

# **A Health Needs Assessment of the Farming Community in Derbyshire.**

**Dr Jane Bethea**

**Specialty Registrar in Public Health**

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# Executive Summary

## Purpose of the Health Needs Assessment

Derbyshire County is a large and diverse county that includes many areas that are classified as significantly rural. This level of rurality means that farming is a major contributor to the local economy and it is estimated that approximately 9000 people across the county are employed within the farming sector.

It is well documented in the literature that farmers are at increased risk of a range of health problems, including musculoskeletal conditions, asthma, depression and suicide. In 2003 and in the aftermath of the Foot and Mouth crisis, the then High Peak and Dales PCT completed a far reaching health needs assessment that also reported that the farming community locally were at increased risk of a range of mental and physical health problems, and in addition were also experiencing significant financial hardship.

Eight years on, this health needs assessment aims to revisit some of the key findings of the 2003 work, specifically it:

- Reviews the literature published since 2003 to look again at the physical and mental health status of the farming community and also health service utilisation by this community.
- Explores health status and utilisation of services locally through semi-structured interviews with key-stakeholders and routinely collected service data.
- Revisits income and changes in income from farming using data published through the Farm Business Survey.
- Reports changes in agricultural policy since 2003 and assesses the impact of these on the hill-farming community.

## Summary of the main findings

### ***Health and use of health services***

1. The farming community continue to be at increased risk of some physical health problems such as musculoskeletal conditions and asthma.
2. They also are at still at increased risk of suicide and mental health problems such as depression, which appear to be associated with a range of factors including financial hardship, the burden of paperwork and a generally 'stoic' approach to health and health care.
3. Accidents are also a significant source of mortality and morbidity in farming populations with the sector nationally employing just 1.5% of the general population but being responsible for 15-20% of all work related fatalities.
4. Zoonotic infections also contribute to morbidity in the farming community, with approximately 20,000 infections reported nationally each year.
5. This stoic nature means that farmers often present late and tend to leave health problems until they impact on their ability to work.
6. For a variety of reasons, including geographic isolation and the pace and nature of farming, health services in traditional settings may not be accessible to farmers.
7. Local farming specific initiatives in Derbyshire (the Farm Out clinic and the Farming Life Centre) are considered to be highly accessible and are well regarded by the farming community.

### ***Income and deprivation in farming***

1. There is a well known and documented link between deprivation and increased risk of both physical and mental health problems.
2. It is difficult to determine levels of deprivation in the farming community as income from business is not available on an individual or small area level. Individual level data is important as farm income is known to vary greatly from farm to farm.
3. Farms in Derbyshire in areas such as the Derbyshire Dales that are relatively affluent, may still experience significant material deprivation that is largely masked by the overall affluence of the area.
4. Income from farming has generally increased since 2003. Much smaller increases have though been seen in upland hill farming, with average net income being approximately £11,000 per annum. This is particularly

relevant in Derbyshire where a significant amount of farming is upland hill farming.

5. Financial problems continue to cause farmers anxiety and health professionals working with this community consider it to be a major stressor.

### ***Changes to farming policy***

1. Since 2003 there have been a series of significant changes in farming policy. These have included changes to the ways farmers access public payments.
2. The changes so far and also proposed future changes in agricultural policy mean that more farmers are now considering leaving farming. This will have an impact on both the local economy and also the landscape, as increasingly farming has played a role in bio-diversity and conservation.
3. Farming and particularly upland hill farming continues to be heavily reliant on public payments. This makes them very vulnerable to any changes in public payment policy.
4. Navigating changes to policy and associated payment is a significant cause of anxiety and stress in farmers.

## **Recommendations**

### *Service Development*

1. The Farm Out clinic provided by Derbyshire Community Health Service NHS Trust has an important role in bridging the gap between the farming community and health services provided in traditional settings, and it is recommended that the Farm Out clinic should continue to provide farming specific clinics in a non-health setting. This service might also benefit from additional resource to allow for a greater range of skill mix and provision, including for example staff with a specific role in supporting clients with mental health problems and staff able to prescribe.
2. In terms of primary care mental health services, in Derbyshire service commissioners are currently working to develop a broad service specification for the county that will be IAPT (Improving Access to Psychological Therapies) compliant. Within this there will be scope for local

clinical commissioning groups to tailor this broad specification to local need. It is therefore recommended that, particularly in areas with greater concentrations of farming families, the needs of the farming community are considered in this process.

### *Partnership working*

1. Farming and particularly hill-farming in Derbyshire is vulnerable to changes in public payments. Changes to these may mean that for some, farming is not sustainable. With this in mind it is recommended that the work done to date by NHS Derbyshire County in partnership with the Farming Life Centre and Growing Rural Enterprise Ltd to stimulate diversification is continued.
2. -Accidents continue to be a significant cause of mortality and morbidity in the farming community. It is therefore recommended that working with the Local Authority, farm safety initiatives locally be re-assessed.
3. -Paper work and bureaucracy can cause farmers and their families significant amounts of stress and they may benefit from advice and support from an organisation or individual with specialised knowledge of farming policy and payment procedures. It is therefore recommended that investment in this type of support in an accessible setting such as the Bakewell Agricultural Centre be considered.

### *Dissemination*

1. To raise the profile of the needs of the farming community, the findings of this Health Needs Assessment should be disseminated to all key local stakeholders. This should include the recently formed Clinical Commissioning Groups, the Local Strategic Partnership and also once developed, the Health and Wellbeing Board.

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## **Glossary of key terms**

DEFRA	Department for the Environment, Farming and Rural Affairs
ELS	Entry Level Stewardship
HLS	Higher Level Stewardship
HNA	Health Needs Assessment
IAPT	Improving Access to Psychological Therapies
LFA	Less Favoured Areas
OELS	Organic Entry Level Stewardship
PCT	Primary Care Trust
SPS	Single Payment Scheme



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## 1. Background and rationale

Farming is a major contributor to the economy in Derbyshire. There are approximately 3500 farm holdings across the county, providing employment for just over 9000 people. In terms of health, the farming community face some quite specific challenges. Farmers for example are more likely than the general population to suffer from depression (Sanne B 2004) and to die from suicide (Meltzer H 2008), have the worst fatal injury rate of any major employment sector and report 20,000 zoonotic infections each year (Health and Safety Executive 2010) .

Farm income is extremely variable and can be dependent on the type of farming that can be sustained on the land that is available. In Derbyshire for example, a significant amount of the farming is upland hill-farming, which gives low yield due to poor quality soil and less than ideal weather conditions. These farms tend to do less well financially and recent data suggests that whereas the average net farm income for all farms in England is approximately £43,000 per annum, the average net income for upland hill-farms is only one quarter of that amount at only £11,000 per annum (Harvey D & Scott C 2010).

In 2001 the then High Peak and Dales PCT in partnership with the East Midlands Development Agency set up the 'Farm Out' health project in response to the quite dramatic economic decline experienced by the farming community that was due to a number of factors, including the BSE and Foot and Mouth Disease crises and also rising costs. In 2003 as part of this project, a wide ranging Health Needs Assessment (HNA) of the agricultural community was produced by the PCT that addressed a range of issues, including the mental and physical health status of the farming community, their use of health services and also levels of deprivation experienced by this group, assessed by looking specifically at farm income.

This piece of work identified several key issues relating to health state, use of health services and deprivation. It found for example that use of health services was low amongst the farming community even though they reported a range of

physical and mental health issues. It also found that the farming community were experiencing quite severe financial hardship and that average earnings were extremely low at less than £3000 per annum.

A raft of recommendations came out of the needs assessment, including improving access to primary care services, providing support to reduce social isolation and also the provision of support to help farmers diversify their businesses and since then some local initiatives have been developed specifically to support the farming community. In 2003 for example a drop-in clinic accessible to farmers visiting the Bakewell Agricultural Centre for business purposes was funded by the PCT and in 2005 The Farming Life Centre, an independent charity, was set up to provide health, social and economic support and advice to the farming community within the Peak District area of the county.

Since the 2003 HNA there have been some national level policy changes such as changes to farming subsidies that have had a considerable impact on hill-farmers, and future changes are also proposed that too will potentially have far reaching consequences.

## **2. Aim and objectives**

The purpose of this HNA is to revisit some of the key findings reported in the 2003 HNA, specifically to look again at the issues of health status of and use of health services by the farming community, and also to revisit at levels of income as a measure of financial hardship.

The objectives of the HNA are:

- 1) To undertake a review of the literature published since 2003 relating to the health status of and use of health services by the farming community.
  
- 2) To explore issues relating to the health status of and use of health services by the farming community in Derbyshire through one to one interviews with health professionals who work with the farming community (including GPs, Health Visitors and Community Nurses) and through a descriptive analysis of data routinely collected by the Farm Out Clinic for evaluative purposes

3) To review changes in Farming policy introduced since the 2003 HNA that have impacted upon income and payment, to include the introduction of the Single Farm Payment, reform of the Hill Payment fund and the introduction of Stewardship schemes.

4) To determine farm income and changes in farm income since 2003 for all farms and also for farms classified as being in Less Favoured Areas (LFA) as Derbyshire has significant numbers of farms in areas classified as LFA.

### **3. Summary of the methodology**

A full description of the methodology adopted is given in appendix 1, but in summary a largely corporate approach to health needs assessment was taken, which involves the systematic collection of the perspectives of key informants. This included the perspectives of health professionals responsible for the delivery of services to the farming community, which included GPs, Community Nurses and Health Visitors. This approach has particular strengths in collating information, experiences and perceptions that reflect the local situation and environment and so aids local decision making (Stevens A 1998).

Semi-structured face to face or telephone interviews were conducted with a total of 10 health professionals identified as having caseloads or registered populations that included members of the farming community (2 GPs, 1 Community Matron, 3 District Nurses, 1 Health Care Assistant, 1 Health Visitor, 1 Physiotherapist , 1 Podiatry Assistant). An additional interview was also done with an Farm Crisis Network Co-ordinator who had a county-wide role in supporting the farming community. Issues covered by the interviews included physical and mental health status and use of and access to health and social care services. Data collected through the interviews were audio-taped and analysed using the Framework approach.

In addition and in line with the objectives of the HNA, a review of the literature published since the 2003 HNA was also undertaken. This looked at health status and utilisation of health care services by the farming community and also reported

changes to the Common Agricultural Policy introduced since 2003. In terms of the health aspect of the literature review a total of 28 articles were identified and included in the review. In terms of the policy and income aspects, this element of the review relies largely on reports from bodies such as DEFRA. Two UK research studies looking specifically at the impact of changes in policy are also included and provide evidence around the future impact of proposed policy changes. All of the studies included are summarised along with their key strengths and limitations in relation to the HNA in appendix 3.

Data collected routinely by the Derbyshire 'Farm Out' clinic for monitoring and evaluation purposes was also used to describe the health status of farmers locally. This included data relating to the number and nature of nurse and physiotherapist consultations.

Finally income and any changes in farming income was determined using DEFRA data relating to output prices and farm business income.

## 4. Findings

### 4.1. Derbyshire County: rurality and extent of farming activity

As shown in Table 1, Derbyshire is a very diverse county that has areas that are relatively affluent and then others that are relatively deprived. Bolsover for example has an Indices of Multiple Deprivation score of 28.93 and ranks 55th of 354 local authorities in England whereas the Derbyshire Dales has a score of just 12.53 and ranks 254th.

Derbyshire is also a very rural county, with 6 out of 8 of the districts classified to some degree as rural. According to DEFRA classifications for example (see Figure 1), High Peak and North East Derbyshire are classified as 'Rural-50', this meaning that they are areas where at least 50% of the population but less than 80% live in rural settlements and larger market towns. The Derbyshire Dales are classified as 'Rural-80' which means this area is the most rural in the county, with at least 80% of the population living in rural settlements or larger market towns.

#### Figure 1: DEFRA rural classifications

- **Large Urban:** districts with either 50,000 people or 50 per cent of their population in one of 17 urban areas with a population between 250,000 and 750,000
- **Other Urban:** districts with fewer than 37,000 people or less than 26 per cent of their population in rural settlements and larger market towns
- **Significant Rural:** districts with more than 37,000 people or more than 26 per cent of their population in rural settlements and larger market towns
- **Rural-50:** districts with at least 50 per cent but less than 80 per cent of their population in rural settlements and larger market towns
- **Rural-80:** districts with at least 80 per cent of their population in rural settlements and larger market towns

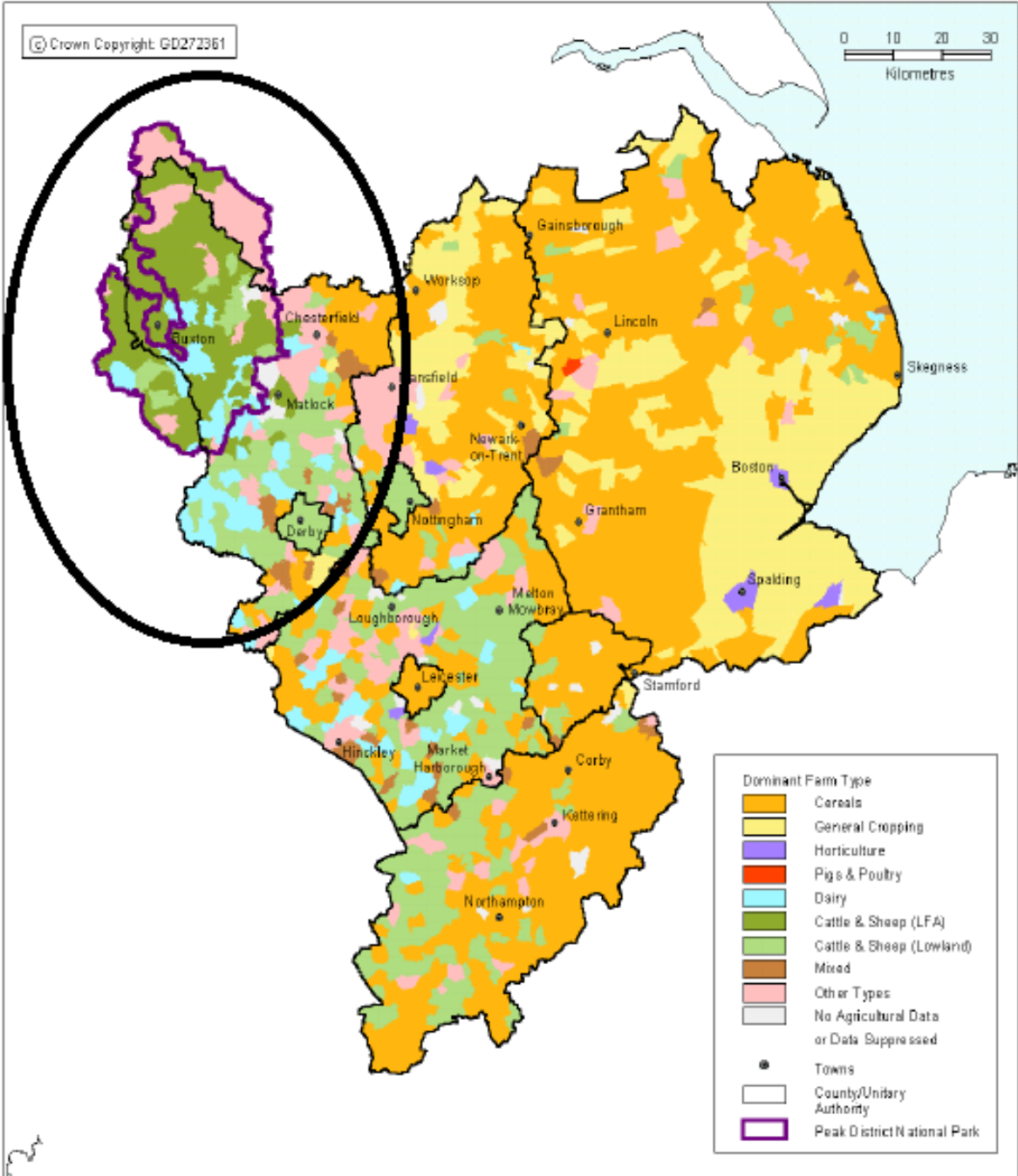
In terms of the extent of farming in the county, there are approximately 3500 holdings employing 9000 people. As shown in **Figure 2**, although there is some diversity in type of farming across the county, a significant amount of the farming in Derbyshire is upland hill farming in areas that are classified as Less Favourable Areas (LFA), with a significant number of these farms found in the Peak District area of the County. Upland farming can be particularly challenging as factors such as soil quality and weather conditions can impact upon both the type of farming that can be sustained and also the yield of any farming activity.

**Table 1: Deprivation, population and rurality**

Area	IMD score*	Total Population	Large Urban Population	Other Urban Population	Large Market Town Population	Rural Town Population	Village Population	Dispersed Population	Total Rural Population (including Large Market Town population)	Rural% (including Large Market Town population)	Classification**
Amber Valley	18.12	116,484	41,215	24,848	21,972	9,745	13,618	5,086	50,421	43.29	SR
Bolsover	28.93	71,762	-	37,947	-	25,767	5,795	2,253	33,815	47.12	SR
Chesterfield	25.75	98,769	-	96,936	-	313	1,263	257	1,833	1.86	OU
Derbyshire Dales	12.53	69,616	-	-	11,254	24,489	28,063	5,810	69,616	100.00	R80
Erewash	17.98	110,095	91,037	8,048	-	5,567	4,091	1,352	11,010	10.00	LU
High Peak	15.34	89,574	-	29,770	20,827	22,279	9,684	7,014	59,804	66.76	R50
NE Derbyshire	17.37	96,833	550	24,710	21,110	30,528	13,564	6,371	71,573	73.91	R50
South Derbyshire	13.93	81,693	-	46,398	-	20,721	11,257	3,317	35,295	43.20	SR
East Midlands		4,172,055	1,108,103	1,489,700	341,791	647,499	473,248	111,714	1,574,252	37.73%	

Source: <http://www.ons.gov.uk/about-statistics/geography/products/area-classifications/rural-urban-definition-and-la-classification/rural-urban-local-authority--la--classification/index.html> \*Source: Indices of deprivation 2007. Derbyshire District summary measures: [http://www.derbyshire.gov.uk/community/about\\_your\\_county/deprivation/default.asp](http://www.derbyshire.gov.uk/community/about_your_county/deprivation/default.asp)

**Figure 2: Farming in the East Midlands**



Source: Farm Business Survey 2009.  
<http://www.farmbusinesssurvey.co.uk/regional/commentary/2009/eastmidlands.pdf>



## 5. Literature review: health status and health care utilisation

### Summary of the key points:

- People living in rural areas are more likely to experience 'distance decay' which can mean reduced uptake of services and late presentation.
- Farmers are more likely to commit suicide than the general population and to have symptoms of depression. This may be linked with a range of factors including financial hardship, 'red-tape' and experiences of disease outbreaks or natural disasters.
- Farmers may consider themselves to be healthier than the general population but are at increased risk of a range of physical health problems, including asthma and musculoskeletal conditions.
- Farmers may be less likely to access health care in traditional settings but do utilise and value 'farming specific' clinics in non-health settings.

#### *5.1.1. Health and health care in rural areas*

In understanding the health and social issues faced by the farming community, it is important to also consider the issues faced by people living in rural areas more widely. These include an ageing population, variable levels of deprivation and hidden deprivation in these communities, and the role distance decay has to play in health outcomes.

There is a well documented association between socio-economic status and both mental and physical health status. However, the main focus of research and policy around addressing health inequalities has been inequalities experienced in urban and inner-city areas with less emphasis on the experience and impact of deprivation in rural communities. This focus may reflect difficulties in measuring deprivation accurately in rural areas in comparison to urban areas and it has been argued that many indices commonly used in health research do not adequately reflect levels of true deprivation in rural communities (Barnett S 2001). A core measure within many indices is for example car-ownership and whereas this may be appropriate for life in urban areas where public transport and proximity to

services does not make car- ownership a necessity, this is not the case for families living in rural areas.

Distance decay has been defined as '*where there is a decreasing rate of service use with increasing distance from the source of health care*' (Deaville JA 2001). Major factors that contribute to distance decay are barriers to accessing services that are both geographical and cultural in nature. In terms of geographical barriers, these include limited access to adequate public transport and also the changing nature of many health and social care services where there has been a move towards centralisation of service delivery (Commission for Rural Communities 2008) These issues are obviously closely related and in a recent study of elderly people's perspectives of health and well-being in rural communities, both issues along with the changing nature of general practice out of hours services were seen as significant barriers to services (Manthorpe J 2008).

