www.londonpathway.org.uk)

### The Pathway core services

#### Hospital Ward Rounds

The Pathway ward round is provided by an accredited Pathway GP, supported by a specialist homeless health nurse practitioner: visiting every homeless patient admitted to the hospital to co-ordinate all aspects of care and make plans with the patient for discharge. The GP and nurse coordinate a weekly “paper ward round” care planning meeting that includes front line members of statutory and voluntary sector organisations such as social services, housing options, street outreach, drug and alcohol services, liaison psychiatry, hostel key workers, discharge coordinators and clinical teams.

#### Homeless health nurse practitioners

Work full time in the hospital supporting the ward round, liaising with medical, nursing and allied professionals across the hospital and with community agencies, while providing daily support to homeless patients. They work with our patients to plan for life after hospital.

#### Care Navigators

With a personal experience of homelessness, Care Navigators befriend, support, challenge and mentor homeless patients in the hospital, helping them navigate the hospital environment, and supporting our homeless health nurse practitioners. They will help us follow up and support patients post discharge.

## Sanctuary

A necessary future development for the Pathway approach is the provision of a community "Sanctuary" unit. Our analysis reveals a relatively small group of homeless people with complex needs and tri-morbidity (physical ill health with mental ill health and drug or alcohol misuse) who frequently need hospital admission. Such patients have a disproportionate effect on the number of unscheduled re-admissions within 28 days, and unplanned A&E re-attendance within 7 days. Current models of community support are not meeting their needs and we propose developing clinically orientated psychologically informed environments, modelled on homeless respite care units provided in the US. A Sanctuary will offer both a temporary home and access to 24 hour on-site primary care to optimise access to health care and minimise the need for further unplanned hospital attendances. Move on will be supported by the Care Navigator team, following a "Housing First" approach – supportive case management in independent accommodation.

## Needs assessment and start up support

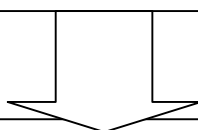
Before establishing a Pathway service in a hospital it is important to understand current practice, assess local levels of need, and shape a service that will fit local circumstances. Pathway provides a bespoke development service to support local health service staff to establish a service that meets our standards, and delivers the right outcomes for patients locally.

## Accreditation, professional support and training

In collaboration with the Faculty for Homeless Health<sup>9</sup> we have developed a set of clinical standards. A support network for homeless health specialists combined with accreditation will ensure that new Pathway services will incorporate our values and ethos.

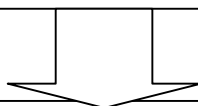
**Objective 1 - Think Homelessness!**

Check housing status for all patients on admission. If homeless in a hostel or temporary housing refer to the Homeless Healthcare Nurse Practitioner



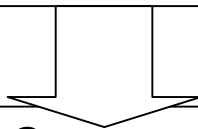
**Objective 2 - Homeless Team Coordinate Care**

Patient seen by Homeless Healthcare Nurse Practitioner, visited by the Homeless Ward Round, needs assessed and Homeless Care Plan started.



**Objective 3 Care Plan Meeting**

Complex needs cases referred to weekly Homeless Paper Ward Round for multi-agency Care Plan and Sanctuary assessment.



**Objective 4 Community Support**

HHP refers to Care Navigator Team & assesses need for Sanctuary Placement (ongoing medical needs, second admission in 12 months, and complex case).

## **Findings from the Pathway pilot at University College Hospital London**

The UCH needs assessment began in June 2009 and the service went live in October 2009. The UCH data is provided in order to allow comparison with data from Brighton and Sussex University Hospital NHS Trust.

### UCH A&E data

UCH data from 2008 showed 559 patients (recorded as NFA, or with local hostel addresses) attending on 1030 occasions. 46% of these attendances were by ambulance. Of those arriving by ambulance 19% were admitted, but 28% left without treatment. 71% of patients attended only once, but 5% of patients attended more than 6 times in the year, with an average of 10 attendances per person. This suggests a core group of high intensity users who could benefit from a targeted intervention.

### UCH Costs Data

On average each unscheduled admission (including A&E costs) for a homeless person cost £3399. The total expenditure on unscheduled admissions for homeless patients in the first 12 months (to September 2010) was £1,515,954, of which £333,102 was on re-admissions within 28 days.

