Brighton & Hove Preventing premature mortality audit (PPMA) - Briefing February 2015

Background

Brighton & Hove has significantly poorer (higher) mortality rates for causes considered preventable than England and the South East, and in particular under 75 mortality from respiratory disease – though it is average compared with comparator areas.

Around one third of all deaths in the city are in those aged 18-74 years and for many people under 75 years, deaths related to three key diseases (cardio-vascular disease (CVD), chronic obstructive pulmonary disease (COPD) or diabetes) can be prevented or averted.

This study aimed to determine potentially preventable risk factors for premature death from these conditions including:

- identification of disease
- quality of care
- lifestyles
- links between secondary and primary care

In order to look at what could be done in the future to prevent further 'premature' deaths.

Deaths from cancer were specifically not looked at within this audit (unless the patient had COPD or diabetes) as there had been a recent audit of cancer deaths in the city.

All GP practices across the city signed up to be part of the audit, a first for this type of work across the country which meant we could provide a comprehensive analysis across the city. It has been requested by Public Health England that the work be highlighted at regional workshops around England on Primary Care and Health Inequalities.

What we did

Data were linked from death registration records, primary care registers and lifestyles data, and secondary care admissions/attendance in the two years prior to death of 651 patients who died prematurely (aged 18-74 years) from or with the three conditions. These deaths accounted for 32% of deaths of those aged 18-74, or 10% of all deaths in the city over the three year period from October 2010 to September 2013, totalling 6,546 years of life lost under the age of 75 and so focusing on preventing/averting these deaths could have a significant impact on premature death rates and inequalities across the city.

There are two phases of the work: analysis of the data extracted and an in-practice audit being undertaken by a clinical facilitator who is further reviewing notes held in-practice. Phase one is complete and phase two is currently in progress (some emerging themes are given here but they should be treated with caution at this stage).

- **Age, gender and deprivation:** The majority of deaths were in patients aged 55-74 years and males and there is a relationship with deprivation but it is not the whole story. The rate in the east locality is almost double that in the central locality, and is significantly higher than the overall premature mortality rate for the city. Rates were significantly higher in Queen's Park, East Brighton, Hollingdean and Stanmer, and Moulsecoomb and Bevendean wards.

- **Lifestyles:** Rates of smoking, alcohol consumption above recommended levels and overweight/obesity were much higher than in the general adult population aged 18-74 years and those who were still smoking and drinking above recommended levels died significantly younger than ex or non-smokers and those drinking below recommended limits. There was little recording of advice or referral for lifestyles issues.

- **Practice disease registers:** Practices organise care for specific patients by maintaining disease registers of both those patients with established disease and those with risk factors and by providing systematic care to reduce risks, for example by managing blood pressure and cholesterol levels and by supporting patients to give up smoking. Around a third of patients dying from CVD were not on a related disease register in primary care and whilst most patients dying with COPD or Diabetes were, around a third were excepted from registers and may have been missing out on preventive care (patients can be excepted from registers for a number of reasons including patients not attending a review after three invitations, patients with terminal illness, newly registered patients, patients on maximum doses of medication or unable to take medication). The care of those who were on disease registers and not excepted was generally good. A high percentage of patients on relevant disease registers were also on a depression register.

- **Secondary care:** Contact with secondary care services was high with the majority of patients having had at least one hospital inpatient admission in the two years prior to their death (60%), this was much higher for patients who died with COPD (81%) or diabetes (80%). This emphasizes the importance of this audit not just in terms of preventing death, but also time spent in ill health. Though small in number, there were patients not on disease registers in primary care who had had hospital admissions coded for the disease and so should have potentially been investigated further in primary care and placed on registers – the in-practice audit is looking at the details of these cases further. A sizeable percentage of admissions were alcohol related, tying in with the findings from the primary care records and emphasising the need to support people with chronic conditions and alcohol issues better in the city.

- **Other emerging themes from the in-practice audit include:** Isolated patients; Alcohol; Complex medical problems; Obesity; Missed treatment; Sudden deaths; Multi-morbidity; End stage disease; Cancer and specifically lung cancer; Mental wellbeing and Housing

2

Resulting action:

On the basis of the findings from the first stage of the analysis, the Public Health team and Clinical Commissioning Group have each committed to funding three extra FTE Health Trainers (a total of 6 - taking the team from 4 to 10 FTEs) to work with GP practices to be able to provide more coordinated support for individuals with chronic conditions to improve their health behaviours.

The health trainer programme is a cost effective and well evidenced approach to reducing health inequalities and improving health outcomes. It works with individuals to take action across multiple health behaviours.

Next steps:

- The clinical facilitator is continuing to conduct the next phase of the audit and will work with practices to use the audit to look for missed opportunities to reduce preventable premature mortality within the services that had contact with these patients.

- Some of this will be done at practice level, but the information is also being used in meetings with clusters of practices to share learning and to draw together suggestions for practice across the city.

- At the city level the steering group will look for gaps in services and make recommendations for new or different services. It will also look at how effective the services were in delivering care and whether additional support or re-organisation would be recommended.

More detailed early findings:

Age, gender and deprivation

- The majority of deaths were of people aged 55-74 years (85%) and two thirds were of males.
- Across the city's practices, the premature mortality rate from causes included in the audit was 10.9 per 100,000 patients aged 18-74 years.
- There is significant variation across the city and a link with deprivation: the rate in the east locality is almost double that in the central locality, and is significantly higher than the overall premature mortality rate for the city. Rates were significantly higher in Queen's Park, East Brighton, Hollingdean and Stanmer, and Moulsecoomb and Bevendean wards.
- Deprivation might be an explanation for some of the differences in premature mortality rates across the city; but it is not the whole story. The audit looked at other factors which might help explain the level of variation in premature mortality across the city.