Cultural barriers, such as an increased sense of stoicism and also a perceived sense of stigma associated with some health issues, such as mental health problems can also act as barriers to access. In a study of people with mental health problems living in rural Scotland for example, having mental health problems was often associated with negative stereotypes and experiences (Parr H 2004). In this study one respondent talks of the local community raising a petition to raise their objection to having someone with known mental health problems in their community. Others reported feelings of rejection and isolation:

*"...people that I'd known all my life couldn't... I would say 'hello' to them if I met them and they'd look straight through me, and walk away, or talk to someone else...It was as if I didn't exist."*

The consequences of distance decay include later stage diagnosis for some conditions and late or reduced uptake of some services. A study of uptake of cardiac rehabilitation services by people living in rural areas for example, found that access problems including location of services and availability of public transport were major barriers to service use (Harrison 2005). Also a study of stage of disease for colorectal and lung cancers at diagnosis, found that people living in rural areas and so a greater distance from services were more likely to have disseminated disease at diagnosis (Campbell NC 2001).

### *5.1.2. Mental health of the farming community*

People living in rural areas can then face some particular difficulties and issues in relation to health status and health care utilisation. The farming community do by the very nature of farming live in rural locations, but in many cases are more geographically isolated than people living in rural settlements such as villages or small market towns. This potential for both geographical and social isolation coupled with an often variable and limited income means that the farming community may be at particular risk of a range of physical and mental health problems.

In terms of mental health, there is some evidence that the mental health of people living in rural areas in the UK is slightly better than that of people living in urban areas. A large scale cross-sectional study utilising Health Survey for England data for example found that common mental health problems such as depression and anxiety were less prevalent in rural/village locations than in urban/city locations (14.8% compared to 18.4%). However this study also reported significant variation within rural locations, with reported prevalence varying from 8.5% to 23.8%. The authors concluding that the degree of variation observed is evidence of health inequalities within rural areas (Riva M 2009).

The observation though that better mental health is reported in rural areas may be confounded by the fact that those with severe mental health problems may be more likely to move to urban areas where mental health services are more frequently located. Also social drift associated with mental health problems may also lead people previously living in rural areas to move to more urban settings.

There is also evidence of increased risk of suicide and suicidal intention in those living in rural areas. An analysis of suicide trends in the period 1991 – 1998 for example found unfavourable trends in rural areas, with suicide rates in young women aged 15-24 years doubling in the study period, a trend not observed in young women living in urban areas (Middleton N 2003). Farmers specifically are also at greater risk of suicide compared to other occupational groups (Meltzer H 2008) and are significantly more likely to report suicidal intention (Thomas HV 2003).

This increased risk of suicide in farmers is not specific to the UK, and has also been reported in other countries, including the United States (Browning SR 2008) and New Zealand (Gallagher LM 2008). It has been argued that access to fire arms is associated with increased suicide in this group. A case-control study done in the UK for example reported that farmers were significantly more likely to use a fire arm to end their lives. The authors suggest that this coupled with the fact that they were also less likely to leave a suicide note is evidence that farmers are an increased risk of dying in an impulsive suicidal act. They also suggest that farmers with known mental health problems should have their access to fire arms removed as this may reduce the number of deaths to suicide in this population (Booth N 2000)

This increased risk of suicide in the farming population does then suggest underlying psychiatric problems such as depression and anxiety. Mental health problems have though been long been associated with stigma and there is evidence that in the farming community feelings of depression or anxiety are often hidden. A study of farmers in the UK for example found that farmers were unwilling to talk about their mental health and tended to describe mental health issues using terminology such as 'worry' or 'feeling down' (Health and Safety Executive 2005).

Possibly the largest study done into farmers risk of depression and anxiety was a cross-sectional study done in Norway that compared the prevalence of depression and anxiety in working adults (farmers and non-farmers) aged 40-49. This study found that compared to non-farmers, male farmers in particular were twice as likely as non-farmers to reports symptoms of anxiety or depression according to the Hospital Anxiety and Depression Scale. Lifestyle and demographic information was also collected as part of this study and males farmers had lower income and reported longer working hours than non-farmers (Sanne B 2004).

However, it has also been reported that farmers in the UK have lower levels of psychiatric morbidity than the general population, but that they are more likely to report suicidal intention. The authors of this study conclude that this may suggest that farmers might consider suicide at lower levels of stress than would the general population (Thomas HV 2003). However, in this study of the 425 farmers that participated, only 10% reported having any financial difficulty. This may be an

important feature of the study as financial difficulty in farming, particularly in hill farming areas is not unusual and is known to be a factor that contributes significantly to feelings of stress and anxiety (Health and Safety Executive 2005).

In addition to financial hardship, other factors that have been reported as contributing to feelings of depression and stress in farmers include long working hours and the burden of paperwork. Farmers participating in a large scale qualitative study in the UK for example cited paperwork and 'red tape' as a major stressor that took them away from the business of farming and that had become increasingly complex and easy to get wrong (Health and Safety Executive 2005):

*"I am on edge, all day before you know, and getting cows in and looking at their numbers and making sure I filled [the] form in right, because if you make a mistake on the form they will throw the bloody thing in...they can get things wrong and it doesn't matter. But you know if you haven't crossed the 't' and dotted the 'i' they wield a big stick all time"*

In another smaller qualitative study of citrus growers in South Australia, a range of factors were found to contribute to stress (Staniford AK 2009). These included events that were beyond the control of the farmer – such as adverse weather conditions and the effects of the global markets, as well as financial hardship. This was an issue discussed by all participants and included the effect of working at a financial loss and the unpredictable nature of payments. These stressors did for some lead to physical and mental health problems, including depressive symptoms, one participant for example remarked:

*" I've lost my optimism about citrus and most things actually. No, I can understand people getting to the brink, of like, suicide".*

Few of the farmers interviewed in this study had though accessed health services. Several barriers to accessing health services were identified, including feelings of self-reliance and the social image associated with ill-health, mental health problems being considered as 'insanity' for example.

Disease outbreaks such as Foot and Mouth and natural disasters such as sustained drought can also have a significant impact on the mental health of the farming

community. The UK was hit particularly hard by Foot and Mouth in 2001, and the impact on the farming community was devastating with between 6.5 and 10 million animals slaughtered to prevent further spread of the disease. This period had an enormous effect on the farming community and in 2005, a large qualitative study reported that it had resulted in a range of physical, psychological and social problems, including increasing anxiety and stress, deterioration in chronic conditions and increased social isolation (Mort M 2005). Farmers in the Netherlands also suffered significant losses in the 2001 outbreak and a study of the impact of this found that approximately half of farmers whose animals were culled went on to suffer symptoms suggestive of post-traumatic distress (OLFF M 2005).

In addition to financial hardship, disease outbreaks and increasing 'red-tape', there is also evidence to suggest that depression in the farming community may be associated with pesticide exposure. A cohort study in the United States for example reported that both acute exposure and cumulative exposure to pesticides (insecticides, organophosphates and organochlorides) were associated with a significantly increased risk of depression (Beseler CL et al 2008). A recent 2010 study of low level exposure to organophosphates in UK sheep farmers also found increased levels of depression and anxiety in those who had been exposed, with approximately 50% of cases (sheep farmers) being above a clinical cut off for depression compared with 7% of controls. This study did though use non-farmers as controls as they hypothesised that it would be impossible to find sheep farmers that had not been exposed to organophosphates during their working life. This difference in depression and anxiety could then be related to generally higher levels of depression and anxiety in the farming community and so it cannot say with certainty that the difference observed was caused by exposure to organophosphates (Mackenzie SJ et al 2010).

Although much of the literature around the mental health of the farming community focuses on farmers, there is some evidence around both the mental health status of the wider farming community, including farmer's wives. The role of the farmer's wife was explored as part of a large study published in 2005. This large scale qualitative study found that the role of the farmer's wife was largely underplayed and that they provided a number of key roles including book keeping, housework, childcare and managing any diversification business. They also

concluded that they provided important support to their husbands and were often 'emotional caretakers', even though they did often report having depressive symptoms themselves. The authors concluded that family support was an important feature of farming and that divorced or single farmers were more likely to be at risk of stress and depression (Health and Safety Executive 2005).

### ***5.1.3. Physical health of the farming community***

In terms of physical health status, there is evidence that there is a U shaped relationship between illness and rurality, with those living in remote rural areas along with those in urban areas, having higher rates of limiting long term illness than those living in semi-rural areas (Barnett S 2001). In addition, studies have found poorer outcomes for people living in rural areas in relation to IHD mortality in hospital or within 28 days of discharge (Levin KA 2006) and also have poorer survival for colorectal and lung cancer due to stage of the disease at diagnosis (Campbell NC 2001).

According to statistics published by the Health and Safety Executive, farmers are significantly less likely than other professional groups to have time off work due to sickness. This is despite them being at increased risk of a range of health problems, including asthma, musculoskeletal disease and skin cancer (Stocks SJ 2010). Farmers are also more likely than those working in other occupational groups to suffer work related injury. A review of factors influencing agricultural injury published in 2009 reported that a range of factors are associated with injury in this setting. These included prior injury and rapid return to normal activities, hearing loss, sleep deprivation and depression (Voaklander DC 2009).

In the agricultural sector and in farming particularly, accidents are a significant source of both morbidity and mortality. The Health and Safety executive report for example that although less than 1.5% of the working population are employed in the agricultural sector, it is responsible for 15%-20% of employment related fatalities each year. In 2009/10 for example there were 45 deaths in this sector, with the main cause being vehicle related accidents (Health and Safety Executive 2010a).

Although farmers themselves make up a significant number of deaths, children and young people living and or working on farms are also at risk. In the period

1998 to 2008, 31 young people aged under 16 years in the UK died in work related accidents. These incidents included falling from vehicles, being struck by moving vehicles and also contact with farm machinery (Health and Safety Executive 2010b)

In addition to death from farming related accidents, farmers and their families are also at risk of injury. A large scale study of farming households in Ireland found that 20% of households reported having a family member with some form of disability. Of these, 80% were physical and a quarter had resulted from accidental injury. In terms of young people, a study of insurance fund reports done in Poland found that in a ten year period 449 accidents were reported, with more injuries reported in boys aged 13-15 years (Sosnowska S 2007).

In terms of their own perception of their health, a large scale qualitative study of 60 farmers reported that farmers in general consider themselves to be healthier than people from other occupational groups. Farmers' wives considered the farming lifestyle to have particular benefits for their children and generally the participants considered themselves to have greater stamina than people working in office jobs (Health and Safety Executive 2005).

#### ***5.1.4. Health service utilisation by the farming community***

Although there is relatively little research published around how farmers access and utilise health services, they are generally considered to have a 'stoic' nature which is likely to impact upon their utilisation of health care. In a UK study around improving access to health services by the farming community for example, Burnett and Mort reported that relatively few of the health problems experienced by farmers were actually reported to and so treated by a health professional. In addition, most of these problems were not acute and many had persisted for over a month (Burnett T and Mort M 2001).

Attitudes towards and knowledge of health care and health care services can also impact upon utilisation. A recent cross-sectional study of Australian farmers for example found that although many had risk factors for heart attack, there was a good deal of confusion in relation to what they should do if they experienced chest pain. It was for example thought safer to be driven to a hospital if experiencing chest pain than to utilise ambulance services. Some also reported that if they



experienced chest pain, they would access emergency departments in towns where these services were not actually provided (Baker T et al 2011).

#### ***5.1.5. Interventions aimed at improving the health of the farming community***

The stoic nature of the farming community coupled with their increased risk of some physical and mental health problems has meant that in the UK some health care providers have developed farming specific clinics. These clinics are not widespread in the UK and although it is difficult to determine their exact number, it is likely that only a handful are currently in operation. Those that are in operation offer a range of services, such as drop in clinics in non-health care settings such as markets or auctions and offer both treatment, referral and sign-posting to other services.

There is little formal evaluation or research published around the impacts or acceptability of these clinics. However, developed as part of a piece of action research in the late 1990s and still running, 'The Farmers Health Project' in the North West of England has been formally evaluated. This service provides a range of services for the farming community, such as the provision of health care in non-health care settings, including a mobile service where farmers could access a Nurse Practitioner and a Nurse either for a specific problem or for a general check-up. The evaluation of this service found that it was identifying unmet need, with 56% of those attending for a general check-up having a health problem that required treatment (Burnett T and Mort M 2001).

The evaluation concluded that the service had improved access to services for the farming community, had developed trust between health care providers and farmers and had also identified a significant amount of unmet need to in relation to both physical and mental health. The evaluation also found that the service was considered to be acceptable and highly valued by the farmers using it.

In addition to farming specific health services, there have also been innovative projects that have aimed to address the mental health of the farming community. One such project was undertaken in Derbyshire and aimed to empower young farmers through the delivery of arts focused health promotion activity (Syson-Nibbs L 2009). One hundred young farmers participated in this project that included them photographing their experiences of farming and rural life. The objectives of the project being to provide them with a range of skills around both

photography and other more general skills such as literacy, numeracy and marketing and to also help them to extend their understanding of what act as potential stressors in their lives.

The project was evaluated and the participants felt that the experience had brought people together who were often isolated, and had improved confidence and skills. The project had also given the participants the opportunity to share their work and so their experiences and concerns with both the public and also government officials through well attended exhibitions of their photographs.

#### **5.1.6. A 'blue-print' for health and well-being**

In 2004 and 2005 there were a number of programs introduced in the New South Wales region of Australia in response to the mental health problems observed in farmers and members of the rural community following a protracted period of serious drought, including growing suicide rates in older farmers. The culmination of this range of programs was the development by the NSW Farmers Mental Health Network, of the '*NSW Farmers Blueprint for Maintaining the Mental Health and Well-being of the People on NSW Farms*'. This model, developed in collaboration with key stakeholders, identified both the pathway to mental health breakdown in the farming community and also appropriate areas for action to reduce the risk of mental health break down (Fragar L 2008). The model developed is shown in Figure 3 and includes 22 'pathways to health', including for example the Mental Health First Aid and improved access to mental health resources and counselling services.

Although large-scale evaluation of the impact of both the network and the blueprint are not yet complete, there is evidence that their introduction is having some impact. Begg and Thompson for example in a service improvement project found that following the introduction of the network, there was a substantial and sustained increase in the uptake of health services by farming families, even when the long drought period was broken by rain. The services most commonly accessed were psychological support and social work services, followed by community nursing. Half of all contacts to mental health services were from men (Begg P & Thompson S 2008).

**Figure 3: The NSW Famers Blueprint for Mental Health and well-being**

<b><i>Pathways to breakdown</i></b>	<b><i>Pathways to health</i></b>
<b>External pressures on business</b>	1. Advocacy for farm support
<ul style="list-style-type: none"> <li>• Economic, markets</li> <li>• Regulatory</li> <li>• Climatic</li> </ul>	2. Advocacy for improved regulations
<b>High stress levels on the business, the family and individuals</b>	3. Programs to increase business, family and personal resilience
	4. Access to Rural Financial Counsellors
	5. Access to Drought Support Workers
	6. Access to appropriate welfare support
<b>Feelings of loss of control</b>	7. Practical assistance in compliance with regulatory requirements
<b>Poor problem solving/rigidity/high Expectations/difficulty coping with change</b>	8. Change management skills and development
<b>Loneliness /social isolation</b>	9. Local community building programs- building social networks/opportunity
	10. Professional network building
<b>Feelings of worthlessness, hopelessness, despair</b>	11. Building positive view of farming from city perspective
	12. Farm Pride campaign
<b>Alcohol misuse</b>	13. Improved access to drug and alcohol programs and services
<b>Lack of knowledge/insight into nature of mental health problems in rural NSW/available services</b>	14. Mental health first aid training
	15. Reduced stigma associated with mental disorder
<b>Clinical depression/other mental disorders</b>	16. Improved access to effective mental health resources
	17. Improved access to effective mental health services, including Primary Care detection and treatment
<b>Family breakdown</b>	18. Improved access to counselling services
<b>Previous suicide attempt/ suicide threat/ suicide plans</b>	19. Access to crisis lines
<b>Access to firearms</b>	20. Mental health first aid for farm family members and community
<b>Suicide</b>	21. Debriefing and counselling services
	22. Appropriate media

### **5.1.7. The Farmers Health Charter**

In Australia in 2010 at the inaugural conference for the National Centre for Farmer Health, a charter for farmer health was developed (National Centre for Farmer Health 2010). This was done over a period of three days by bringing together key messages from speakers contributing their work at the conference. The speakers reflected international interests and included work done by Linda Syson Nibbs, a Nurse Consultant in Public Health employed by NHS Derbyshire County.

The aim of the charter was to develop a clear statement on the health of farmers that could be used to advocate for their health across a range of sectors and outlines the key actions required to improve the health of the farming community. The full charter is given in appendix 4, but some summary points from the charter are given below:

**Valuing culture:** There is a need to recognise the culture of farming, that women's health may not be prioritised and men may have some difficulty in expressing their health concerns. There is also a need to recognise that farming is a family orientated and life long career which is key in determining the identity of the farming community. When there are problems in the farming sector or generally in the work setting this can impact significantly on this identity.

**Live with work:** Farmers live and work by clocks that are ruled by biological and seasonal laws. This means that farmer orientated health programmes should work within these time frames. They should also bring together individuals from many sectors including public health, animal and veterinary medicine and social care. Poor health in the farming community should not be accepted and pain, injury and poor outcomes should be de-normalised.

**Future Proofing Farms:** Health well-being and safety should be seen as an important feature of farming sustainability. Change occurs frequently in farming and successful health programmes need to have the ability to monitor this and ensure that services are flexible to this change.

**Build skills and knowledge:** There is a need to develop an evidence base around the health of farmers and also a need to implement knowledge. Also, agricultural health should be woven into all relevant higher education courses such

as medicine and veterinary science. Students should also have the opportunity to access placements in remote rural areas.

**Create political momentum:** The health and well-being of the farming community needs to be higher on social and political agendas and achieving this requires effective advocacy from a range of stakeholders across sectors.

As the charter is a recent development, its impact to date is difficult to determine. However it does appear to have generated interest and in Australia for example some Councils (Local Authorities) have already welcomed and accepted it (Western Wellbeing 2011).

## 6. Changes in Farming Policy in the UK since 2003

### Summary of the key points:

- Farmers have reported that 'red-tape' and worries about finances contribute significantly towards their stress levels.
- The paper work associated with farming payments is complex and this complexity is heightened by frequent changes to the process.
- There has been a raft of fundamental changes in farming policy since 2003 that have impacted heavily on the farming industry. These have included the move to the Single Payment System and the introduction of stewardship schemes.
- The changes have been associated with an anticipated move towards fewer but larger farms.
- Proposed changes to the Common Agricultural Policy post 2014 may lead to more farmers leaving the industry.

### *6.1.1. Reform of the Common Agricultural Policy: Introduction of the Single Payment Scheme*

Prior to 2005, there were 11 subsidy schemes in place in England to support the farming sector. These were:

- Arable Area Payments Scheme
- Beef Special Premium
- Extensification Payment Scheme
- Sheep Annual Premium Scheme
- Suckler Cow Premium Scheme,
- Slaughter Premium Scheme
- Veal Calf Slaughter Premium Scheme
- Dairy Premium
- Dairy additional payments
- Hops Income Aid
- Seed Production Aid.

However, following criticism from the World Trade Organisation that this approach was unfair and was giving farmers in the EU an unfair competitive advantage, in 2003 EU farm ministers reformed the Common Agricultural Policy (CAP) and introduced the Single Payment System (SPS). This was the single biggest reform

of the Common Agricultural Policy in over 30 years (House of Commons 2006) and was implemented in England by DEFRA in 2005.

The SPS replaced all 11 former subsidy schemes and was introduced to separate or 'de-couple' subsidised payments from production, which meant a shift from farmers being paid different amounts according to what they produced to a set amount paid per hectare of agricultural land. This new approach aimed to ensure that farming was driven more by market forces and demand rather than by the subsidies available for different products.