## **Continuous Improvement Data from the ongoing Pathway homelessness service at UCH**

Following a successful pilot at UCH, the Pathway homelessness service has become a permanent feature and has been able to continue to gather data suggesting further benefits.

### "No fixed abode" admissions data

Patients admitted with "No Fixed Abode" (NFA) in the address field provides one crude method of approximating homeless patients – it is likely to include rough sleepers, although it will exclude hostel dwellers and "sofa surfers". However it does allow for a comparison of the situation before the service was introduced in 2008, during introduction in 2009 and 2010 when the service was fully operational.



**Total bed days and Average Length of Stay in days for Homeless patients (defined as those with "no fixed abode") admitted to UCLH by year, 2008 - 2010.**

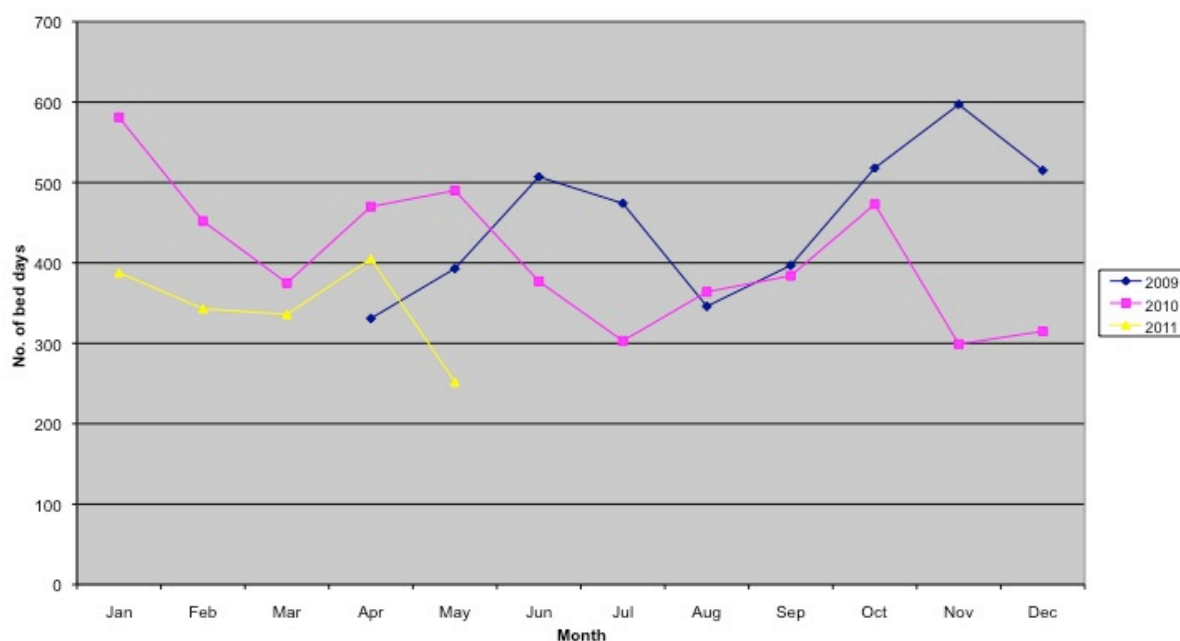
Source: UCLH inpatient data

	2008	2009	2010
<b>Total bed-days</b>	870	772	683
<b>Average Length of Stay (days)</b>	3.61	3.18	3.21

Monitoring of monthly bed days occupied by homeless patients referred to the team

This data is not just about NFA patients, but includes all the patients referred to the homelessness team, including rough sleepers, hostel dwellers and those who gave an address on admission but became homeless (or revealed their homelessness) during admission. The service began monitoring in June 2009 and went "live" in October 2009. The subsequent downward trend in homeless bed days (against a rising trend for homelessness in London) could be a positive effect of the Pathway approach.