Lifestyles:

- Most patients did have recording of key lifestyles factors in their primary care records, with the exception of physical activity levels. Key contributory lifestyle factors in the premature deaths identified within the audit included:
- The general smoking prevalence in the city is 24% but for those who died prematurely from the conditions considered in the audit it was 46%, and for patients dying prematurely with COPD 56%.
- Whilst 42% of residents self-report a BMI classified as overweight/obese, 61% of those who died prematurely were overweight or obese, and 75% of those who died prematurely with diabetes.
- For all 18-74 year olds in the city 18% report drinking at increasing or high risk levels (>14 units per week for females and >21 units for males) compared with 29% of those dying prematurely of the conditions considered in the audit. Those dying with COPD (31%) and of CVD (28%) had the highest recorded rates of increasing/high risk drinking.
- Whilst all patients within the audit died under the age of 75 years, the median age at death is statistically significantly younger for patients with a coding for alcohol dependence at 58 years and for those drinking at increasing or higher risk levels (61 years) compared with 67 for those whose last recorded alcohol consumption was lower risk and 66 for non-drinkers.
- There was no association between alcohol consumption and deprivation.
- The median age at death is also statistically significantly younger for patients who are current smokers at 63.5 years than for ex-smokers (68 years) and those who have never smoked (66 years)
- Smoking rates were significantly higher in patients resident in the most deprived areas of the city.
- Those drinking at increasing or high risk levels were significantly more likely to smoke (68% were current smokers) than those drinking at lower risk (40%) or non-drinkers (37%).
- There was low recording of advice/referral for these lifestyles issues – this is being looked at further in the in-practice audit

Practice disease registers

- Disease registers in primary care were formalised as part of the new GP contract in 2004. Once patients with particular conditions have been identified, registers enable them to be monitored and

4

their condition and treatment reviewed more easily. Practices organise care for specific patients by maintaining disease registers of both those patients with established disease and those with risk factors and by providing systematic care to reduce risks, for example by managing blood pressure and cholesterol levels and by supporting patients to give up smoking.

- Around one in three people dying from CVD were not on a related disease register. This raises the question whether some CVD deaths could have been prevented or postponed had the patients been on a disease register and that some may have been missing out on preventive care. This is being explored further in the in-practice audit.

- For those dying from CVD or Stroke the median age of death was younger for those not on a related register than those who were.

- Identification was much higher for COPD and diabetes. However, around a third of patients with COPD and diabetes were excepted from registers and therefore potentially not being reviewed/monitored regularly – the high rates of patients being excepted is of concern and is being looked at as a key area in the in-practice audit.

- One possible reason for exceptions was that patients were on a palliative care register near the end of life and so excepted from other registers. Whilst this is still relevant for the audit it could explain high exceptions rates. However for most conditions few patients were on a palliative care register.

- We used a tool called attrition triangles to look at the care received within general practice for those on related registers and not excepted – focussing on key QOF indicators. With the exception of FeV1 for COPD and foot checks for diabetes most patients on registers, and not excepted, were receiving relevant checks and good quality care.

- A high percentage of patients on relevant disease registers were also on a depression register. Across the city 6% of adult patients are on a depression register but for those dying prematurely included in the audit, the figures were between a quarter and a third of patients (higher for those with diabetes and COPD than CVD)

Secondary care

- Contact with secondary care services was high which emphasizes the importance of this audit not just in terms of preventing death, but also time spent in ill health:
  - The majority of patients had at least one hospital inpatient admission in the two years prior to their death (60%), this was much higher for patients who died with COPD (81%) or Diabetes (80%)
  - 52% (338) had at least one emergency inpatient admission (range 0-26 admissions)
  - 34% (224) had at least one elective admission (range 0-49 admissions)
  - 69% (449) had at least one A&E attendance (range 0-44 attendances)
  - 69% (452) has at least one outpatients appointment (range 0-130 appointments)
- In total, the 651 patients included in the audit had 1,752 inpatient admissions (1,141 emergency and 611 elective), 1,761 A&E attendances and 5,610 outpatients appointments in the two years prior to their deaths

5

- These admissions equate to the following total number of bed days for each condition (please note patients could be included in more than one group so the total number of bed days for all patients is not the sum of these figures):
  - CVD – 6,417 bed days
  - Stroke – 1,641 bed days
  - COPD – 3,941 bed days
  - Diabetes – 5,693 bed days
- There was a large percentage of admissions which were alcohol related, tying in with the findings from the primary care records and emphasising the need to support people with chronic conditions and alcohol issues better in the city.
- There were cases where people were not on disease registers in primary care but had had an admission to hospital in the two years prior to their death with the disease coded – this is a key area being considered in the in-practice audit as potentially some of these patients should have been placed on disease registers although this is not necessarily the case and requires the in-practice audit work before more can be garnered from this.

Other emerging themes from the in-practice audit:

Four surgeries have been reviewed to date totalling 58 patients. Each death, the causes and circumstances leading up to this point have been reviewed. Each retrospective review has explored the patient's surgery notes and by examining the narrative seen in consultations and letter communications it is possible to follow the care patients received prior to their death.

A small number of patients had very little clinical data and it is likely that these patients might have only recently registered with a surgery. There is also missing contemporaneous data from post mortem's which might have shed light on the events leading up to death. Taking these issues away still leaves a large collection of data and clinical information which has allowed us to summarise the care and treatment patients received prior to their premature death. Key themes emerging so far are:

- Isolated patients
- Alcohol related death
- Complex medical problems
- Obesity
- Missed treatment
- Sudden deaths
- Multi-morbidity
- End stage disease
- Cancer / lung cancer
- Mental wellbeing
- Housing