Eligibility criteria for the SPS include that the claimant:

- Is a farmer
- Holds SPS 'entitlements' with an eligible hectare of land for each entitlement.
- Meets cross-compliance requirements, which relate to Statutory Management Requirements (articles from EU Directives and Regulations that are applicable to farmers and address for example environmental and animal welfare) and requirements that land must be kept in Good Agricultural and Environmental Conditions (set requirements for soils, maintenance of habitats and landscapes characteristics of the English countryside).

Implementation of the SPS was phased and began with the system being based on two elements -the historic receipt of subsidies and an area-based payment – moving to a solely area based payment system by 2012/13.

The implementation of the SPS has though proved to be problematic and in 2006 DEFRA announced that it would not be able to meet its deadline for implementation. This led to an inquiry by The Environment, Food and Rural Affairs Committee which reported that this failure led to a loss of £18-22.5 million for English farmers, and also resulted in a significant disruption to the wider rural economy (Audit Office 2006). However, uptake of the SPS has overall been high and recent data for 2009 reports that SPS entitlements are activated on 93% of eligible land. Uptake has though been lower in some farming sectors, including pig, poultry farms and also for small holdings where uptake of the SPS fell by 20% between 2005 and 2007 but has since stabilised (DEFRA 2010).

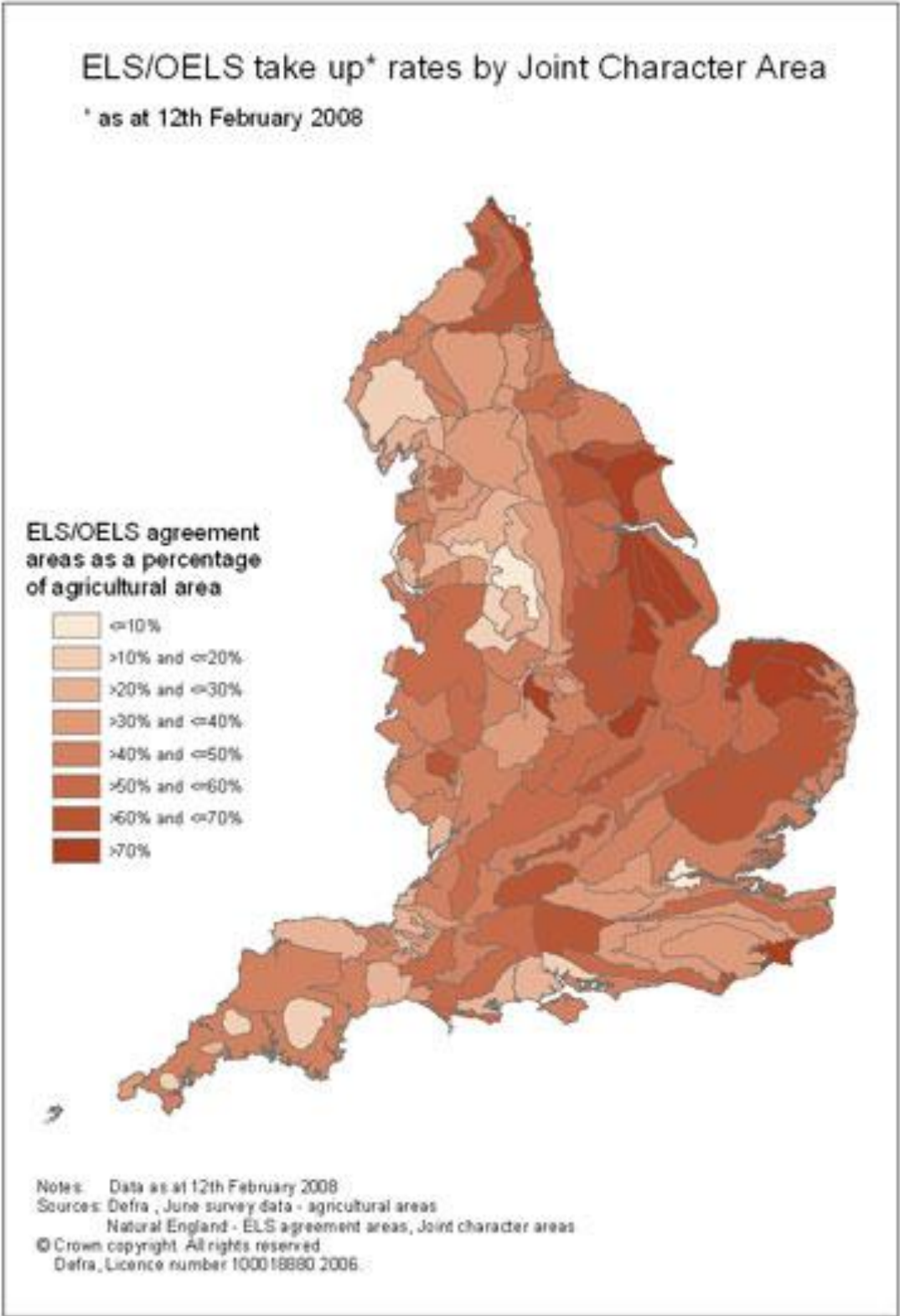
### ***6.1.2. Introduction of the Environmental Stewardship Scheme***

In addition to the decoupling of subsidies and production through the introduction of the SPS, in 2005 the Countryside Stewardship Scheme and the Environmentally Sensitive Areas Program were replaced by Environmental Stewardship Schemes. Funded by the Rural Development Programme for England, this scheme included the introduction of Entry Level Stewardship (ELS), Organic Entry Level Stewardship (OELS) and Higher Level Stewardship Schemes (HLS). The Entry Level schemes are available to all farmers and provide a relatively low payment of £30 per hectare (£60 for OELS) lasting for a period of five years. Eligibility for these schemes is based upon a points system, with ELS applicants needing to accrue 30 environmental points, and OELS applicants needing accrue 60, 30 of these given for being an organic farm. HLS is more complex but payments can be as high as £350 per hectare. Unlike ELS and OELS, this is a competitive process and also includes grants for capital projects such as hedgerow planting.

In terms of uptake, by the end of 2009 there were 42,500 ELS agreement holders, managing 5.6 million hectares of land. Of these 4,300 were also HLS agreement holders and a further 537 farmers were standalone HLS agreement holders, managing 69,000 hectares of land. As shown in Figure 4, uptake of ELS and OELS has been variable, with lowest uptake seen in areas including the Peak District and Dartmoor. However, some of this low uptake may reflect existing agreements under the Countryside Stewardship Scheme or Environmentally Sensitive Areas Program which have not yet expired.



Figure 4: Uptake of Entry Level Stewardship by Area



### *6.1.3. Changes to the Hill Farm Allowance*

Upland hill farming has for many years been in economic decline. A study of the hill farming community in the Peak District found for example that between 1992 and 2002 income had fallen by 75% (Peak District Rural Deprivation Forum 2004). As a result hill farmers have a considerable dependency on subsidy programmes, including the Hill Farming Allowance (HFA) that is designed specifically for this type of farming. Until 2010, this subsidy was paid to farmers producing sheep or cattle in areas classified as Less Favoured Areas (LFAs). The payment was based on a range of eligibility criteria, including that the farmer must farm a minimum of 10 hectares of land classified as being a LFA, keep eligible cows and sheep on this land and have a minimum of 0.15 livestock units per hectare (Rural Payment Agency 2009). Those farmers meeting these requirements could in 2008 receive up to £37.31 per hectare, depending on the type of land farmed (Harvey D & Scott C 2009).

This system though has also recently changed and the final HFA payments were made in Spring 2010. The new system will provide support through Uplands Entry Level Stewardship (UELS), a move that aims to reward farmers for maintaining and improving the landscape, rather than compensating them for the difficulties they face (DEFRA 2010). This new approach has some benefits, for example the overall budget is likely to increase, and whereas the Hill Farming Allowance was not open to dairy farmers, the UELS is open to all farmers.

Although welcomed by organisations such as the National Parks (National Parks 2008), the farming community have expressed concerns over the complexity of the system, and some concerns have also been raised by the Tenant Farmer's Association around how this will impact on tenant farmers as some have not been able to benefit due to landlords being allowed to participate or because their tenancy is less than five years duration (Tenant Farmers Association 2008).

#### *6.1.4. Impact of CAP reform and Agri-environment schemes on farming in Derbyshire*

In 2008, The University of Stirling used econometric approaches to determine the impact of the de-coupling of subsidies from production introduced through the reform of the CAP (Acs et al 2008). This work aimed to determine the relationship between changes in policy and land use. This study is of particular interest as it was based on 44 farm businesses recruited in the Peak District area of the County and modelled how farming in this area was affected by the introduction of the SPS and how it would be affected by the removal of subsidies.

The study found that at the time of data collection in 2006/07, most farmers were in receipt of the SPS and the HFA and also participated in agri-environment schemes. The study also identified two types of land farmed in the Peaks, Moorland which is semi-natural rough grazing land at a higher altitude which tends to provide poorer grazing, and Inbye land which provides better grazing, is at a lower altitude and is agriculturally improved. From the sample of Peak District farms six types of upland farm were identified:

- Moorland Sheep and Beef
- Moorland Sheep and Dairy
- Moorland Sheep
- Inbye Sheep and Beef
- Inbye Sheep and Dairy
- Inbye Beef

The study found that agri-environmental schemes play a major role in mediating the impact of de-coupling, with some farms facing relatively small losses and some actually gaining. The study modelled the impact of both removing all subsidies and the removal of the SPS and concluded that the removal of all subsidies would result in considerable land abandonment and would lead to 5 out of 6 farm types having a negative net income. The removal of SPS but the continuation of agri-environmental schemes would also lead to a loss of income for all farm types and negative income for 5 out of 6 farm types.

### *6.1.5. Future changes to the CAP and likely impact on upland hill farmers*

The replacement of the HFA with the UELS is not the only change to the CAP that is likely to impact on the livelihood of upland hill farmers. Post 2014 there is likely to be further reform to the CAP that will directly impact on hill farmers, including reform or perhaps even abolition to pillar one payments.

In 2010 a report was presented to DEFRA by the Countryside and Community Research Institute and the Food and Environment Research Agency that aimed to determine how potential changes to the CAP will impact on hill-farming communities (Gaskill P 2010). This research study included 83 face-to-face interviews with farmers in upland areas, which includes the Peak District area of Derbyshire. This research found that even without any changes to the CAP a significant number of upland farmers do not expect their businesses to continue beyond the next years and that there is likely to be a move towards fewer but larger farms in the upland areas. This study also reinforced data provided by DEFRA that few upland farms make any profit above and beyond the public support payments they receive.

This study also found that although most farmers were aware of the possible reductions in the payments they receive, few had taken any action in anticipating that change. The authors concluded that this was evidence of the farming community becoming accustomed to being reactive rather than proactive to change and that their dependence on public support payments meant that these farms are particularly vulnerable to possible reductions to payments in the post 2014 period.

The farmers participating in this study reported concerns about the sustainability of hill farming, and the study concluded that if pillar 1 was phased out then this might lead to as many as 40% of hill farmers leave farming. This having particular impacts on tenant farmers who may find leaving farming particularly difficult as many have not been able to save sufficient amounts of money to do so. The authors conclude that significant reductions in farming in the upland areas would impact negatively on the environment as it would lead to reduced bio-diversity and would also have negative economic and social consequences for rural communities.

## 6.2. Farm income

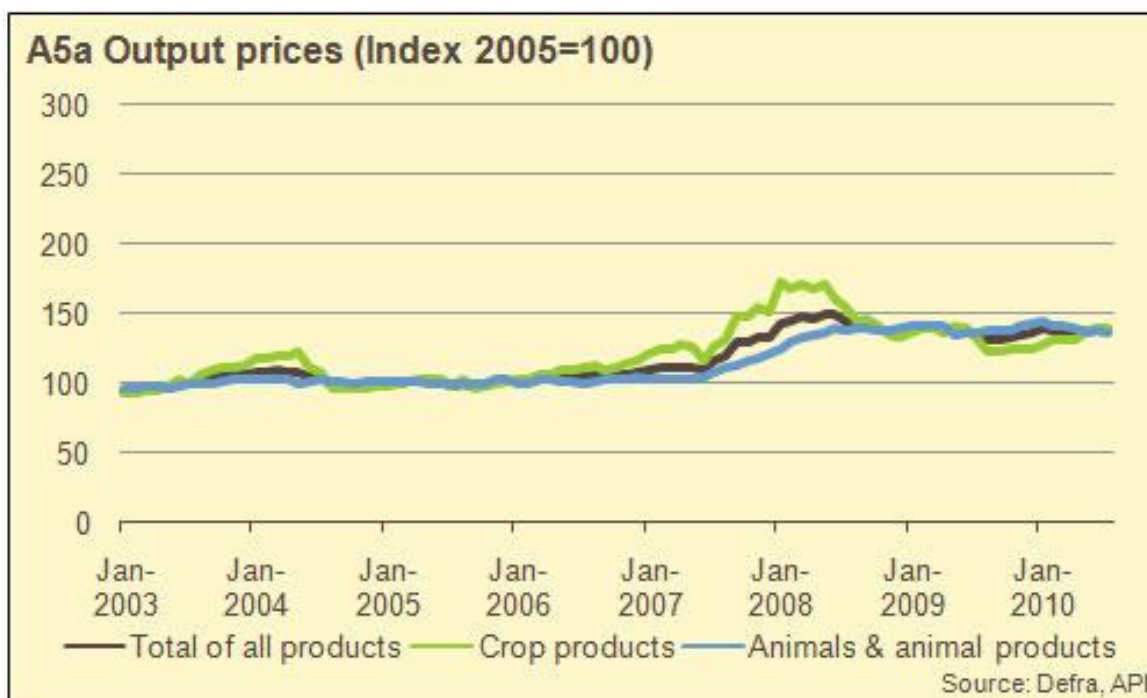
### Summary of the key points:

- Financial problems and material deprivation are known to be associated with a range of poor health and social outcomes.
- Average farm income has increased since 2003 but remains variable and generally still low in areas classified as LFA.
- A significant number of farms do not make any profit from actual farming activity, which makes them particularly vulnerable to changes in public payments.

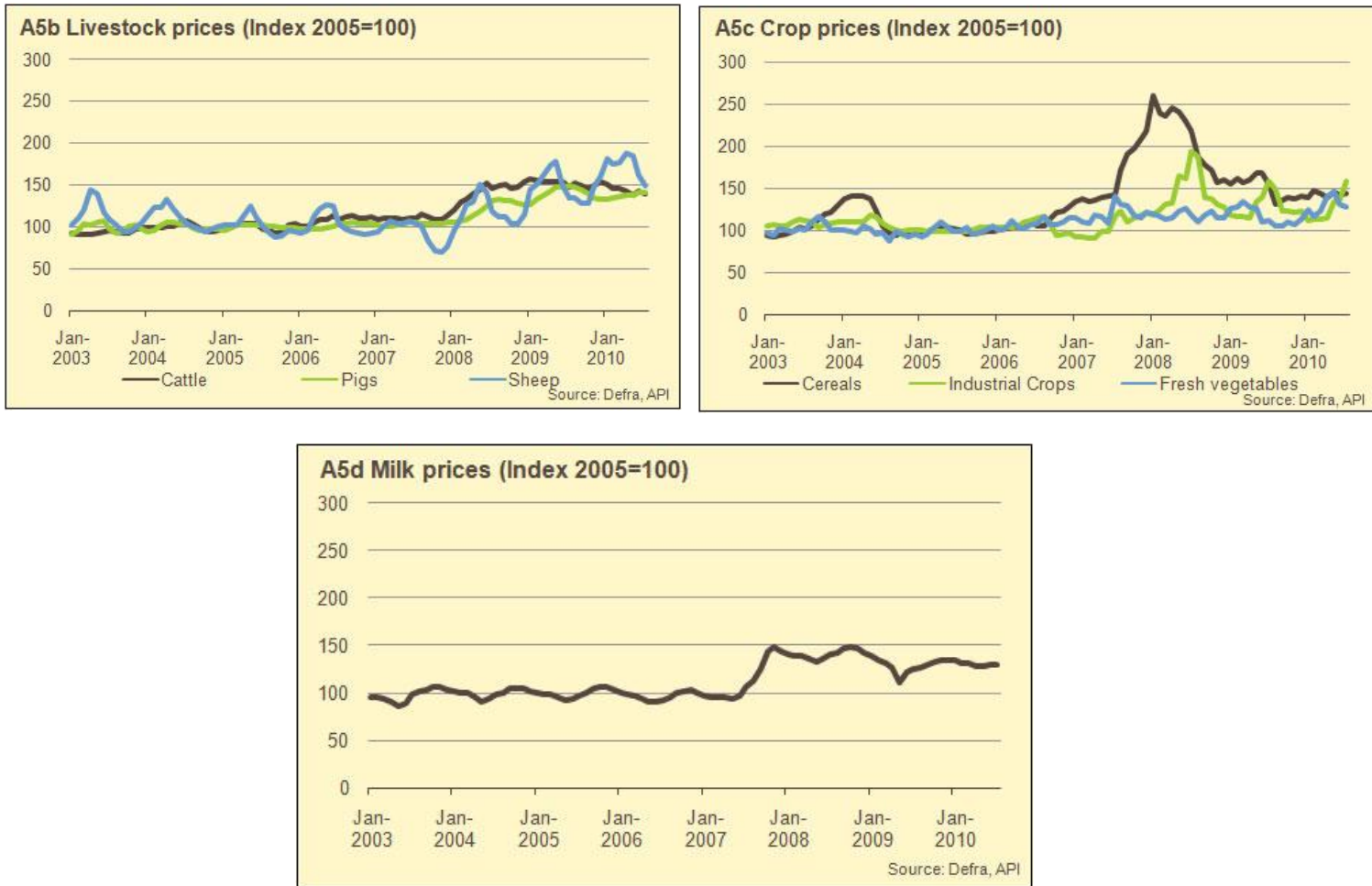
### 6.2.1. Changes in output prices and exchange rates

Output prices are a key determinant of farm income and are important to consider when interpreting changes in farm income. As shown in Figure 5, output prices for all products and for crop and animal products rose in the period 2007 to 2008 and has since declined but not to pre 2007 prices. Figure 6 shows change in prices for livestock, crops and milk in the period 2003-2010. These indicate small overall increases, and significant fluctuation, with the biggest rises generally seen in the 2008/09 period. The exchange rate is also an important factor influencing price. As shown in Figure 7, as expected, fluctuations in exchange rate, follow a similar pattern to fluctuation in price, with the largest changes again being seen in the 2008/09 period.