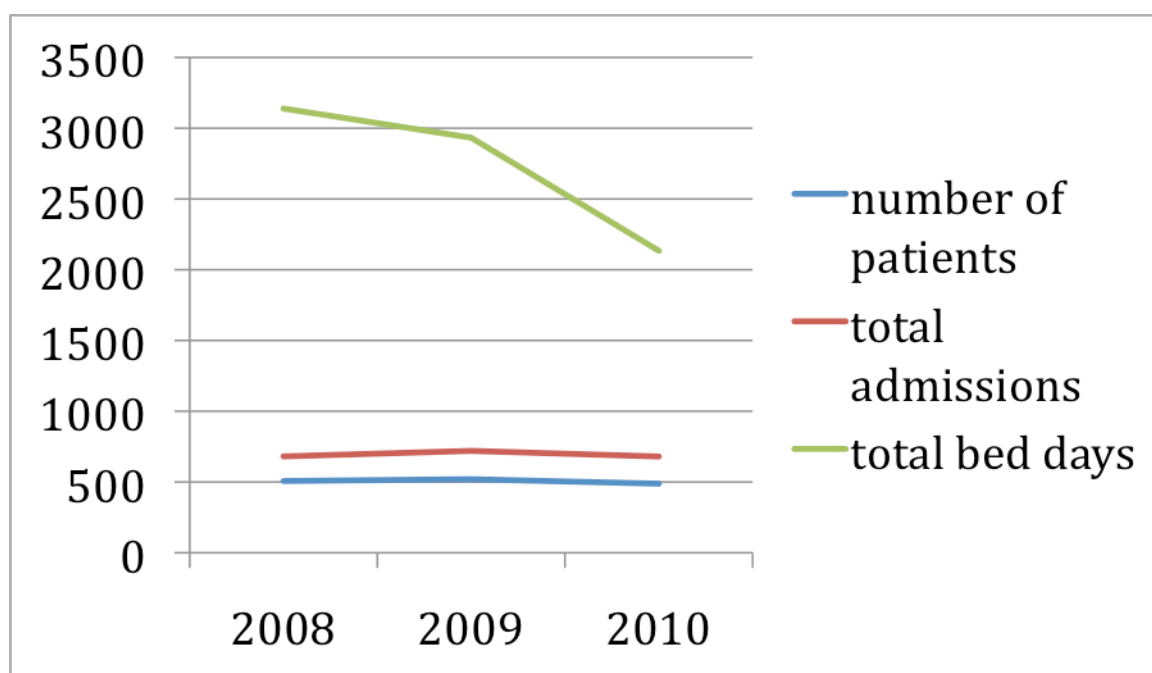
**No. of Bed Days occupied by homeless patients by month**



Monitoring of admissions of homeless patients to UCH to include patients not seen by the service.

Simply monitoring bed days associated with patients accepted by the homeless service leaves open the possibility that some patients could have been excluded from the analysis, leading to an unrealistically favourable outcome. In order to address this issue we have also monitored all admissions over a three year period, defined by those who are recorded as "no fixed abode" (NFA), or with an address at a homeless hostel in Camden, Islington or Westminster, or registered

with a specialist homeless GP practice in these Boroughs. The homeless service was introduced in the last quarter of 2009.



This graph shows that using an objective definition of homelessness, the number of individual patients, and the number of admissions was virtually unchanged over the period, but the number of bed days was reduced by a third, or one thousand bed days. This suggests more effective multi-agency management resulting from the Pathway approach.

### **Statistical analysis of 2010 Royal London admissions and A&E attendances for homeless patients**

A needs assessment has also been carried out at The Royal London Hospital, part of Barts and the London NHS Trust, this data is presented in order to offer further comparisons with the BSUH data

#### **Approach for isolation of homeless patient cohort**

For this analysis a homeless patient:

- Has no fixed abode (or variants) recorded on the Barts and The London NHS Trust main Patient administration system or
- is registered to the GP practice Health E1, Homeless Medical Centre (F84733) or
- has one of the following hostels as the recorded address on the Barts and The London NHS Trust main Patient administration system.
  - The Aldgate Hostel. 7 Dock St, London, E1 8LL