**Figure 5: Output prices 2003-2010**



**Figure 6: Livestock, crop and milk prices 2003 - 2010**



**Figure 7: Exchange rates 2003-2010**



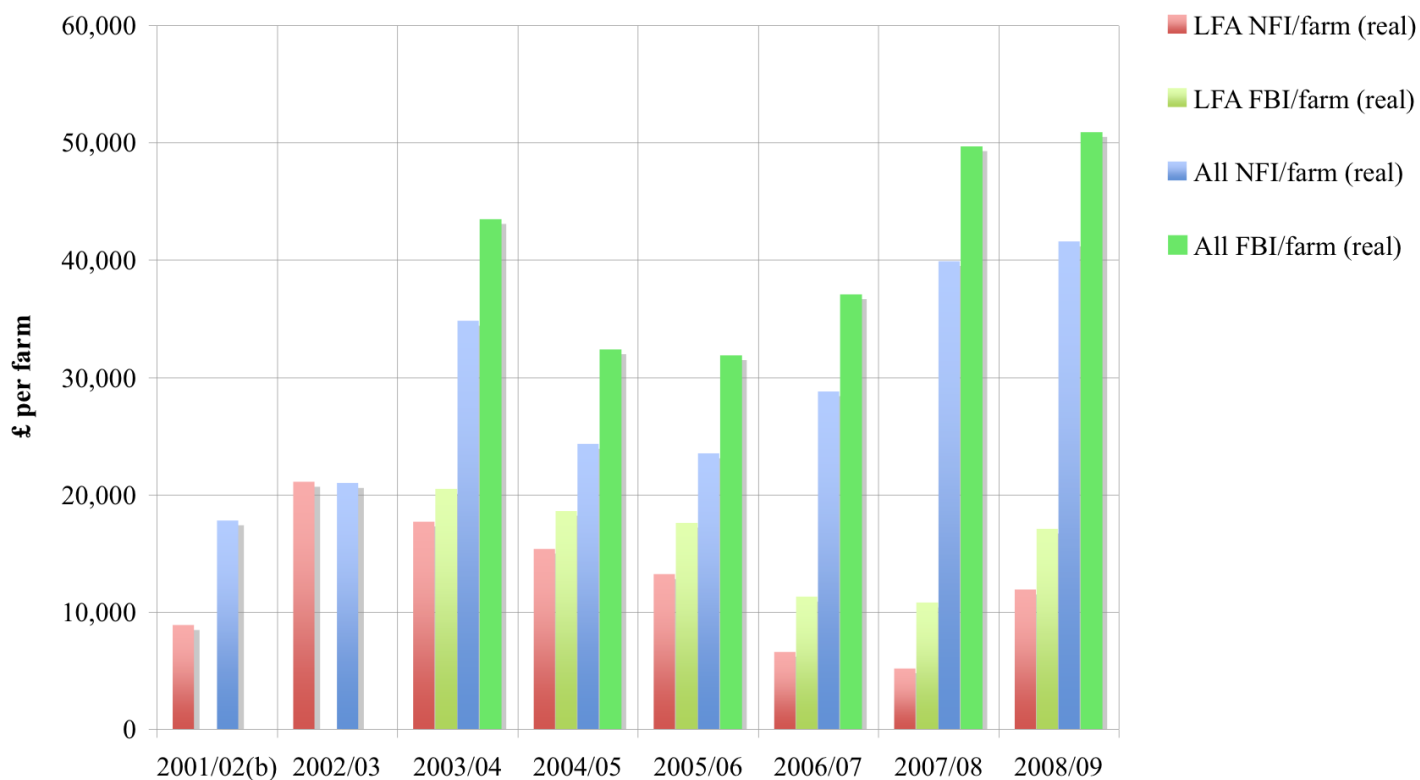
Source figures 4-6: DEFRA: Observatory Monitoring Framework. Indicator A5: Output Prices. [http://www.defra.gov.uk/evidence/statistics/foodfarm/enviro/observatory/indicators/a/a5\\_data.htm](http://www.defra.gov.uk/evidence/statistics/foodfarm/enviro/observatory/indicators/a/a5_data.htm)

### 6.2.2. Average farm income – changes since 2003

Determining average farm income is complex as fixed costs, opportunity costs associated with unpaid labour and also income from the SPS and from other agri-environmental schemes and if appropriate diversification need to be taken into account. Farm income is traditionally reported according to *net farm income* which is a measure of returns on labour, capital and management. This is a consistent measure for both owned and tenanted farms (Harvey D and Scott C 2010). Agricultural business income is a measure based only on returns from agricultural activity and so excludes income from SPS or other payment schemes.

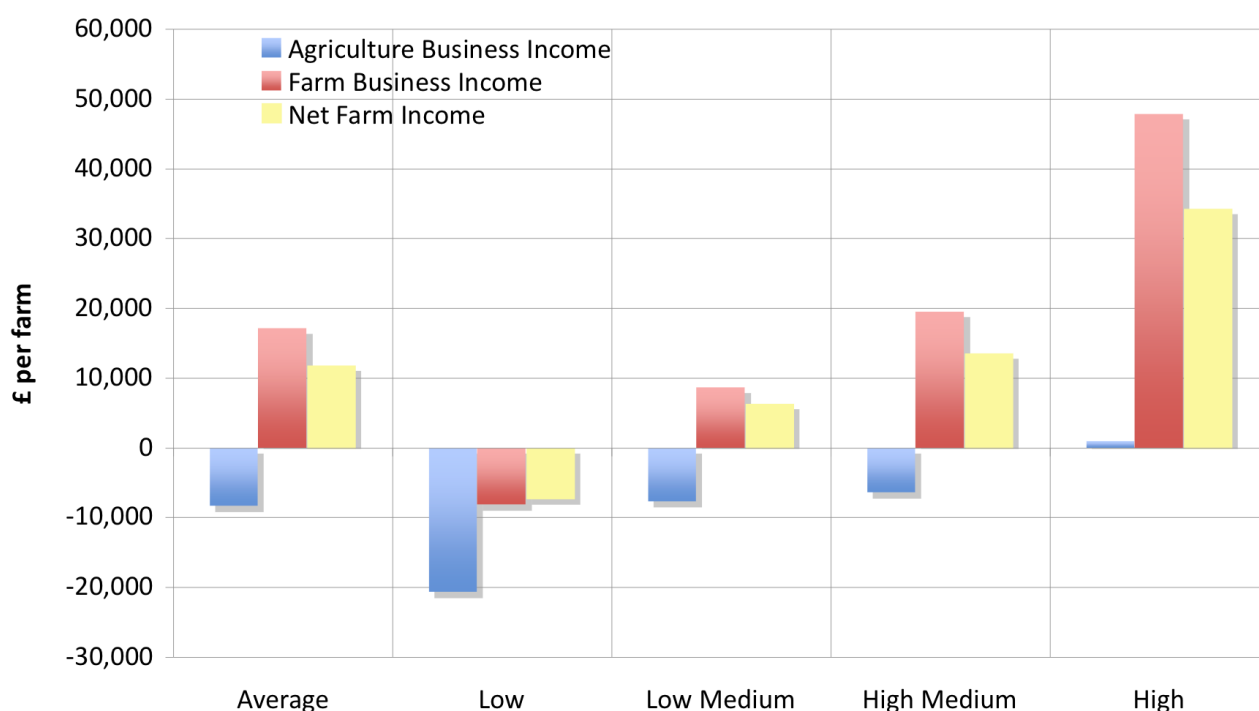
In 2010 the Rural Business Unit published details of farm income for the period 2008/09 (Harvey D and Scott C 2010). This looked at both overall farming income and also income for areas classified as Less Favoured Areas (LFA) which includes upland hill farming in areas including the Peak District. As shown in Figure 8, this report found that the average net farm income in LFA areas was £11,853 per farm, which might seem modest but actually represents a significant rise compared to the previous year. This figure also shows that net farm income for all farms has risen in recent years from just over £25,000 in the period 2005/06 to just over £40,000 in 2008/09.

**Figure 8: Farm income for all farms and LFA farms 2001 - 2009.**



However, it is important to consider how much of farming income is linked to public payments such as the SPS. This is measured by agriculture business income. LFA farms in particular are heavily reliant on these payments and as shown in Figure 9, most make financial losses from their actual agricultural activity.

**Figure 9: Income from agricultural business for LFA farms 2008/09**



Source for figures 7 and 8: Farm Business Survey 2008/09. Hill Farming in England. Rural Business Unit.

### **6.2.3. The impact of diversification on farming income.**

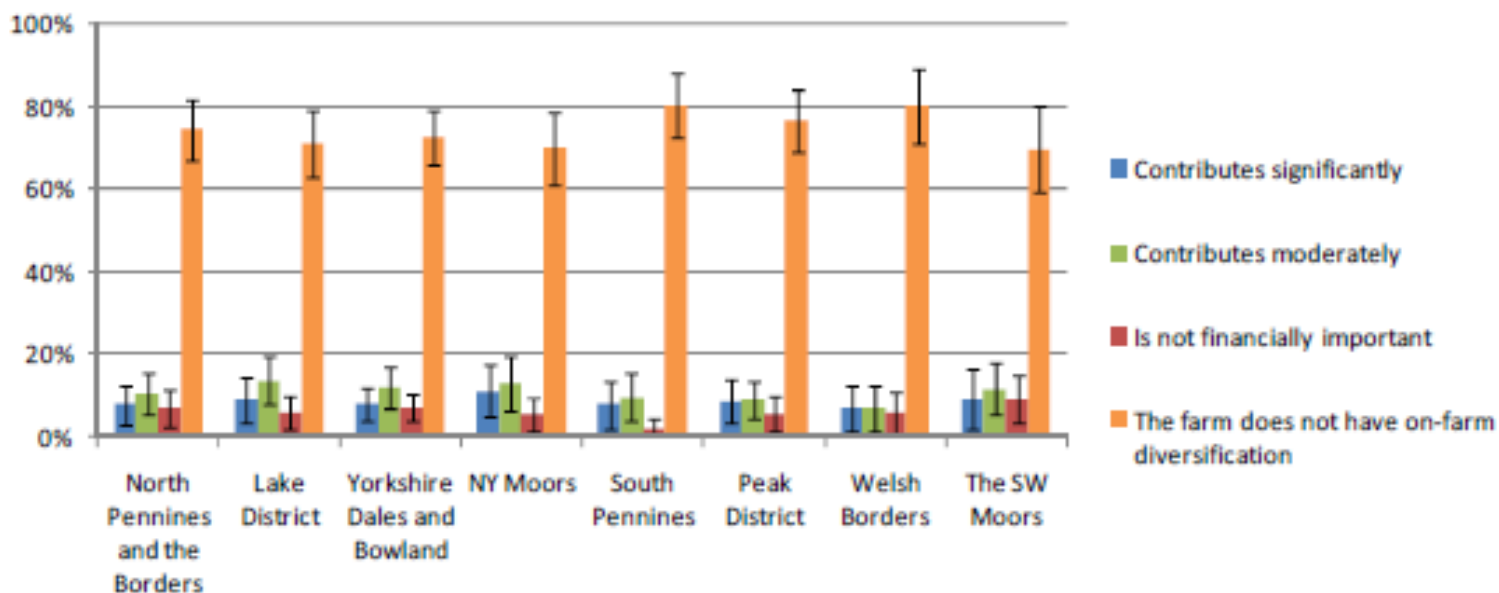
Diversification in farming can include a range of activities, including sport and recreation, letting farm buildings and the provision of tourist accommodation and opportunities. In terms of the extent of diversification, data from the 2009 Farm Business Survey reports that overall approximately 50% of farms have some form of diversification activity. A sizeable amount of this activity is related to letting of farm buildings, with only 27% of farms reporting any other diversification activity. The amount this activity contributes is relatively small, with 15% of farm income



coming from diversification activity. Income varies but for approximately half of farms, income from diversification is less than £10,000 per annum. (DEFRA 2011)

In terms of diversification activity in Derbyshire, it is difficult to determine the extent of diversification cross the county but there is some evidence to suggest that in the Peak District area at least diversification does not contribute greatly to farm income (see figure 10).

**Figure 10: Contribution of diversification activity**



Source: Defra Agricultural Change and Environment Observatory 2009. THE FARM PRACTICES SURVEY 2009. UPLANDS AND OTHER LESS FAVOURED AREAS (LFAS) SURVEY REPORT. [http://archive.defra.gov.uk/evidence/statistics/foodfarm/enviro/observatory/research/documents/UplandsFPS\\_report09.pdf](http://archive.defra.gov.uk/evidence/statistics/foodfarm/enviro/observatory/research/documents/UplandsFPS_report09.pdf)

## 7. Health care commissioning and provision in Derbyshire: Primary care and farming specific initiatives.

### 7.1. Primary health care services and farming specific health initiatives

Derbyshire, as shown in Figure 12 is a large county with significant areas that are classified as rural. This figure also shows how General Practice services are distributed across the county, with the biggest number clustered in areas classified as urban. The majority of farms in the County are then likely to be located in areas that are geographically isolated from these services, and this coupled with what has been described as a 'stoic' approach to illness and health care could act as a significant barrier to accessing health services. In addition to GP services, Figure 12 also summarises two other services that have been designed specifically to meet the health and social needs of the farming community. Both of these initiatives were developed following the publication of the 2003 HNA and are described below:

**Figure 11: Farming specific health initiatives in Derbyshire.**



The Farming Life Centre is based in Blackwell, it is a registered charity and has been providing a range of opportunities to the farming community since 2005. These include:

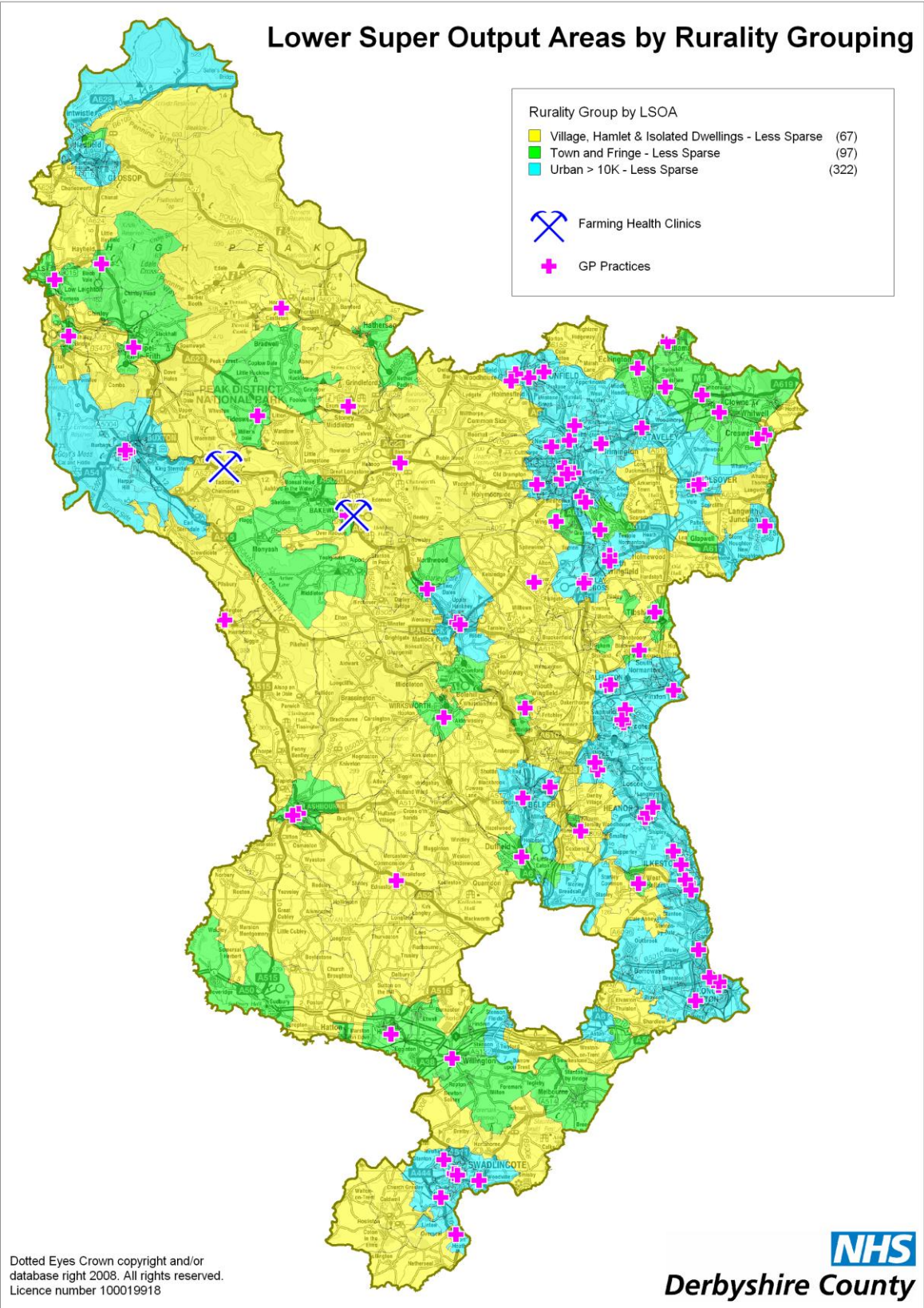
- Rural arts and crafts
- Lunch clubs
- Social groups
- Business support
- Health promotion through a 'health trainers' project
- Sign posting to other services
- Local community events.

The 'Farm Out' clinic is based at the Bakewell Agricultural Centre. It is staffed by a Senior Nurse, Physiotherapist and a Podiatrist and runs every Monday during market day. Farmers and their families can 'drop-in' to the clinic and services offered include:

- General health checks
- Chronic disease management
- Blood pressure monitoring
- Treatment of and also referral related to physical and mental health problems.



Figure 12: Rurality and health care provision



Source: Provided by Nicola Richmond. Public Health Analyst. NHS Derbyshire County

## **7.2. Primary Care mental health services**

Following the 2003 HNA, the PCT decided to continue funding a primary care mental health worker who had previously been funded by the Graduate Mental Health Worker Scheme, to provide talking therapies for the rural and farming communities in the High Peak and Dales area. This service was based at the Bakewell Agricultural Centre until the worker moved on to work within an Improving Access to Psychological Therapies (IAPT) programme outside of the area. Since then there has not been any farming specific support available and in addition unlike other areas of the county, the High Peak, Derbyshire Dales and Southern Derbyshire localities have not been in receipt of services from the IAPT programme.

Currently in Derbyshire, service commissioners are working to develop a broad service specification for the county that will be IAPT compliant. Within that there will be scope for local clinical commissioning groups to tailor this broad specification to local need.

## **7.3. The impact of proposed changes in service commissioning arrangements**

The National Health Service is currently undergoing significant change and as a result the PCT that currently commissions services on behalf of the Derbyshire population will be abolished in 2013. This commissioning function will pass to Clinical Commissioning Groups and in Derbyshire there are currently 5 groups in development (see appendix 5 for maps showing the areas covered by each group). This represents a significant move towards localism. This may well be advantageous to rural and farming communities across the county as these groups are likely to re-assess service provision in light of the health needs of their specific populations.

## **7.4. Farmers as health and social care providers**

The farming community as well as being consumers of health and social care services can also provide services to a range of client groups. In Derbyshire for example there are two 'Care Farms' currently in operation and several more farms are preparing to develop this form of farming diversification. Care Farms are traditional working farms that in addition to usual farming functions also provide a range of opportunities to clients from both health and social care. These

opportunities might include animal care, horticulture, cookery and crafts and most farms cater for a range of client groups, including adults with learning disability and people recovering from mental health problems.

The evidence base around the benefits of Care Farming is developing and it is increasingly being seen as a viable option for a range of client groups. There are now examples in the UK where Care Farming is being provided to patients on prescription. In the East of England for example GPs can refer patients with mental health problems to a Care Farm as part of their treatment (Care Farming UK 2011). In addition, it is anticipated that the move towards personal budgets in health and social care will lead to more demand for Care Farming and so greater diversification in this direction.

NHS Derbyshire County in partnership with The Farming Life Centre and Growing Rural Enterprise Ltd, have worked in recent years with the local farming community to establish a network of farmers with an interest in Care Farming. This work was developed to both stimulate diversity in health and social care provision locally and in response to the need for farmers to diversify their businesses in a difficult financial climate

## 8. Health Status and utilisation of health services

### Summary of the key points:

#### *Health status:*

- In line with the literature, the health professionals interviewed considered the farming community to be 'stoic' about their health, sometimes leaving health problems unchecked for long periods of time. This seems more common in older male farmers.
- Again in line with the literature, common physical health problems included musculoskeletal problems such as lower back pain and health professionals reported that mental health problems were also not uncommon.
- Mental health problems also persist with many health professionals reporting that there is sometimes hidden depression within the farming community. This is thought to be associated with financial worries and increasing 'red-tape'.

#### *Use of health services:*

- Farmers often access health services late and traditional services may not be accessible to the farming community.
- The 'Farm Out' clinic based at Bakewell Agricultural Centre is considered to provide an important service to the farming community and is well recognised and valued by health professionals working with these communities.
- The Farming Life Centre is also considered to provide a range of important social opportunities to the farming community.
- Extending the Farm Out clinic team to include a GP and providing a similar clinic in the south of the county might further improve access.

### ***8.1.1. The health of the farming community in Derbyshire – data from the 'Farm Out' clinic***

Determining health status of the Derbyshire farming community in detail is difficult due to both the constraints of this HNA and also because of difficulties in accessing patient level data. However, some aggregated data was available through the 'Farm Out' clinic and has been re-analysed for the purposes of this HNA. This data relates to activity recorded in the period 2005 to 2007 but does provide an insight into the nature of health problems experienced by the farming community.

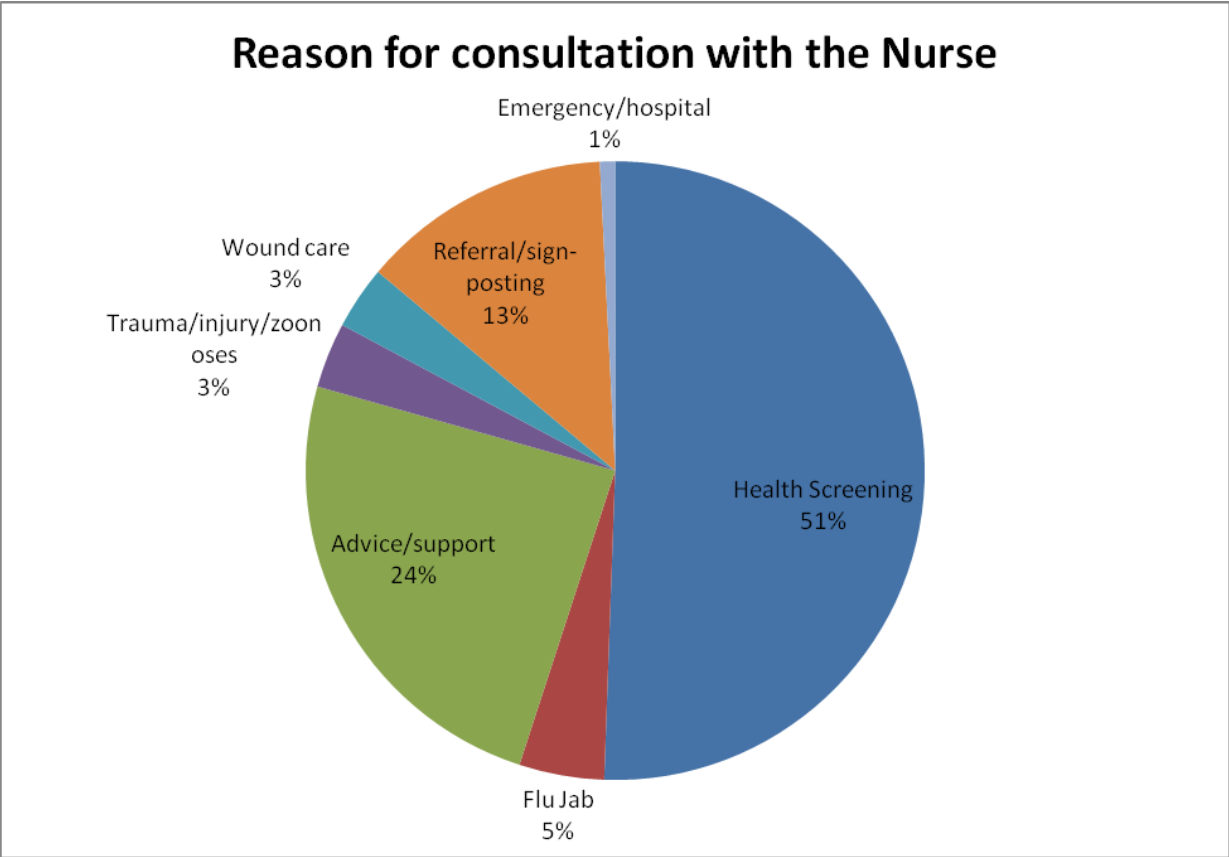
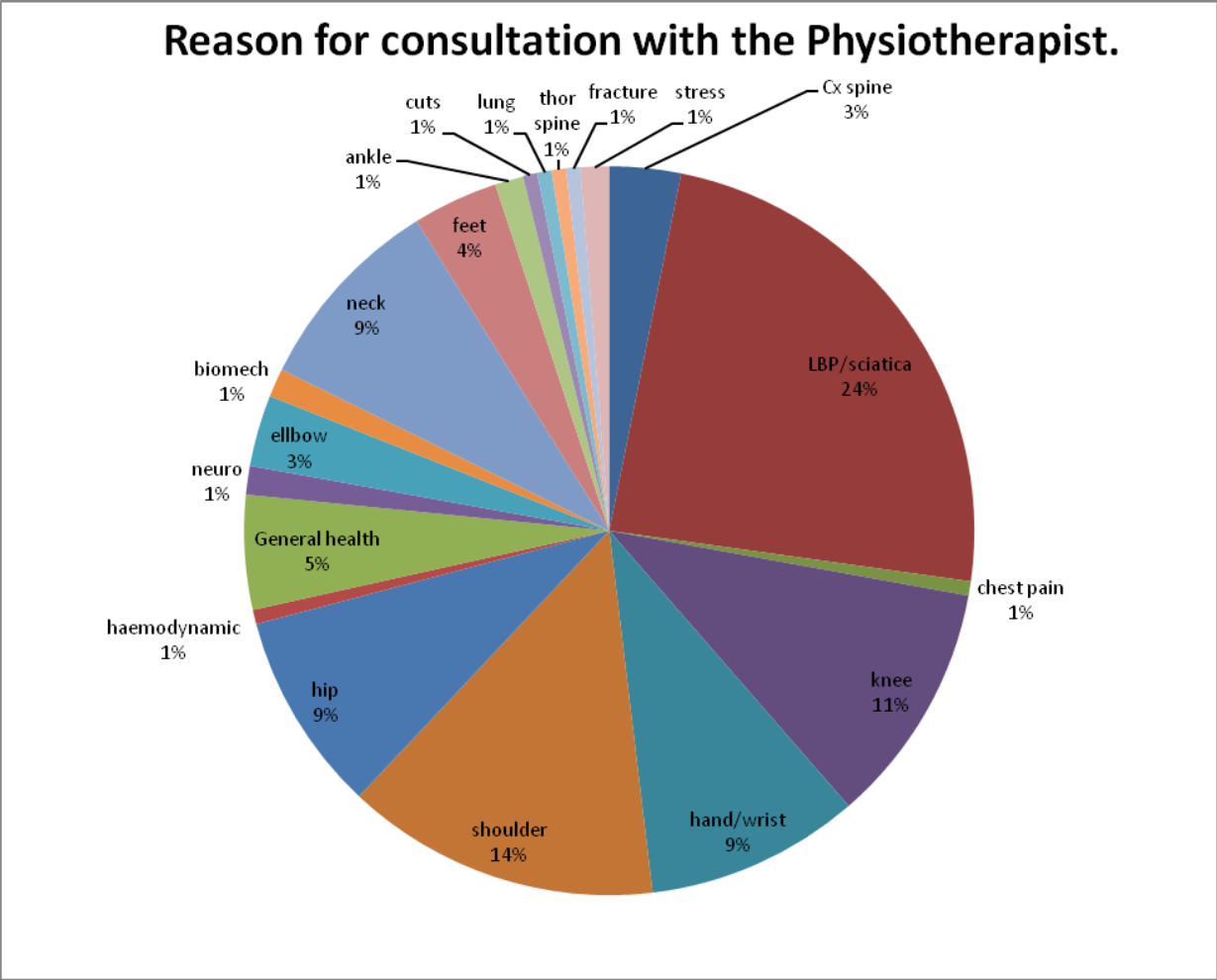
Farm Out clinic was at this time staffed by:

- 5 hours of Physiotherapy per week
- 5 hours of Podiatry every two weeks
- 8 hours of Nurse time per week
- 

The total staffing costs of this service in 2007 were reported as being £8,189 per annum.

In terms of the number of consultations recorded, in the two year period of 2005 and 2006 a total of 718 patients were seen by the Nurse at 100 clinics held. In addition the Physiotherapist held 70 clinics and had 335 consultations. As shown in Figure 13, the most common reason for consulting the Physiotherapist was lower back pain/sciatica (38 of 158) followed by problems with shoulder pain (22 of 158). The majority of consultations with the nurse were for health screening (including blood pressure and cholesterol checks), followed by advice/support and referral to or signposting to other services.

**Figure 13: Reason for consultation**





### 8.1.2. Interviews with key stakeholders

Health status and utilisation of health services locally was explored through a series of interviews with health professionals identified as working with the farming community. An additional interview was done with a Farm Crisis Network Co-ordinator working across the county, and this interview schedule utilised very similar questions to those used with health professionals. This interview was done to both give a county-wide perspective and to provide a greater focus on the social issues that are faced by the farming community.

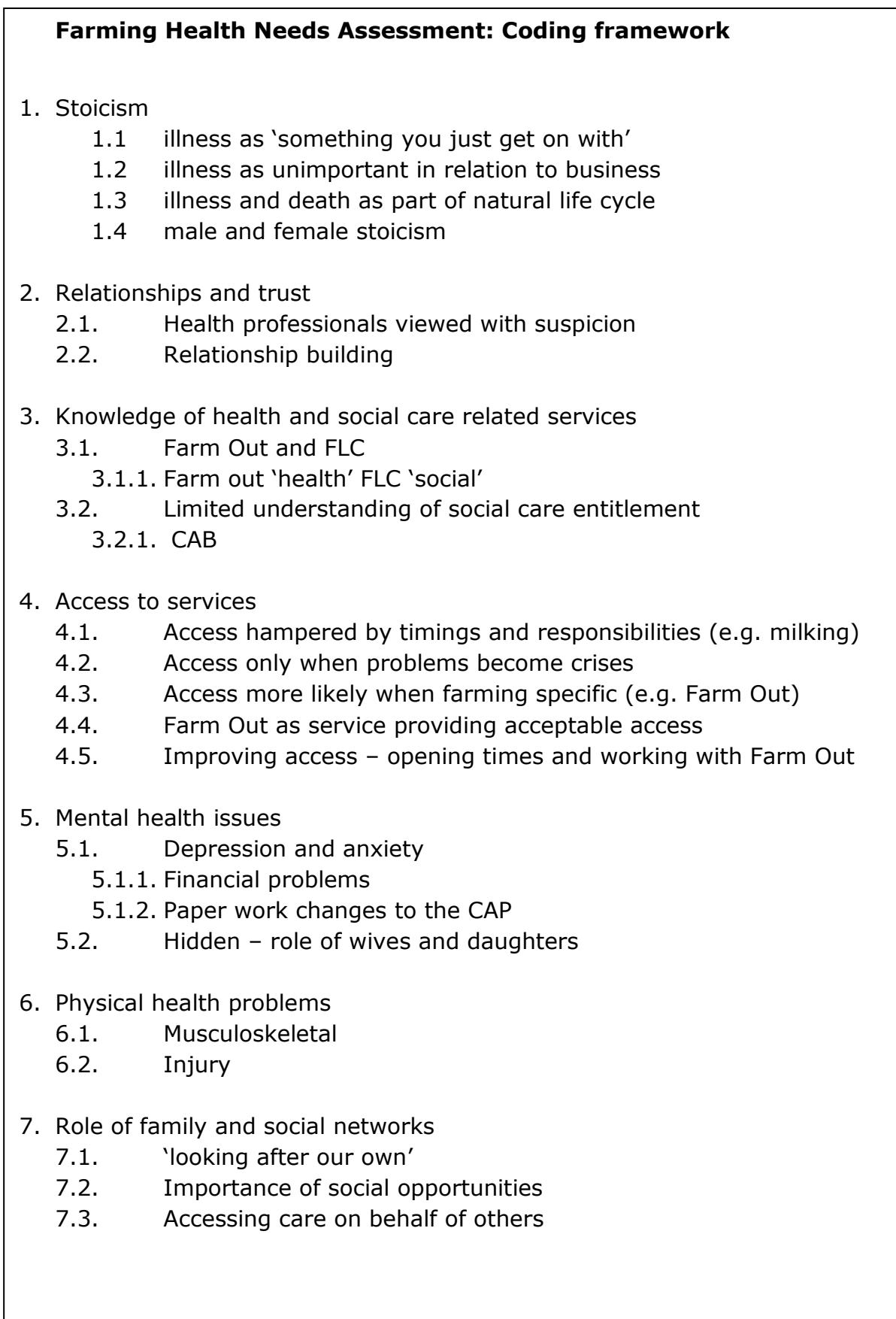
**Table 2: Interview participants**

Participant number	Role
1	Community Matron
2	Physiotherapist
3	Community Nurse
4	Podiatry Assistant
5	GP
6	GP
7	District Nurse
8	Healthcare Assistant
9	Health Visitor
10	District Nurse
11	Farm Crisis Network Co-ordinator

As shown in Table 2, a range of health professionals was included in the interview phase of the HNA. The majority of respondents were working in the High Peak and Dales areas of the county, where there are greater concentrations of working farms and all but the Health Visitor whose case load included only a few farming families, reported significant amounts of contact with the farming community.

The participants were asked questions relating to their experiences of working with the farming community and the health and social needs of this community (see appendix 2). All of the interviews were audio-taped and data generated were analysed using framework analysis. The coding framework and charting exercise utilised as part of this process are given in Figure 13 and appendix 6 respectively.

**Figure 14: Coding framework**



### 8.1.3. Main interviews findings

#### 1. **'Stoicism' and its impact on health seeking behaviour**

Stoicism was a very strong theme running throughout the interviews. Generally farmers and also to some extent farmers wives, were thought to have a very 'just get on with it' approach to health:

*"My general impression has always been that they are very stoical and don't seek medical attention..they are not the sort of people who come along with the 'worried well'..they don't worry about things quite so much, they still do, but just not quite so much."*

Participant 5: GP

This was thought to be strongly linked with the nature of farming in that having time off for many is just not an option. A GP for example talked about farmers needing hospital treatment for things such as hip replacement, not being able to access treatment because they didn't have anyone to look after their livestock. This then means that some farmers don't get the treatment they need and others present late with health problems:

*" They are very late in reporting things. So they, well, sit on things and suffer and actually to the detriment of their health, before they seek advice"*

Participant 1: Community Matron

And:

*"They (farmers) come in with an injury, they've been self treating for a few days and then they think 'I really must have this looked at'"*

Participant 3. Nurse

As well as being linked with difficulty in taking time out, stoicism was also thought to be associated with problems only becoming problems when they actually started to impact on their ability to work. In addition it was seen as being associated with the perception that illness is simply a part of the natural life cycle and of getting older:

*"They tend to suffer in silence really, particularly when it comes to injury, they won't come along unless it's really bad and impacts upon their ability to do their job...they are committed to their job which most of us see as a vocation, it is a way of life..and they'll just carry on unless it starts to impact in their ability to do that job, so as a result of that they can be quite stoical. I also wonder if they know what life is about. They have animals, they see them die and get ill and they sort of take a lot of that for granted perhaps as a result, so they don't come along necessarily very early, they tend to think its just part of getting older 'I've got the screws' as they say..and they just carry on."*

Participant 5: GP.

Stoicism also seemed to be particularly prevalent in male members of the farming community and men were seen as being less likely to access traditional health services. It was reported for example that wives and mothers sometimes consulted on behalf of their husband or son. In terms of women though, there was also evidence of a stoic approach to illness. The Health Visitor interviewed for example thought that mothers from the farming community reported less worries than non-farming mothers, were more stoic and 'just got on with it'. Another felt that stoicism amongst the female members of the farming community, contributed to farmer's wives feeling obliged to return to work soon after illness or surgery:

*"couldn't make this woman (rest) – you know even though she had had major surgery...she needed dressing everyday, she was still minding all the grandchildren, she was still out there feeding the hens and giving the lambs their bottles. When she should have been resting"*

Participant 11: District Nurse.

One respondent talked about this stoic nature impacted on how health risks were perceived by the farming community. She said that for many simply telling them that not taking care of their health might put them at increased risk of a health problem was not enough, and that a more direct approach was more successful:

*" he said ' I stopped – I couldn't get down to get a repeat (prescription) so I didn't bother' I said 'you are either going to have a stroke or a heart attack and die' and he started taking his tablets".*

Participant 1:Community Matron

Stoicism was not the only issue thought to impact on help seeking behaviour. The 24/7 nature of farming and being on a low income were also seen as potential barriers to health care use:

*"..they are quite busy and are often on low incomes and so don't often seek health advice on a preventative way."*

Participant 5: GP

## **2. Relationships and trust**

Although all of the respondents clearly felt they had very good relationships with farming patients and spoke very fondly of them, some also reported that the farming community could be suspicious of health professionals and that it could take some time to build a good relationship that facilitated the delivery of care.

One participant talked about how she had learned over the years to engage the farmers in discussions about their livestock or other farming activity as a way of starting to build that relationship. Word of mouth between farmers was also reported as an important way of building trust, and that once established the relationships were often positive:

*"I've got lady at the moment and we have to ring up and make an appointment to go because her daughters are very protective and they don't like us turning up unannounced and I think it is getting a bit better as she doesn't set the dogs on me anymore."*

Participant 11. Nurse.

And:

*"They test you out – where are you, who your family are.....it took us a while to get them in the door and now we can't get them out sometimes! (laughs)".*

Participant 3: Nurse.

Some participants also felt that social services were viewed with suspicion by the farming community. This may reflect their generally stoic nature and

unwillingness at times to accept help, or might also be associated with concerns around privacy, particularly in relation to financial matters:

*"They don't always like having social services involved, as I say I don't ask them questions about their finances but they do. They don't always like that interference as it were..."*

Participant 11: District Nurse.

### **3. Knowledge of and access to health and social care services**

The participants had mixed thoughts on the level of knowledge in the farming community relating to traditional health service provision. Some felt that they do know how to access services and the nature of the services available, whereas others felt they knew very little. Consistently across all interviews though, respondents felt that the Farm Out Clinic based at the Bakewell Agricultural Centre was both well known, well utilised and highly regarded by the farming community:

*"..they (farmers) know what is available for farmers but nothing else...that is (Farm Out Clinic) revered . The agricultural centre, the cafe and the Blackwell Centre (Farming Life Centre) are all highly thought of"*

Participant 1: Community Matron

The Farm Out Clinic was also seen as highly accessible to the farming community, and was often considered a first choice in terms of accessing health care and health care advice:

*"The walking wounded if you like – if they can get to market then they will go and see the nurse at the market, and then they can get their blood pressure checked there and there is a physio there isn't there - they can have a bit of 'one stop shop' there without wasting time"*

Participant 11: District Nurse.

This service also signposts patients on to other services and this too has had benefits. A GP for example talked about a patient being sent to her by the Farm Out Clinic as they had high cholesterol. She was then able to opportunistically address his obvious limp which then led to him having a hip replacement. This participant, like all others interviewed, felt that access for the farming community

was greatly improved by the existence of the Farm Out Clinic. She went on to suggest that this might be further improved by the addition of a GP or Community Matron to the Farm Out Clinic team, as this might facilitate referral and prescribing:

*"They prefer to go to the Agricultural Centre (Farm Out Clinic) on a Monday and they access health professionals there, at least they can get their cholesterol done and their blood pressure checked. That is the reason they don't always come to us but what they can't access there is referral for hip replacements and knee replacements or anti-depressant medication"*

Participant 6: GP

Access to health services apart from those provided by the Farm Out clinic was thought to be variable, and that farmers might find it difficult to fit their working day around traditional appointment times:

*"But in some practices to get an appointment in the morning you have to ring up at 8 in the morning and that's not exactly helpful when you've got a whole load of cows that need milking and of course because of the nature of their job they are often covered in manure so go to the doctors means they've got to break off work, go and have a shower you know to go and see the doctor for a five minute appointment."*

Participant 5: GP

Both of the GPs interviewed did provide extended hours, and one remarked that as this coincided with market day, this was when male farmers were more likely to attend, possibly because staff at the Farm Out Clinic had advised them they needed to see a GP:

*"The late night is a Monday and so if they come into Bakewell then that is the night we see male farmers. If they are already in Bakewell and they've been told they need to see a doctor"*

Participant 6: GP

In addition to the services provided by the Farm Out Clinic, most also felt that the Farming Life Centre was well known to the farming community, particularly to

those in the north of the county. The Farming Life Centre was known to provide a range of facilities to the farming community, including social opportunities and also health advice through the health trainers programme. Some participants though thought that it might be less well known to farmers working in other areas, including those working in the south of the county. One of these respondents for example worked in the High Peak area of the county and hadn't heard of the Farming Life Centre, and another worked across the county and felt that it was something that people living within a 15 mile radius were more aware of.

Knowledge of social care services was thought to be generally poorer in comparison to knowledge of health services. It was also thought that the farming community were possibly more unlikely to accept help from social care services. This was partly linked with cost, and partly linked with them feeling they didn't need this type of help and could manage on their own:

*"In terms of the social services provision that is available to them, it does vary I think. I've got one farmer whose having meals on wheels that I support ...another lady that has her laundry done...you will get, because farmers are resilient and stoic and stuff, you know they will battle on."*

Participant 11: Farm Crisis Network Co-ordinator

One District Nurse though felt that this may not be particular to the farming community as she had experienced this with the local rural population more generally.