- Booth House. 153-175 Whitechapel Road London, E1 1DN
- Daniel Gilbert House. 1-5 Code Street London, E1 5ER
- The Hopetown Hostel. 60 Old Montague Street, London, E1 5NG
- Edward Gibbons House. 1, Edward Gibbons House, Parmiter St, London, E2 9NG
- Hackney Road Hostel. 296-302 Hackney Road ,London, E2 7SJ
- Dellow Centre, 82 Wentworth Street, London, E1 7SA
- Queen Victoria Seamens Rest. 121-131 East India Dock Rd, London, E14 6DF
- The Whitechapel Mission. 212 Whitechapel Rd, London, E1 1BJ

### **Admissions to Royal London Hospital**

During 2010, 660 homeless patients were admitted on 955 occasions, 524 (79.4%) were admitted only once 78 (11.8%) were admitted twice and 58 (8.8%) more than twice. Of the 295 repeat admissions, 150 were within 28 days of the previous admission. The average number of admissions per patient was 1.45.

The following table shows admissions by admission method group and separately identifies those that had re admissions within 28 days.

Admission Method	Count of 2010 admissions at the Royal London Hospital		
	No subsequent admission or next admission in more than 28 days	Had subsequent attendance in less than 28 days	Total
Emergency (via A&E)	569	108	677
Emergency (not A&E)	172	32	204
Elective	50	9	59
Maternity	6	0	6
Birth	5	1	6
Transfer	3	0	3
<b>Total</b>	<b>805</b>	<b>150</b>	<b>955</b>

### **A&E Attendances**

During 2010 1729 patients were seen on 2931 occasions, 1369 (79.2%) attended only once 158 (9.1%) attended twice and 202 (11.7%) more than twice. Of the 1,201 repeat attendances 494 were within 7 days of a previous attendance.

The following table shows attendances by disposal method description and separately identifies those that had re attendances within 7 days

Disposal Method	Count of 2010 A&E attendances at the Royal London Accident and Emergency Department		
	No subsequent attendance or next attendance in more than 7 days	Had subsequent attendance in less than 7 days	Total
Admitted to hospital bed/became a LODGED PATIENT of the same Health Care Provider	832	99	931
Died in Department	21		21
Discharged - did not require any follow up treatment	502	105	607
Discharged - follow up treatment to be provided by General Practitioner	526	125	651
Left Department before being treated	209	95	304
Left Department having refused treatment	21	9	30
Referred to A&E Clinic	11	4	15
Referred to Fracture Clinic	55	4	59
Referred to other health care professional	33	8	41
Referred to other Out-Patient Clinic	52	11	63
Transferred to other Health Care Provider	170	33	203
Other	3	1	4
Unknown	1		1
<b>Total</b>	<b>2436</b>	<b>494</b>	<b>2930</b>

Cost calculations.

The contract monitoring team have allowed the data analyst access to the live charging tables in their databases and he has isolated the income relating to the homeless patient cohort himself.

For the 2,230 A&E attendances he found 2,205 in the charging database with a total commissioner liability of £314,959.02

For the 955 hospital spells he found 913 with income of £1,853,554.80 before excess bed day (stays greater than the trim point) charges. Of these spells 33 had stays beyond the trim point triggering extra income of £130,501.24.

So about £2.3 million pounds of expenditure on this client group in 2010.

Statistical Data from Brighton and Sussex University Hospitals NHS Trust

	<b>Number of admissions</b>	<b>Number of patients</b>
<b>Total Admissions</b>	430	237
<b>1. Single Admission</b>	156	156
<b>2. Episodes with only 2 admissions</b>	86	43
<b>3. Episodes with more than 2 admissions</b>	188	38
<b>4. Multiple Admissions (point 2 + point 3)</b>	274	81
<b>Admission within 28 days of previous admission</b>	123	68
<b>Multiple admissions within 28 days of prev adm</b>	103	48

- In 2010, 237 homeless patients were admitted a total of 430 times
- 156 patients were admitted only once (65.8% of total patients)
- 43 patients had episodes in which they were only admitted twice (18.1% of total patients)
- 38 patients had episodes in which they were admitted more than twice (16% of total patients)
- 68 patients had an admission that was within 28 days of a previous admission (28.7% of total patients)

There were 274 multiple admissions. Of these 274 admissions, 123 were within 28 days of a previous admission (44.9%).