Although access to services was considered to be generally good, largely because of that provided by the Farm Out Clinic, several suggestions were made in relation to improving services and access to services for the farming community. As discussed above, a GP for example felt that the Farm Out Clinic might benefit from extending the team to include a GP or Community Matron who might be able to prescribe and refer patients to secondary care. Another felt that the south of the county might benefit from a facility similar to the Farm Out Clinic, perhaps coinciding with the market held in Derby on a Thursday. Finally, a participant also raised the issue of access to the Citizens Advice Bureau and felt that farmers would greatly value organisations like the CAB providing practical farming specific advice, including help with bureaucracy and paper work.



#### **4. Physical and mental health issues**

In terms of physical health, hypertension, obesity and high cholesterol were identified as some of the health problems commonly seen in the farming community. In line with the literature, the respondents also reported that farmers were particularly at risk of musculoskeletal problems. These were associated to both the physical nature of their work and the increased risk of injury:

*"I've only got stand in the market on a Monday for you know half an hour and you see all sorts of people hobbling about ."*

Participant 10: Farm Crisis Network Co-ordinator

Again linked with their stoic nature, it was reported that farmers did not tend to regularly present to traditional health services with health problems, and it was discussed by some that chronic disease management with this group was particularly challenging.

The impact of ageing was also raised and it reported that the farming population in the county tended to be older and ageing, and were less likely than non-farmers to retire in older age. This was linked in some cases to lack of succession and an inability for some farms to financially support more than one generation of the family. However, again the respondents experiences were that despite the effects of ageing, the farmers would continue to farm regardless:

*"As they got older of they are relatively isolated and start to get a little bit frail then they can struggle to cope with their work..I can think of a few cases where old farmers would get so bad that they could hardly walk but they would get into the land rover and use that to round up the cows.."*

Participant 5: GP

The health of farmer's wives and children was also discussed during the interviews. The women tended to utilise GP services more than the men but were not considered to be particularly at increased risk of illness and overall the health of the children was considered to be good. The Health Visitor that was interviewed for example reported that the children of farming families were not less likely to

attend for routine immunisation and also reported that women did attend other local services such as toddler groups and did not in her opinion feel isolated.

Mental health was discussed by all of the participants and it was generally felt that anxiety, depression and 'feeling down' were relatively common among the farming community. However, it was also felt that the farming community do not always seek help for these problems from health services. One GP remarked on how few farmers had consulted with mental health problems considering the difficulties they had faced in terms of things like foot and mouth and thought that there may be an element of unmet need in this community.

Factors that contribute to depression included poverty and low income, increasing levels of paperwork and long working hours:

*"Most of the referrals (I see) are financially related in one way or another, which then impacts on relationships and then impacts on their own personal health and well being. Mixed in that is the over burden of regulation and paper work.."*

Participant 10: Farm Crisis Network Co-ordinator .

And:

*"I think low income, especially round here, I mean we have quite small farms round here and so they don't make a huge income and in addition what particularly stresses them out is the 'red-tape'..unless you are a farmer you can't fully understand the bureaucracy...I think a lot of it drives them to distraction and they rely on their wives and things to help them out, the books and all these regulations and that does stress them and probably if you were looking for a cause for what causes stress, depression and anxiety in farming then that would be the major one I would think."*

Participant 5: GP

And:

*"paperwork.....how the older generation cope with that I will never know- a lot of it now is computerised and how they manage the computer bit I just don't know"*

Participant 8: Health Care Assistant.

And:

*"A lot of them are finding it hard to make ends meet. They are working themselves into the ground, some of them are working 15 or 16 hours a day.."*

Participant 6: GP

The participant who had experience of working with the farming community on a county-wide basis, felt that financial issues may be a larger contributor to mental ill-health in the North of the county, where income may be lower due to the nature of the farming that can be sustained:

*"I mean if there was a divide in terms of financial income then the better off farmers are definitely down the south of the county.."*

Participant 11: Farm Crisis Network Co-ordinator.

The public perception of farming was also thought to contribute to farmers feeling down and generally under-valued:

*"There has been an underlying sense that the contribution that farmers make to the Gross National Product, however you measure that, is totally undervalued and therefore consequently they feel a lack of self worth and feel undervalued. That obviously potentially could impact on their health and well being.."*

Participant 11: Farm Crisis Network Co-ordinator .

### ***The role of the family, other members of the farming community and social networks***

The family and the importance of family was also a strong theme. The family were often seen as providing support which then meant that some services, particularly social services were not always needed:

*" Usually quite a lot of the family are involved in the farming business aren't they , they have sons and daughters and sons husbands and wives who are regularly there anyway and so they will manage without needing carers. Yes they don't always like people coming along and poking their noses into their affairs.."*

Participant 11: District Nurse.

As well as the family's role on supporting and caring for people when they were ill, the family was also discussed in terms of their changing nature, with more family members needing to work away from the farm and some younger members either not wanting to continue with the family farm business or simply not having the opportunity to do so:

*"there are some really really fantastic young people in Derbyshire, well and across the country to be honest that would desire to stay in the industry but there is a lack of opportunity for them to do so... over the last ten fifteen years you got the other one in terms of succession where parents haven't actively encouraged their children to go into the industry unless you can't stop them because they are so keen and the fact that the opportunities are no there for them"*

Participant 11: Farm Crisis Network Co-ordinator.

The hard working way of life associated with farming means that both time off to relax and the ability to socialise and build social networks can be quite limited. A respondent who had a farming background for example remarked that until she met her husband he had never had a holiday and that when he did take time out, he worried about how the farm was running in his absence. Similarly, farmer's wives were described by one respondent as being married to the farm and not just their husbands, which meant they too had limited time for socialising and worked long hours.

There were conflicting opinions amongst those interviews around the extent to which farmers provide support to each other in times of need or hardship. On one hand several talked about how during the heavy snow experienced in December 2010, the community rallied round to help each other whereas others talked about the how farmers didn't accept support from other farming families as they were concerned that they didn't want them 'knowing their business'. This suspicion may also impact to some extent on service use as one respondent also reported that they had a patient who would not access the Farming Life Centre because they thought this might mean that other people would get to know their business.

Although some respondents thought that farming families were geographically isolated, social isolation seemed less of a problem. This was linked though with the Agricultural Centre and the fact that many farmers came together on a Monday to

attend the market and also socialise. Young Farmers groups and the opportunities provided by the Farming Life Centre were also seen as important in providing social opportunities.

## 9. Discussion and Recommendations

### 9.1. Summary of key findings

The farming community in Derbyshire play an important role in both conservation and ensuring bio-diversity and also make a significant contribution to the local economy. This HNA has found that as reported in 2003, the farming community continue to be at increased risk of some health problems including asthma and musculoskeletal conditions. Also the sector has the worst fatal accident rate of any employment sector and farmers are at increased risk of suicide and suicidal intention.

In line with the published literature, the farming community in Derbyshire are very stoic in nature and often leave their health problems until they become very problematic and impact on their ability to work. This coupled with problems in accessing traditional services that might not fit easily around the day to day requirements of farming, could well put this community at particular risk of health problems. However, the provision of services at the Farm Out clinic based at Bakewell Agricultural Centre appears to mediate this. Uptake of services is high and respondents to the interview phase of the HNA described this as a well attended and highly regarded service. The data provided by the service also shows that it has a key role in undertaking routine health checks in this population and also signposts patients to other health and social care services that may not otherwise be accessed.

The farming community, and particularly the hill farming community, continue to be under significant financial pressure and proposed changes to the CAP means that these pressures may well worsen in coming years. Financial problems and the burden of associated paperwork are known to add to feelings of stress and anxiety in this community and so as changes continue to be implemented, they are likely to benefit from continuing support from services such as the Farm Out clinic and the Farming Life Centre. The configuration of mental health services in these areas should also reflect the needs of the farming community, particularly taking into account their stoic nature and the problems they can face in accessing traditional services.

## 9.2. Methodological considerations

The literature review presented is a narrative review and not a systematic review. This means that the articles were not reviewed using the processes that are commonly utilised in systematic reviews (i.e. blind reviewing by more than one person according to quality criteria). However, the literature search was done using a range of search engines, references were accessed and data and evidence were identified from a range of sources. All articles were also appraised and their key strengths and limitations provided to aid interpretation.

The literature in this area is though relatively sparse and identifying robust studies that were recent and relevant to the UK was challenging. The majority of the evidence identified was cross-sectional or qualitative in nature and although this aids our understanding of some important phenomena, it cannot be used to make causal inferences.

The data used to describe activity at the Farm Out clinic was derived from routinely reported activity and as a result is somewhat out of date and not in a great amount of detail. It was not within the scope of this project to collect routine service data either prospectively or retrospectively or to spend time surveying patients attending the service. However this data does give a useful insight into the health problems experienced by the local farming community and the activity undertaken by the staff employed by the service.

Within the limited scope of this piece of work it was not possible to interview a wider range of health professionals or members of the farming community itself. Including a greater range and number of participants may have identified other issues not raised by those interviewed and/or may have resulted in a greater degree of theoretical saturation. However, many common themes did emerge from the relatively small number interviewed which does suggest a degree of saturation.

Also, many of those who agreed to participate were working in the High Peak and Dales area of the county and so this may not have represented the experiences of those working with the farming community in the south of the county. Attempts were made to include GPs in particular from other areas of the county but none of those contacted responded to the invitation to participate. A county-wide perspective was though obtained from one participant who raised many similar issues to those working in the High Peak and Dales areas.

## 9.3. Recommendations

### *Service Development*

- The Farm Out clinic has an important role in bridging the gap between the farming community and health services provided in traditional settings, and it is recommended that the Farm Out clinic should continue to provide farming specific clinics in a non-health setting. This service might also benefit from additional resource to allow for a greater range of skill mix and provision, including for example staff with a specific role in supporting clients with mental health problems and staff able to prescribe.
- In terms of primary care mental health services, in Derbyshire service commissioners are currently working to develop a broad service specification for the county that will be IAPT (Improving Access to Psychological Therapies) compliant. Within this there will be scope for local clinical commissioning groups to tailor this broad specification to local need. It is therefore recommended that, particularly in areas with greater concentrations of farming families, the needs of the farming community are considered in this process.

### *Partnership working*

- Farming and particularly hill-farming in Derbyshire is vulnerable to changes in public payments. Changes to these may mean that for some, farming is not sustainable. With this in mind it is recommended that the work done to date by NHS Derbyshire County in partnership with the Farming Life Centre and Growing Rural Enterprise Ltd to stimulate diversification is continued.
- Accidents continue to be a significant cause of mortality and morbidity in the farming community. It is therefore recommended that working with the Local Authority, farm safety initiatives locally be re-assessed.
- Paper work and bureaucracy can cause farmers and their families significant amounts of stress and they may benefit from advice and support from an organisation or individual with specialised knowledge of farming policy and payment procedures. It is therefore recommended that



investment in this type of support in an accessible setting such as the Bakewell Agricultural Centre be considered.

### *Dissemination*

- To raise the profile of the needs of the farming community, the findings of this Health Needs Assessment should be disseminated to all key local stakeholders. This should include the recently formed Clinical Commissioning Groups, the Local Strategic Partnership and also once developed, the Health and Wellbeing Board.

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# 11. Appendices

## Appendix 1: HNA methodology

### Theoretical approach

The corporate approach has been taken to the HNA though some elements of the epidemiological approach have also been adopted. The corporate approach involves the systematic collection of the knowledge and perspectives of key informants on the healthcare needs and use of services by the population of interest. In this case key informants would include those responsible for delivering health care to this group and so could be GPs, Community Nurses and Health Visitors. This approach has particular strengths in collating information, experiences and perceptions that reflect the local situation and environment and so aids local decision making (Stevens A 1998).

### Health status and utilisation of health services

#### Literature Review

The aim of the literature search was to identify published literature relating to the health status of the farming community and also their use of health services.

Articles were identified using a search strategy applied to the databases Medline, PsychInfo and Cinahl. The criteria for inclusion were as follows:

- Qualitative or quantitative studies published since the 2003 HNA
- Studies where the primary aim was to explore the mental and/or physical health of the farming community, or to explore the use of primary or secondary care services (including mental health services) by the farming community.

The initial literature search was done with support from Knowledge Services staff employed by NHS Derbyshire County, utilising the following search strategy:

(approximate searches in Cinahl and PsycInfo)

- 1 MEDLINE MENTAL HEALTH/ 16253
- 2 MEDLINE exp MENTAL DISORDERS/ 802324
- 3 MEDLINE HEALTH STATUS/ 46957
- 4 MEDLINE exp AGRICULTURE/ 44597
- 5 MEDLINE AGRICULTURE/ 21832
- 6 MEDLINE farmer\*.ti,ab 9200
- 7 MEDLINE farming.ti,ab 5433
- 8 MEDLINE farm\*.ti,ab 37299
- 9 MEDLINE "physical health".ti,ab 7199
- 10 MEDLINE "mental health".ti,ab 56227

11 MEDLINE 4 OR 5 OR 8 71337  
 12 MEDLINE 1 OR 2 OR 3 OR 9 OR 10 876235  
 13 MEDLINE 11 AND 12 1109  
 14 MEDLINE 13 [Limit to: Publication Year 2003-Current] 488  
 15 MEDLINE exp GREAT BRITAIN/ [Limit to: Publication Year 2003-Current] 76961  
 16 MEDLINE IRELAND/ OR exp GREAT BRITAIN/ [Limit to: Publication Year 2003-Current]  
 80349  
 17 MEDLINE exp AUSTRALIA/ [Limit to: Publication Year 2003-Current] 31696  
 18 MEDLINE 15 OR 16 OR 17 [Limit to: Publication Year 2003-Current] 111106  
 19 MEDLINE 14 AND 18 [Limit to: Publication Year 2003-Current] 58  
 20 MEDLINE HEALTH SERVICES NEEDS AND DEMAND/ 34676  
 21 MEDLINE 11 AND 20 138  
 22 MEDLINE 21 [Limit to: Publication Year 2003-Current] 51  
 23 MEDLINE 18 AND 22 [Limit to: Publication Year 2003-Current] 7  
 24 MEDLINE HEALTH SERVICES ACCESSIBILITY/ 39136  
 25 MEDLINE 11 AND 24 155  
 26 MEDLINE 25 [Limit to: Publication Year 2003-Current] 74

The initial search was limited to articles published in the last seven years and was limited to English language articles published in the UK or in Australia. The decision to include Australian articles reflects the substantial investment made in the health of the rural and farming communities in this country, and also the large amounts research done into the physical and mental health status of these communities, which is largely applicable to the British farming community.

The references from retrieved articles were also examined to identify any other studies not identified in the database search and additional Medline searches and general web based searches were also done to identify any further literature of interest and also any reports or publications not included in the traditional academic search engines. This did include a small number of articles from countries outside of the UK and Australia and also included a small number of key papers published in 2001 that were not included in the 2003 HNA.

In terms of health related articles, a total of 28 were identified for inclusion in the review. These are summarised and their main strengths and weaknesses discussed in appendix 3.

## **One to one interviews with health professionals**

### *Identification and recruitment of participants*

To examine both the health needs of the farming community in Derbyshire and also to explore issues relating to use of health services, a total of 10 one-to-one interviews were done with a range of health professionals known to work with the local farming community, including:



- GPs
- District Nurses
- Health Visitors

District Nurses and Health Visitors were approached through the respective Heads of Service. In each case this senior manager identified at least 3 members of staff working in rural areas and with caseloads that included members of the farming community. These members of staff were given an information sheet briefly outlining the aims and objectives of the HNA and also how their data would be used, managed and stored (see appendix 2). Those willing to participate were then given the opportunity to discuss the HNA and the interview process with the lead investigator (JB). If happy to proceed, they were asked to complete a written consent form (see appendix 2) prior to the interview.

GPs were identified by contacting practices located in rural areas of the county known to have an interest in rural health and the health of the farming community.

In addition to the health professionals, an interview was also done with a Farm Crisis Network Co-ordinator known to have a county-wide role in supporting the farming community and promoting their health and well-being.

#### *Data collection*

The interviews were conducted either face to face or over the telephone, were audio-taped and then transcribed verbatim. The interviews were semi-structured and covered the following issues (see appendix 2 for the interview guide):

- Who within the farming community (i.e. farmers, farmers wives and children) they have contact with
- The amount of contact they have with this community and if this differs from their contact with the non-farming community
- The range of health concerns/issues raised by this community and if this is different to those raised by the non-farming community
- Whether issues of social exclusion are more common in this community
- General issues relating to access to and use of health services

### *Data analysis*

The interview data were analysed using Framework Analysis. Framework analysis uses a thematic approach and allows the researcher to use both a-priori themes (themes that are identified in-line with specific research questions or objectives) and also allows for the identification of themes that arise from the participants responses. In terms of the analysis process, framework analysis involves five specific stages, some of which are common to thematic analysis more widely, and some which are specific to the framework approach. These are firstly familiarisation of the data, which in this case involved reading and re-reading the transcript several times and noting any ideas, issues or obvious themes in the margin of the hard copy. The second is the development of a thematic framework. This was done by identifying a-priori questions/issues relating to the main issues of interest and also identifying those raised by the participants themselves through their responses. The third stage was to apply this framework to the data and the fourth was to undertake a charting exercise. This involved summarising the data and then arranging these summaries according to the framework. The final stage was then interpretation and reporting.

### **Farm Income**

Farm income was explored through reports published by the Rural Business Research Unit which utilise data collected from the annual Farm Business Survey. The aim of this element of the HNA was to determine any change or variation in farm income since the 2003 HNA and to explore this for all farms and also for farms classified as being in Less Favoured Areas (LFAs) as significant amounts of farming in Derbyshire is classified as LFA.

### **Map of rurality and service provision**

A mapping exercise was undertaken with support from Public Health Analysts employed by NHS Derbyshire County. The map was developed to pictorially represent variations in rurality across the county and to show this alongside service provision, including the sites of both General Practices and any clinics specifically developed to address the health needs of the farming community. It was not possible to include farm location on these maps as this information is not in the public domain.

## **Appendix 2: Interview documents and interview schedule.**



## Derbyshire County

Newholme Hospital  
Baslow Road  
Bakewell  
Derbyshire  
DE45 1AD

Tel: 01629 817931

Fax 01629 817895

Email: [jane.bethea@derbyshirecountypct.nhs.uk](mailto:jane.bethea@derbyshirecountypct.nhs.uk)

16<sup>th</sup> March 2011.

Dear

You may recall that in 2003 the then High Peak and Dales PCT completed a Health Needs Assessment of the local farming community. We would now like to revisit some aspects of that piece of work and are hoping to identify health professionals working with the farming community that might be willing to take part in a short interview. The aim of the interviews is to collate information around the health and social care needs of farmers and their families, and also how the farming community access and utilise health services locally.

More information about the Health Needs Assessment and a consent form are enclosed. We would be very grateful if you would take a few minutes to read this information, and if you are interested in taking part in an interview, return the signed consent form to us using the FREEPOST envelope provided by **MONDAY 28<sup>th</sup> March 2010**. If you have any questions then please either contact Jane Bethea on the number given above, or by email: [jane.bethea@derbyshirecountypct.nhs.uk](mailto:jane.bethea@derbyshirecountypct.nhs.uk).

Yours truly

Linda Syson-Nibbs  
Nurse Consultant – Public Health

Jane Bethea  
Specialty Registrar in Public Health

## **A Health Needs Assessment of the Farming Community in Derbyshire: Information for interview participants.**

### **1) What is the purpose of the project?**

In 2003 the then High Peak and Dales PCT completed a wide ranging Health Needs Assessment (HNA) of the farming community. This piece of work identified several important issues relating to the health of this community, including for example that despite reporting a range of physical and mental health problems, use of health services by this group was relatively low. The HNA also found that the farming community were at this time, experiencing severe financial hardship.

We would now like to revisit some of the main findings of the 2003 HNA by undertaking a second smaller scale HNA of the farming community. The specific aim being to look again at use of health services by the farming community and to revisit levels of hill farming income to assess if this has changed significantly since 2003.

We will be exploring use of health services by the farming community in two ways. Firstly by undertaking a rigorous review of the literature and secondly by identifying health professionals (GPs, Community Nurses and Health Visitors) known to work with farmers and their families and asking them to take part in a short interview.

### **2) What am I being asked to do?**

We would like you to consider participating in a short interview (approximately 20 minutes) with a member of the NHS Derbyshire County Public Health team based at Newholme hospital in Bakewell. You can either be interviewed over the telephone or you can choose to have a face-to-face interview at a venue and time that is convenient for you.

During the interview we will ask you questions about your experience of working with the farming community, how in your experience this group of patients use health services and any particular health and social problems you feel that they face.

### **3) What will happen to the information I provide?**

The information will be analysed by a member of the Public Health Team and used alongside the findings of the literature review to make conclusions around the health and social care needs of the local farming community.

To ensure we do not miss any important information, we would like to audiotape the interviews. These recordings will be stored anonymously and securely on NHS premises and all audio-recordings will be deleted after the HNA has been completed. Although we might use quotes from the interviews in the final HNA report, we will ensure that it will not be possible to identify any of the participants from the quotes given.

#### **4) What should I do if I would like to take part?**

If you would like to participate in an interview then please complete the attached consent form and return it to us by **MONDAY 28<sup>th</sup> March 2011** in the FREEPOST envelope that has been provided. We will then contact to you to arrange the interview at a time that is convenient for you.

#### **5) Further information**

If you would like more information before deciding whether or not to participate, then please contact Jane Bethea on 01629 817931, or by email: [Jane.bethea@derbyshirecountypct.nhs.uk](mailto:Jane.bethea@derbyshirecountypct.nhs.uk).

**Many thanks for taking the time to read this information.**

Jane Bethea  
Specialty Registrar in Public Health  
Derbyshire County PCT  
Newholme Hospital  
Baslow Road  
Bakewell  
DE45 1AD

Tel: 01629 817931

**A Health Needs Assessment of the Farming Community in Derbyshire: Consent form for interview participants.**

If you would like to participate in an interview, please complete this form and return it to us in the FREEPOST envelope provided by **Monday 28<sup>th</sup> March 2011.**

**I (please write your name here).....confirm that (please tick):**

**I have read the information leaflet provided and would like to participate in an interview.**

**I understand that my participation is voluntary and I can withdraw at any time.**

**I give consent for the interview will be audio-taped.**

**Your Signature:** .....

**Date:** .....

**I would prefer to take part in a (please tick one box):**

**Telephone interview**

**Face-to-face interview at a venue of my choice**

**My contact telephone number is:.....**

**Many thanks for taking the time to help us with this project. We will contact you in the near future to arrange the interview for a time that is convenient for you.**

Jane Bethea  
Specialty Registrar in Public Health  
Derbyshire County PCT  
Newholme Hospital  
Baslow Road  
Bakewell  
DE45 1AD

Tel: 01629 817931

## **A Health Needs Assessment of the Farming Community in Derbyshire: Interview Schedule (Nurses, GPs and HVs)**

### Introduction:

Hello, firstly thank you very much for agreeing to take part in this interview. My name is Jane Bethea and I am a Specialty Registrar in Public Health based at Newholme Hospital in Bakewell. Before we start, can I just ask if you have any questions about the project or about the interview?

- 1) Just to start with then, can you tell me roughly what proportion of your caseload/registered patients are from the farming community?
- 2) Compared to your patients who are not farmers, do you feel you see more or less of your patients from the farming community?
  - If more or less – why do you think this is?
  - Prompts, if less:
    - o More healthy?
    - o Geographically isolated?
    - o More self-reliant/stoic or perceived need for stoicism
- 3) Thinking about the members of the farming community that you do see, are the health and/or social problems they come to see you about similar to those you see in patients who aren't from this community?
  - If no, how do these differ? What do you think causes this?
  - Prompts:
    - o More injury?
    - o Related to zoonoses?
    - o More mental health problems?
- 4) In your experience, do your patients from the farming community have higher levels of depression or mental ill-health compared to your patients who are not farming?
  - If yes – do they discuss these issues openly – i.e do they consult more with these problems, or do you suspect there is more mental ill health but farmers and their families don't present with these issues?
  - What do you think are the main causes for this higher level of depression or mental ill-health? Prompts:
    - social isolation
    - financial hardship
    - Perceived need for stoicism
- 5) Do you think the farming community face any particular barriers to accessing your service? Do you think there are any barriers to other health or social care services?
  - If yes – prompts:
    - Distance/geographical location
    - Perceived need for stoicism
    - Understanding of what service provides



- 6) Do you think the wives and children of farmers face any particular health or social issues?

Prompts:

- Access to services
- Mental health issues, depression
- Social isolation/exclusion – access to facilities such as mother and toddler groups

- 7) Do you think elderly members of the farming community face any particular health or social issues?

Prompts:

- Financial hardship
- Access to services
- Mental health, depression
- Increased social isolation/exclusion

- 8) Are you aware of any services provided locally that have been designed specifically to cater for the needs of the farming community?

Prompts: Aware of:

- Farm Out clinic
- Farming Life Centre

- 9) In your view, do the health and social services currently provided in your area adequately meet the needs of the farming community?

Prompts:

- If no – what else might be needed? – Who might provide this additional support? What might the outcomes be?

Thank you for taking the time to talk to me today – would you like to raise any other issues relating to the farming community?

## **Appendix 3: Summary of articles included in the literature review.**

**Table 3: Summary of articles**

Author/Journal	Country of origin	Topic	Main findings relevant to the HNA	Strengths	Limitations
<b>HEALTH RELATED EVIDENCE</b>					
Baker T et al 2011. Emergency Medicine Australasia.	Australia	Farmers perception of need for health service if experiencing chest pain	<ul style="list-style-type: none"> <li>-Pilot study of 186 farming men and women.</li> <li>-Majority of participants had risk factors for cardiac event.</li> <li>-Decisions to seek help for chest pain did not follow agreed guidelines – 67% for example thought it was acceptable to go by car to the healthcare provider if experiencing chest pain.</li> </ul>	<ul style="list-style-type: none"> <li>- Not entirely reliant on self-reported measures – biological measures including blood, BP and BMI taken.</li> </ul>	<ul style="list-style-type: none"> <li>-Potential for selection bias as those recruited were participating in a programme aimed at improving the health, safety and wellbeing of the farming community.</li> <li>-Not clear how much of what is observed is due to the respondents being farmers and not just associated with being resident in a rural location.</li> <li>-Not clear degree to which this is generalisable to the UK.</li> </ul>
Barnett S et al 2001. Journal of Epidemiology and Community Health	UK	Rural deprivation indices and health	<ul style="list-style-type: none"> <li>-Evidence of a U shaped relationship between limiting long term illness and rurality</li> <li>-Rural areas are not homogenous in terms of deprivation</li> <li>-Generic deprivation indices do not reflect this heterogeneity well.</li> </ul>	<ul style="list-style-type: none"> <li>-Large sample based in census.</li> <li>-Use of multi-level modelling</li> </ul>	<ul style="list-style-type: none"> <li>-Data only used from the SW area where health status is generally better.</li> <li>-Relies on self-reported health status</li> </ul>

<b>Author/Journal</b>	<b>Country of origin</b>	<b>Topic</b>	<b>Main findings relevant to the HNA</b>	<b>Strengths</b>	<b>Limitations</b>
Begg P &Thompson 2008. 10 <sup>th</sup> National Rural Health Conference Proceedings.	Australia	Improvement in access to health services following the introduction of the above.	-Classified as a service quality improvement project and not research. -Health service usage of 158 farming clients examined -Increased and sustained use of health services by both men and women from the farming community. -Increased use of social care services.	-Data collection, client identification and data quality assessed and informed by expert opinion. -looked at activity before and after the introduction of the network.	-Not research and so only locally applicable (but does provide some evidence of impact) -As conference proceedings insufficient information available to fully critique the methodology.
Beseler CL 2008 Environmental Medicine.	US	Impact of pesticide exposure on mental health	-Depression was found to be associated with both high cumulative exposure to and also pesticide poisoning.	-large study -cases and controls (though not a case control study) were taken from the same population which helps to minimise bias.	-cross-sectional design means temporality cannot be determined -Didn't take into account financial status or social support in analysis which are important confounders in this case.
Booth N 2000. Occupational and Environmental Medicine.	UK	Suicide in farmers	-Case-control study matching farmers whose death was attributed to suicide or open verdict to non-farmers with same cause of death. -Farmers were more likely to die using a fire arm (42% v 11%) -Farmers were less likely to leave a suicide note (21% v 41%) -Authors conclude this is evidence of increased risk of death from an impulsive suicidal act.	-Case-control design matching farmers to non-farmers by age, sex and socio-economic status. -Data collected from coroner inquiries using set codes used in other studies looking at suicide. -Data drawn from various sources including GP records and mental health services.	-No sample size given and small numbers (cases=63). -Limited information given on data extraction procedures and process of analysis. -Significant amount of GP data missing and so conclusions made regarding GP consultations may not be robust and so are not included in this review.

<b>Author/Journal</b>	<b>Country of origin</b>	<b>Topic</b>	<b>Main findings relevant to the HNA</b>	<b>Strengths</b>	<b>Limitations</b>
Browning SR et al Journal of Agricultural Safety and Health.	US	Suicide risk in farmers	-Study of 9 years of data collated through death certifications -elevated suicide rates (twice the risk) in farmers aged 25-34 years of age and also in those aged 75 and over -rates higher in some areas	- large epidemiological study based on death certificates which are considered to be complete and accurate.	-US based and could argue that this might not be generalisable. However findings are consistent with studies in UK and other countries.
Burnett T & Mort M. 2001.	UK	Improving access to healthcare for farming communities.	-Action research to determine health needs and service use of the farming community and to develop initiatives to address gaps in provision.	-One of the few pieces of work to address this subject directly. -Use of various sources for data/information. -98 telephone interviews done with service users.	-More evaluation than research and so findings may not generalisable to other settings. However the findings to broadly reflect what was found in this HNA.
Campbell NC 2001. British Journal of Cancer	UK	Differences in stage at diagnosis for lung and colorectal cancers for people living remotely from cancer centres	-People living in areas in Scotland that were remote to cities were more likely to be diagnosed late and so have more advanced disease at diagnosis.	-Large sample (1323) with case note abstraction done according to a defined protocol.	-Unstaged cancers that tend to have a poorer prognosis were more likely in the remote groups. This may have led to an underestimation of the difference observed. -Little information given around who abstracted the data and how they were trained to do so.
Fragar L 2008. Australian Journal of Rural Health.	Australia	Development of a blue print aimed addressing farmers mental health needs.	-Not research or evaluation – simply describes process and theoretical basis.	n/a	n/a

<b>Author/Journal</b>	<b>Country of origin</b>	<b>Topic</b>	<b>Main findings relevant to the HNA</b>	<b>Strengths</b>	<b>Limitations</b>
Gallagher LM. International Journal of Occupational and Environmental Health.	New Zealand	Suicide by occupational group	-Study of all deaths by suicide over a 4 year period -unwaged and farmers at highest risk of death by suicide.		
Harrison WN 2005. Public Health	UK	Access to cardiac services	-Although there was no geographical variation in uptake was observed, respondents did report that access problems including poor public transport links impacted negatively.	-75% response rate	-small sample (N=236) -Smaller numbers responding to questions relating to barriers.
Health and Safety Executive 2005.	UK	Stress in farming	-Large scale qualitative study found that regulation and paperwork, financial problems and family problems were the main causes of stress -Lack of sleep, feeling down and back problems have an effect on health and wellbeing in the farming community.	- Large scale qualitative study covering 5 geographical areas. -Clearly described methods including sampling frame. This included different farm types and sizes which adds to the ability to consider the study as representative of the wider farming community.	- No specific data analysis method given - it isn't clear who did the analysis and if any verification of findings occurred (though verification itself may be contentious).
Levin KA 2006. American Journal of Public Health	UK	Differences in mortality from IHD in rural areas.	-People living in remote rural areas were at increased risk of death from IHD wither during their hospital stay or in the 28 days following discharge.	-very large routine data set -Use of multilevel modelling	-Routine data may not always be accurate -May be other factors not considered that impact on outcome – further research needed to explain why risk is higher in very remote areas.

<b>Author/Journal</b>	<b>Country of origin</b>	<b>Topic</b>	<b>Main findings relevant to the HNA</b>	<b>Strengths</b>	<b>Limitations</b>
Macjenzie Ross SJ. 2010. Neurotoxicology and Teratology	UK	Impact of pesticide exposure	-low levels of exposure to pesticides had an impact on tests of memory, response speed. -Farmers also were more likely to have clinically significant levels of depression and anxiety.	-extensive neuropsychological assessment undertaken. -Degree of exposure robustly assessed.	-Control group were not farmers and so the differences observed could be due to other factors associated with farming and not pesticide exposure. -Response bias possible where self-reported measures were used.
McNamara et al 2007. Journal of International Agriculture and Extension Education.	Ireland	Accidental injury	-Disability was reported by 19.5% of households. -40% of those reporting this were farmers and 10.2% spouses. -80% was physical disability and 265 of this caused by accidental injury -Those reporting disability had lower income.	-Large randomly selected sample -Validated tool used to assess disability	- unclear response rate and no discussion of this. -no discussion of design limitations such as response bias.
Manthorpe J et al. 2008. Health and Social Care in the Community.	UK	Access to service by elderly people living in rural areas.	-Transport problems pose a significant barrier to access -Service relocated to urban areas adds to the problem as does the changing nature of GP OOH.	- Large sample with efforts to reach all groups including 'hard to reach' groups. -Clear methods and reporting.	- Consultations with older people may not have been accessible to all.

<b>Author/Journal</b>	<b>Country of origin</b>	<b>Topic</b>	<b>Main findings relevant to the HNA</b>	<b>Strengths</b>	<b>Limitations</b>
Meltzer H et al 2008. The British Journal of Psychiatry.	UK	Suicide by occupational group	-Agricultural sector has the second highest suicide PMR (proportional mortality rate) at 133 (95% CI 119-147) - Farmers specifically had higher PMR of 189 (95% CI 157-227)	-Utilised ONS data that is known to be complete - Used PMR over SMR which has benefits in that it is less prone to numerator-denominator bias	- Potential for status inflation bias but not likely within farming.
Mort M 2005. British Medical Journal.	UK	Impact of foot and mouth	-large diary based qualitative study following 54 respondents over an 18mth period -Farmers reported feelings of loss and bereavement following the crisis and also feelings of loss of trust in the authorities.	-large study utilising well described purposive approach. - Robust and clearly described analysis	
Middleton N 2003. Social Science & Medicine.	UK	Trends in suicide in urban and rural areas.	- unfavourable trends in rural areas, with suicide rates in young women aged 15-24 years doubling in the study period, a trend not observed in young women living in urban areas.	-Use of ONS data that is known to be complete and has good accuracy. -Ward level data allowed for areas small enough to ensure a degree of similarity in terms of key characteristics.	-Authors acknowledged Lack of formal nationally agreed definition in regards to rurality. -Used Townsend Score to determine deprivation status, this might not reflect deprivation in rural areas well as it was designed for use in urban settings. -Average deprivation in small areas may not describe deprivation across the area accurately.



<b>Author/Journal</b>	<b>Country of origin</b>	<b>Topic</b>	<b>Main findings relevant to the HNA</b>	<b>Strengths</b>	<b>Limitations</b>
Oiff M 2005. The British Journal of Psychiatry.	The Netherlands	Impact of foot and mouth	-Moderately sized (n=661) study of farmers following foot and mouth crisis experienced in Netherlands at the same time as the UK crisis. -50% had symptoms of post traumatic stress disorder that was at a level requiring clinical intervention.	-Validated tool used to determine ptsd. -Randomly selected -Reason for non participation recorded.	-Low response rate (approx 50%) and those not participating said they saw 'no point' in participating or didn't want to drag up the past. This suggests that reported levels of PTSD may be underestimated. -No clinical diagnosis to validate the reported level of distress/ptsd.
Parr H et al 2004. <i>Trans Inst Br Geogr</i>	UK	Mental health in rural areas	-Mental ill-health in rural areas may be particularly stigmatised. - Those in rural areas are distanced from services and also others with similar experiences.	-Very large sample utilising 107 in-depth interviews with services users and 61 with staff.	-Sample taken from the Scottish Highlands which could impact on generalisability.
Riva M et al. 2009. Social Science & Medicine.	UK	Health of those in rural and urban locations.	- Taking important factors like socio-economic status into account, those living in rural areas were less likely than those in urban areas to report mental ill health. -There was significant variation between rural areas with prevalence ranging from 8 – 23%.	-Very large sample (N=30,776) -Use of data collected through Health Survey for England. -Mental Health determined through use of GHQ 12. -Rural areas identified using MSOA which allows more detailed determination of whether an area is rural/urban/semi rural etc.	-Cross-sectional design so a causal link cannot be determined. -Self-reported status may introduce response bias – i.e. are those in rural areas less likely to report their ill-health? -Even MSOA may not clearly define areas that are rural and semi-rural.

<b>Author/Journal</b>	<b>Country of origin</b>	<b>Topic</b>	<b>Main findings relevant to the HNA</b>	<b>Strengths</b>	<b>Limitations</b>
Sanne B 2004. Occupational Medicine.	Norway	Depression and anxiety in farmers and non-farmers	-Compared to non-farmers farmers have high levels of depression. -Farmers worked longer hours, had a lower income and had high levels of physical work	-very large population based study -used validated tools to determine depression levels -Powered to look at sub-group analyses.	-Cross-sectional and self-reported -Response rate quite low in men (59%) and as poor mental health is likely to be higher in non-respondents then this may underestimate levels of depression in some groups.
Sosnowska S 2007. Central European Journal of Public Health.	Poland	Accidental injury in young people	-449 injuries reported in a 10 year period -More injuries seen in boys, largest proportion in boys aged 13-15. -Main cause was slips and falls - Seasonal effect with more incidents in the summer months.	-Data collated through insurance fund reports which authors state reports all injuries.	- Not sufficient detail regarding the insurance process and extent to which this is complete – i.e. no validation against national data.
Staniford Ak 2009. The Australian Journal of Rural Health.	Australia	Stress and help-seeking behaviour in farmers.	-16 in-depth interviews with citrus growers in South Australia. -Stress was associated with uncontrollable events and financial problems. -Their limited use of health services was associated with self-reliance, lack of knowledge and also negative perceptions of services.	-In-depth interviews are useful for collating rich information -attempts were made to verify conclusions with half of those interviewed (though this in qualitative research is a contentious issue)	-No information provided on how participants were sampled. -Authors discussed generalisability and report that these findings are not generalisable. No discussion as to why they think this as qualitative research can be used to make generalisable statements. -Authors state that the coding was done by one researcher and state this is a limitation as inter-rater reliability cannot be determined. This approach

					is not unusual in qualitative research but impact is difficult to determine as no information is given about who did the analysis and what role they had with the interviews.
Stocks SJ 2010 Occupational Medicine.	UK	Medically reported work related ill health in agricultural workers.	<ul style="list-style-type: none"> <li>-Utilising work related physician reported data for the UK.</li> <li>-Agricultural workers had higher rates of asthma, musculoskeletal disease and skin cancer.</li> <li>-Lower rates of mental disorder were reported in this sector, but this was not statistically significant.</li> </ul>	<ul style="list-style-type: none"> <li>-Not reliant on self-reported health as used physician reported data.</li> <li>-Large sample overall (although numbers were small for some disease groups in those working in the agricultural sector)</li> </ul>	<ul style="list-style-type: none"> <li>-Lower rates of mental health problems may be associated with unwillingness to consult or lack of awareness of symptoms.</li> <li>-Some assumptions were made in the analysis. This included the assumption that the proportion of people aged over 65 working is similar across sectors. Farmers are known to often work beyond 65 and so this may lead to an underestimation of the rate ratios reported.</li> </ul>
Syson-Nibbs L 2009. Arts & Health.	UK	Mental health promotion in farmers	<ul style="list-style-type: none"> <li>- Description and evaluation of an innovative mental health promotion project utilising photography.</li> <li>-100 young farmers participated</li> <li>-Evaluated positively and outcomes included that the programme had provided social opportunities and had improved confidence and skills. It had also given the participants an opportunity to share their concerns and experiences widely.</li> </ul>	<ul style="list-style-type: none"> <li>-Done in the local area and so locally applicable.</li> <li>-Provides evidence for an innovative approach to mental health promotion.</li> <li>-Evidence of participatory approach in all phases of the project and evaluation.</li> <li>-Approach informed by theory.</li> </ul>	<ul style="list-style-type: none"> <li>-As the article is not research based, some aspects of the methodology applied in evaluating the outcome are missing.</li> <li>-Low response to questionnaire phase but good response to interview based element.</li> </ul>

<b>Author/Journal</b>	<b>Country of origin</b>	<b>Topic</b>	<b>Main findings relevant to the HNA</b>	<b>Strengths</b>	<b>Limitations</b>
Thomas HV. 2003 Occupational and Environmental Medicine	UK	Mental health of farmers	-farmers may not report more depressive symptoms but do report more suicidal intention than the general population. -Farmers may have suicidal intention at lower stress levels than the general population.	-large sample -Utilised validated tool	- Low reported financial problems may limit generalisability as many farmers now report financial problems and this is known to be associated with depressive episodes - Suicidal thoughts may be underestimated in this study as only those who scored at least one point on questions relating to depressive symptoms were asked the question about suicidal intention.
Voaklander DC 2009. American Journal of Industrial Medicine	US	Factors associated with agricultural injury.	-review of articles identified through a review of three databases, published between 1960 and 2008. -Prior injury and rapid return to normal activities, hearing loss, sleep deprivation and depression.	-Some information regarding selection given. -Clear description of studies given.	-Not a systematic review -Little information given on appraisal processes

**NON-HEALTH RELATED EVIDENCE**

<b>Author/Journal</b>	<b>Country of origin</b>	<b>Topic</b>	<b>Main findings relevant to the HNA</b>	<b>Strengths</b>	<b>Limitations</b>
Acs S 2008. Stirling Economics Discussion Paper	UK (Peak District)	Impact of policy and de-coupling on farming.	-The impact of decoupling is mediated by agri-environment schemes -Removal of all subsidies and also removal of just the SPS would have detrimental effects both in terms of land abandonment and also income with 5 out of 6 farms having negative net income.	-Done in the Peak District so locally applicable. - 44 Farms chosen to represent location and type of farming and surveyed through individual farm visits. -Development of the survey tool done in collaboration with experienced researchers.	-No discussion re response to the survey – i.e. did all 44 selected agree to participate and were they representative of similar farm types. -Mathematical modelling methodology requires specific expert knowledge to critique. -Dependent on assumptions made but these are clearly given.
Gaskill P 2010 Report to DEFRA	UK	Impact of policy changes in upland farming	-A significant number of hill farmers will leave farming if pillar 1 payments are phased out. -This may impact more on tenant farmers -Hill framers are reactive to change and their dependence on public payments makes them particularly vulnerable to changes.	-Large number of interviews done (83) -Sampling frame used to identify farmers with different characteristics such as location. -Included farmers in the Peak District so locally applicable.	-Little information in the methodology section on some issues such as how qualitative data were analysed and who did the interviews etc.