Out of the 81 patients with multiple admissions, 48 also had an admission within 28 days of a previous admission (59.3%)

### **Comparison of statistics between different Trusts**

Comparison between homeless admissions at UCH, TRL and BSUH in 2010; defined by NFA, registration with local homeless practice(s) or local hostel address. – this includes some patients who were apparently housed on admission but who are not able to return to their previous address, while not including those patients with a hostel address or a homeless GP registration who did not need input from the team and so were not referred to us.

Hospital (total beds in hospital according to Dr Foster Health)	Number of individual homeless patients admitted during 2010	Total number of homeless admissions during 2010	Number (%) of patients admitted more than once	Total number (%) of homeless re-admissions	Number (%) of re-admissions occurring within 28 days
UCH (901)	488	680	102 (20%)	294 (43.2%)	153 (51%)
RL (637)	650	955	136 (20.6%)	295 (30.9%)	150 (50.8%)
BSUH (556)	237	430	81 (34%)	274 (63.7%)	123 (44.9%)

It is interesting to compare these figures obtained from the hospital databases, with the actual number of patients referred to the Pathway homelessness team at UCH. We recorded 496 admissions for 308 patients referred to the team. This is roughly 2/3 of the potential patients suggested by these estimates from the records. Patients actually seen will include some patients who were apparently housed on admission but who were not able to return to their previous address, while not including those patients with a hostel address or a homeless GP registration who did not need input from the team and so were not referred to us. Although this analysis suggests that the total number of patients that might need to be seen at BSUH will be less than at RL and UCH, the numbers of patients re-admitted during the year is notably higher – and suggests that particular attention to this group of patients may be fruitful.

Comparison between homeless A&E attendances at UCH, TRL and BSUH in 2010; defined by NFA, registration with local homeless practice(s) or local hostel address.

	Number of individual homeless patients seen in A&E during 2010	Total number of homeless attendances at A&E during 2010	Number (%) of patients seen more than once	Total number (%) of re-attendances
UCH	2083	3474	489 (23.5%)	1859 (53.5%)
RL	1729	2931	360 (20.8%)	1562 (53.3%)
BSUH	Data awaited			

**Services consulted in and around Brighton and Sussex University  
Hospitals NHS Trust**

**The following people have been met with within the Trust:**

- Head of Nursing for Discharge and Deputy Head of Nursing for Discharge – Emma Sherriff and Fiona Boyle
- Deputy Director of Safety and Head of Nursing for Safety– Mark Renshaw and Paula Tucker
- Gastroenterology Consultant Physician – Stuart Cairns
- Acute/ Respiratory Consultant Physician and A&E Consultant Physician – Jenny Messenger and Alison Beadsworth
- Care of the Elderly Consultant Physician – Mark Bayliss
- End of Life Care Co-ordinator – Jane Stokes
- Associate Director of Safety – Adrian Twyning
- Respiratory Registrar/ Darzi fellow – Luke Hodgson
- Patient Safety Ombudsman – Delilah Hesling

**External to BSUH**

- Brighton and Hove Council: Jane Simmons, Adult Social Care; James Crane, Service Improvement Manager; Richard Denyer-Bewick, Homelessness Manager.
- Brighton Homeless Health – GP practice on Morley Street: Andrew Seymour, Practice Manager; Dr Twins, Senior GP; Thomas Holder, Management Trainee at The Practice Plc.
- Brighton Housing Trust – First Base Day Centre: Simon Hughes, Operational Manager.
- NHS Brighton and Hove: Elizabeth Tinley, Primary Care Commissioner; Miranda Scambler, Public Health Officer; Alistair Hill, Public Health Officer.
- St. John Ambulance Brighton: Lesley Heasman, Homelessness manager; Markie Barratt, Homeless team leader.
- Sussex Community Trust: Hospital Rapid Discharge Team members.
- Sussex Partnership Mental Health Trust: Erin Patten, Manager, Mental Health Homeless team manager; Andy Nuttall, Mental Health Liaison Nurse, A&E at BSUH



- Brighton Integrated Care Service (BICS): Peter Devlin and Jonathan Sarjeant, Clinical Directors; Zoe Nicholson, Operations Director.

**Key points of feedback received from Stakeholder meetings & liaison:**

1. It appears there is a lack of awareness amongst some hospital staff as to what constitutes a homeless patient. A common misconception appears to be that only rough sleepers are “homeless” whereas hostel dwellers and those housed in temporary accommodation are not. It is also been suggested that often a patient is not identified as homeless until right before discharge as it is often not been made apparent to staff, by the patient, before that point that the address they recorded as theirs on admission cannot be returned to.
2. There also appears to be a lack of awareness by hospital staff as to how many times the same patients re-attend. This is because they are often admitted to different wards on consecutive admissions and the notes may not be collated because of minor differences in recording of personal details.
3. The hospital is perceived, by community providers, to be quite isolated in its administration of care to homeless patients. Patients seem to disappear from view and key workers from community organisations are not able to find out what has happened to their clients while they were ‘unaccounted for’. The patients often cannot remember the details of their admissions for themselves and so the information which could be used to help them in the community is lost.
4. Many staff admit that they often do not have the time and/ or resources available to be able to deal in as great a depth as they would like with the complex needs of some homeless patients prior to discharge.
5. Number of readmissions within 28 days at BSUH show potential for Pathway implementation to be at least cost neutral if not cost saving.
6. There has been a widely positive response from all the stakeholders that have been met with regarding the possible implementation of a Pathway team at Brighton. Concerns that have been voiced are that of possible

workstream duplication and lack of communication, both of which the team would work hard to avoid. Everyone who has been consulted has agreed that improving the links between the acute trust and the primary care providers such for the homeless such as GP surgeries and St. John Ambulance first aid points on the sea front can only improve outcomes for homeless patients in the city.

**Opportunities at Brighton and Sussex University Hospitals Trust to benefit from the Pathway approach:**

1. Training for hospital staff around identification and treatment of homeless patients when admitted.
2. Improved channels of communication between the hospital and the community service provided as a result of the weekly multi-disciplinary meeting chaired by the GP.
3. The Pathway trained GP and specialist nurse will act as an additional and focused resource for homeless patients on discharge that will help the hospital achieve better post-discharge outcomes for these patients and take pressure off the discharge team. They will also hope to work in close conjunction with the mental health liaison team who welcome the prospect of additional support, as many of the patients they are called to see also fall in to this category.
4. Better outcomes on discharge are likely to contribute to patients being readmitted less frequently, in particular not within the new 28 day targets for readmission and 7 day target for unplanned re-attendance at A&E.
5. NIHR funding will allow BSUH to pilot this approach as part of a randomised controlled trial testing the robustness of the model with regards to admitted patients. This will offer a major contribution to the evidence base concerning hospital care for homeless people with complex needs and ensure that Brighton remains in the forefront of innovation in this field.

## References

1. The Marmot Review. Fair Society, Health Lives. Strategic review of health inequalities in England post-2010. London: The Marmot Review; 2010.
2. See <http://www.communities.gov.uk/publications/corporate/statistics/roughsleeping2009>
3. Jones A. and Pleace N. A Review of Single Homelessness in the UK 2000 to 2010. Crisis 2011. Available at [www.crisis.org.uk](http://www.crisis.org.uk)
4. DH Office of the Chief Analyst. Healthcare for Single Homeless People. Department of Health. 22 March 2010
5. Morrison DS. Homelessness as an independent risk factor for mortality: results from a retrospective cohort study. International Journal of Epidemiology 2009; 38:877–883
6. See [http://www.nuffieldtrust.org.uk/publications/Trends\\_in\\_emergency\\_admissions\\_BRIEFING](http://www.nuffieldtrust.org.uk/publications/Trends_in_emergency_admissions_BRIEFING)
7. O’Connell JJ. *Premature Mortality in Homeless Populations: A Review of the Literature*, 19 pages. Nashville: National Health Care for the Homeless Council, Inc., 2005.
8. O’Connell et al. The Boston Healthcare for the Homeless Program: A Public Health Framework. American Journal of Public Health August 2010; Vol 100 No 8:1400-1408
9. Faculty information at <http://www.collegeofmedicine.org.uk/faculties/faculty-care-homeless-people>