## **Appendix 4: The Hamilton Charter for Farmer Health**

# THE HAMILTON CHARTER FOR FARMER HEALTH



## OPENING THE GATES

## Preamble

A social model of health	The health, well-being and safety of farm men, women and families around the world is a barometer for the level of national and global health as a resource and reserve. Healthy farm families produce fibre, food, and nutrition, essential determinants of anyone's health. Unhealthy farming conditions produce farm families whose health is under pressure, and are potentially unable to sustain themselves, their productive capacity, and their markets.
Comprehensive programmes	Farmer health programmes bring together knowledge, skills and capacity from human, animal and plant health services, communities, industry, and academia to develop health, well-being and safety with a focus on farming men, women, and families.
Accountability and responsibility	Individuals, groups and communities in urban, rural and remote environments around the world, and all levels of government should take farmer health seriously. This Hamilton Charter for Farmer Health suggests five areas of critical action, and ways forward.

## Value Culture

Unique culture	Whether it is in large scale hi-tech agriculture or on subsistence farms, on land or water, in warm or cold climates, farming has unique cultural attributes. It is important to recognise these cultural elements, name them, and identify cultural challenges and opportunities that are the result of changing global and local conditions. More than ever before this glocal relationship should drive individual and institutional ambitions.
Address farming and gender	Men, women and families live and work on farms. They each have different needs, all within a strong myth of a hard farmer ethos. Women's health may be underprioritised, and the strong masculine culture may lead to problems for farming men expressing concerns for their health, wellbeing and safety. Farmer health programmes need to address these issues and differentiate appropriately.
Appreciate lifecourse, generations, and transition	Farming is usually a life-long and intergenerational family career. Its attributes become engrained in community, family and national culture, and with changing economic and climate conditions this culture comes under serious pressure. When life becomes work, identity can be challenged when work fails. Farmer health programmes value and work with intergenerational culture in a lifecourse approach in farming communities. Where necessary they assist in non-linear transitions in and out of the farmer culture.
Place and nature	In varying degrees, farming is close to, and depends on nature. This is an important



cultural aspect of the farming experience. A strong sense of place connects with a strong sense of coherence, and social capital significantly intersects with natural capital in farm environments. There is intrinsic value in farming, and farmer health programmes mediate and advocate for connectedness to the land as a critical determinant of health.

Change The romantic image of the strong, physically able labourer on the land is long gone. Social and technological changes have redefined the nature of farm life. Farmer health programmes see such dynamic change as an important part of farm life, and advocate and enable occupational health and safety policies and programmes to be intrinsic and inalienable parts of farm culture for all.

### **Live with work**

Different work-life balance Life long and intergenerational farm systems link social and environmental capital, and farm families live and work by the clock set by seasonal and biological laws. The idea of worklife balance has substantially different meaning in farming communities. Farmer health programmes work with the unique timelines of farming, and advocate for appropriate adaptations of, for instance, work and social assistance legislation and funding arrangements.

Together for all The (cycles and determinants of) health and wellbeing of humans, livestock, and plants on farms are intimately connected and need to be both a resource and concern for all those involved in their development. Farmer health programmes must therefore be seen as hubs of interprofessional and interdisciplinary research and service delivery in which agriscience, veterinary and human medicine and public health, natural and social care, and propagation and empowerment create synergies for better health for all.

Poor health not acceptable Poorer health outcomes in farming communities have become accepted and normalised as the result of access issues (the tyranny of distance) or being intrinsic part of farm realities. Pain, selfmedication through alcohol and drugs, injury, cancers and preventable deaths need not be part of farm reality. These issues, and the resultant poor health outcomes, need to be denormalised. Farmer health programmes advocate for equitable standards in health and social service delivery, and expose policy, programme and research biases.

### **Future-proof farm systems**

Adaptive capacity The world is changing and continues to change: current global dynamics are impacting on the operations of farm systems. In a global market with varying degrees of protectionism and open trade parameters, some of the determinants of farmer health and wellbeing have become more threatening and yet more intangible. This also applies to climate variability. Successful farm systems and farmer health programmes

are built around capacities to monitor change and adapt flexibly. Their success is further determined by fast, intersectoral contingency planning and effective involvement of the media.

Health and Social Impact

In order to futureproof farm systems it is critical to recognise and address the interface between social, economic and environmental capital. Health (and Social) Impact Assessments (HIAs or HSIAAs) are applicable, valid and effective tools to assess the impact of changing parameters on the health and wellbeing of larger populations, and the planning of adaptive capacity in farm systems. They are most effective when embedded in statutory frameworks. Farmer health programmes apply and advocate for the application of Health (and Social) Impact Assessments both for planning and outcome purposes.

Health priorities and planned intervention

Futureproofing farm systems must address priority issues of health, wellbeing and safety, and see these as fundamental to sustainable agriculture. By any measure, mental health issues constitute the largest part of the global burden of disease; mental health issues in farming families are disproportionately higher than global rates; and farming men are particularly vulnerable. Stigma associated with mental health creates additional prevention and treatment barriers, and mental health resources in farm communities are scarce. Farmer health programmes invest in two-tiered approaches (focusing both at farming communities as well as those at highest risk) in prevention, early detection, rapid intervention, and where necessary appropriate care. Most importantly though, farmer health programmes futureproof farm systems through sustained, strong, planned and evidence-based health promotion engaging with communities and the media.

## Build skills and knowledge

Boundary crossing and knowledge mobilisation

In order to implement the action agenda embraced by this Charter a strong skills and knowledge base needs to be built. Basic medical science generates valuable information, for instance, exposure and vector control. Substantial information in other fields has also been generated but has failed to be adapted, disseminated or implemented. Farmer health programmes work with their critical stakeholders to identify, validate and implement appropriate skills and evidence. Where necessary, implementation research with clearly identified populations or settings will be valuable. The establishment of an international repository or clearinghouse for farmer health interventions (similar to Cochrane or Campbell Collaborations, and possibly part of either) is critical.

Integration in tertiary education

Tertiary education programmes in Agricultural Health and Medicine need to be integrated in the course offerings of all universities with current health, medicine, veterinary and agricultural curricula. To thrive, they need embedding in rural and remote health units, offering placements for both Faculty and students.



Health literacy

Skills and knowledge are not merely a prerogative of “experts”. Effective programmes work with communities and industry partners, and develop health literacy at many levels. Reciprocal learning and boundary crossing experience work best to mobilise and implement knowledge and practice. This results in increased health literacy, leading to improved health outcomes, more effective use of services, and the identification of a lack of system skills and facilities. Farmer health programmes design, build and implement programmes for health literacy in farm families, communities, human and veterinary medicine, agriprofessionals, academics and particularly government bureaucracy and political leaders.

Use and generate evidence

It will be necessary to continue to develop evidence based farmer health programmes. However, the application of evidence without judgement or consultation may be ineffective or counterproductive. Farmer health programmes identify and apply evidence wisely, and generate new evidence only when appropriate.

New tools and instruments, such as HSAs, rapid appraisal techniques, and the design and implementation of research and development tools incorporating multiple methods, are already available and need further capacity building efforts. Farmer health programmes will provide testing grounds and capacity building for innovative research and development efforts.

### **Create political momentum**

Joint policy advocacy

A long sequence of declarations and statements has identified political will, or lack thereof, as a determinant of effective health development. Political will is the result of a dynamic discourse in which stakeholders take part with commitment and vigour. Political momentum will move the farmer health debate forward, beyond political will alone. Farmer health programmes will play policy entrepreneurial roles with other stakeholders, including but not limited to agriprofessionals, communities and industry partners, to secure the presence of farmer health issues on global policy agendas. Individuals and institutions associated with farmer health programmes will, whenever appropriate, advocate for dynamic adaptation in service delivery, skills and knowledge development, and research for farmer health.

One voice in joint-up services

Redressing the fragmented development of a range of services for farmer health should be put high on social and political agendas. Individuals and institutions associated with farmer health programmes will make an effort to speak with a single voice in policy and political advocacy. This applies to the argument that – with the obvious similarities between agricultural extension and health promotion – comprehensive, embedded and integrated farm health development programmes will yield substantive health, social and economic gain for farm families, the broader community, and global health.

Reinvigorate participation

Community engagement in public policy decision making is a key democratic principle.

However, significant groups in society are disengaging from such participatory and empowered approaches to policy. This is observed, for instance, in groups of young farming men and women. It is vitally important to reconnect with any such group. Individuals and institutions associated with farmer health programmes have a responsibility to act as conduits, and create communication and other pathways, to actively involve all voices, including those of Indigenous and First Nation populations, in the policy discourse.

Advocate health literacy

Further investment in the various forms and levels of health literacy as described above is essential for any health development programme. Individuals and institutions associated with farmer health programmes should advocate for policy and budget decisions that enable the development and implementation of health literacy programmes within a growing political preventive health agenda.

## The way forward

This Hamilton Charter for Farmer Health and its five core principles will guide us as we return to our workplaces, communities and countries. These inseparable five principles will enable us to move forward and take action with a unified voice through strategic alliances and partnerships.

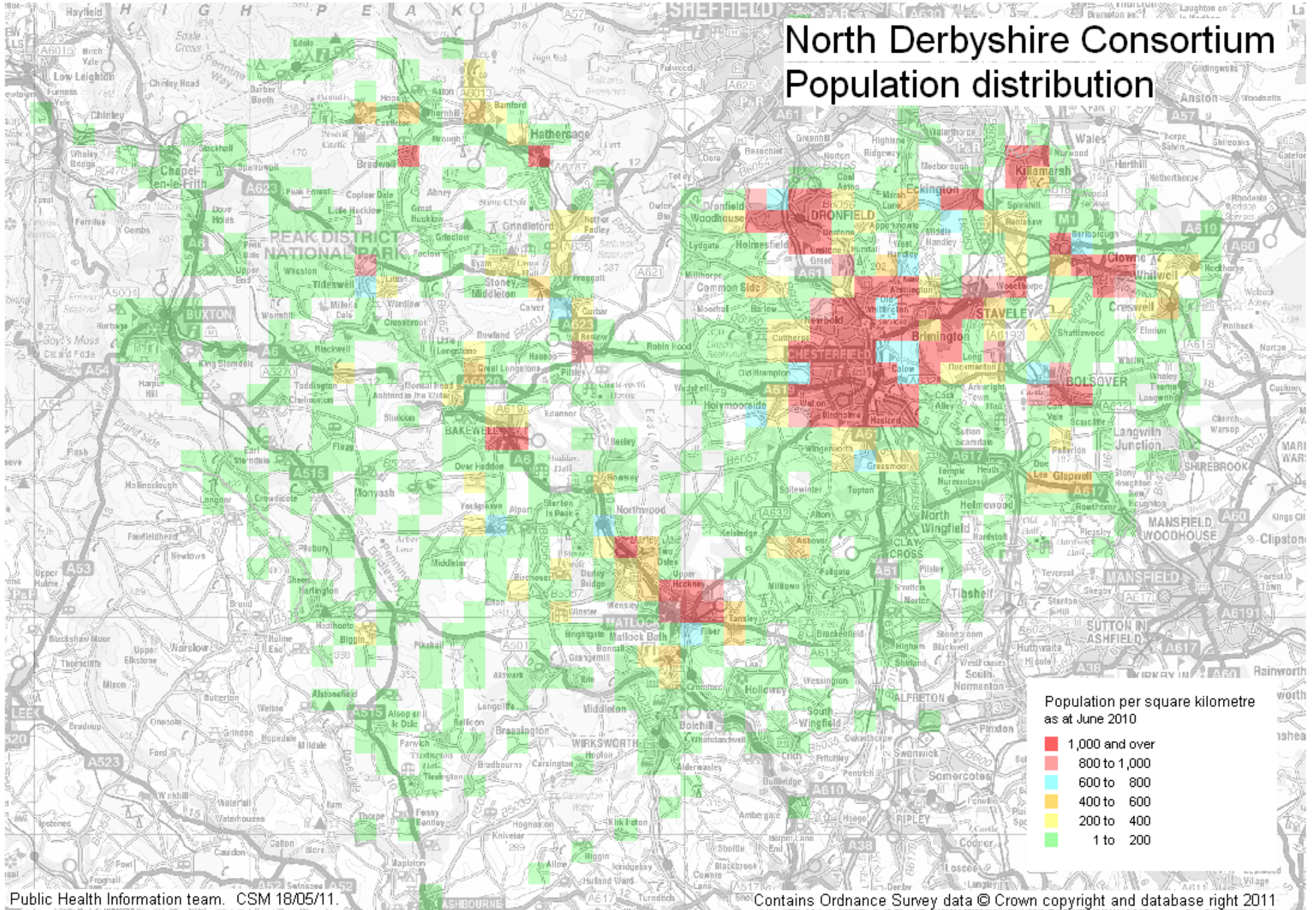
We undertake to:

- Empower ourselves and others to consider the health impacts (individual, family, community, environment) of agricultural production and campaign to ensure that negative impacts on farmer health is recognised and not normalised as a by product of production.
- Understand the cycles (seasonal and biological) of farmer health and the relationship of farmers to nature whilst delivering appropriate and quality farming health programmes to all.
- Defend and celebrate profitable and sustainable rural industries in the global market recognising and valuing the key role of farmers in providing food and fibre for the world.
- Broaden the identity of farm men, women and communities beyond the life is work ethos, and thus enable them to successfully meet their new challenges through opportunities, alliances and education.
- Recognise that improving farmer health involves new relationships and the strengthening of old relationships across sectors and within sectors. Research, policy development and service delivery will need to be developed in place, recognising the valuable interaction in and with communities. The interdependency and synergistic drive of these relationships will move this Charter forward.

Go forth and sow and water the seeds of the Hamilton Charter for Farmer Health into your work, workplace, community, governance or new policy.

## **Appendix 5: Areas covered by Clinical Commissioning Groups.**

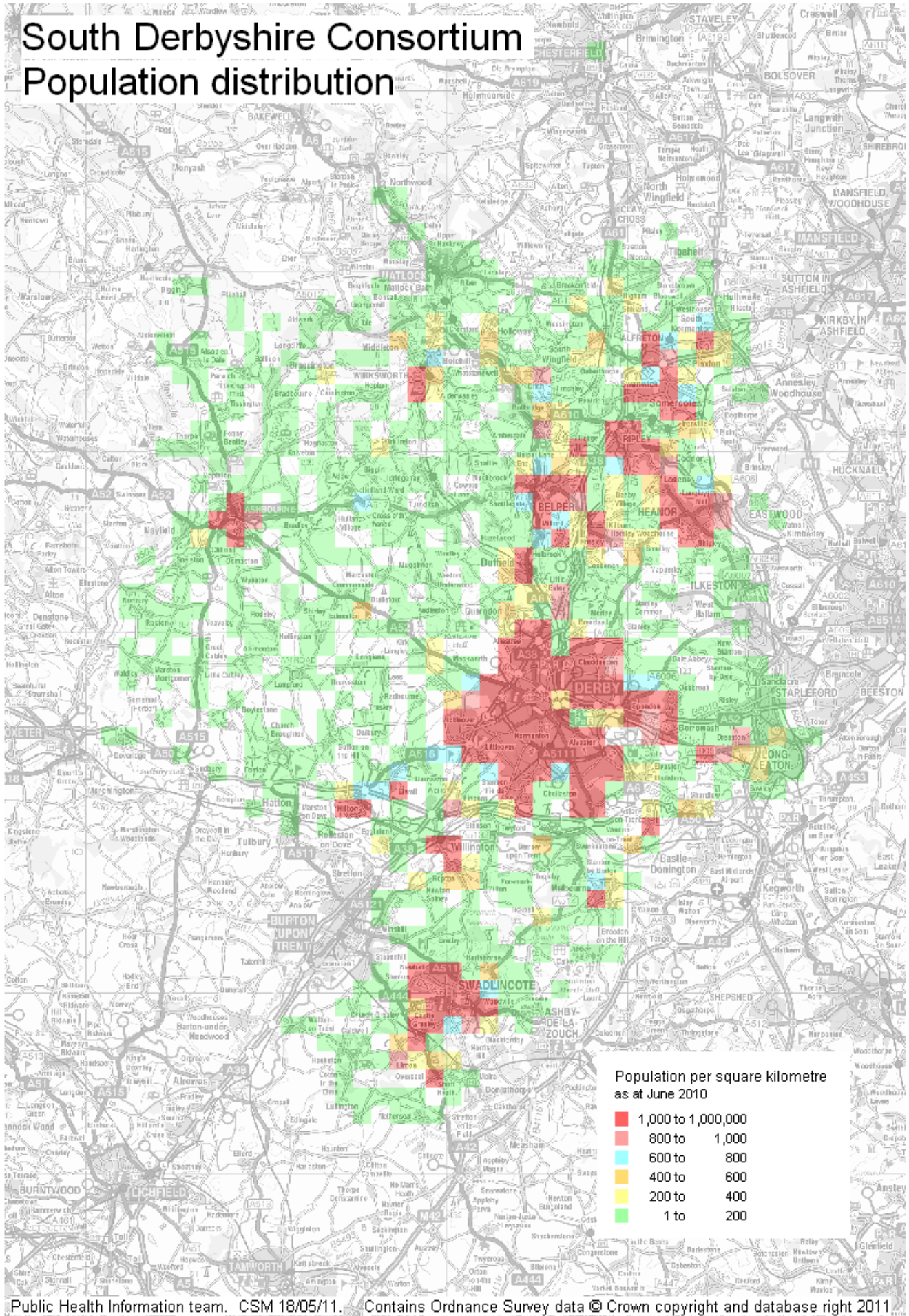
# North Derbyshire Consortium Population distribution



Population per square kilometre as at June 2010

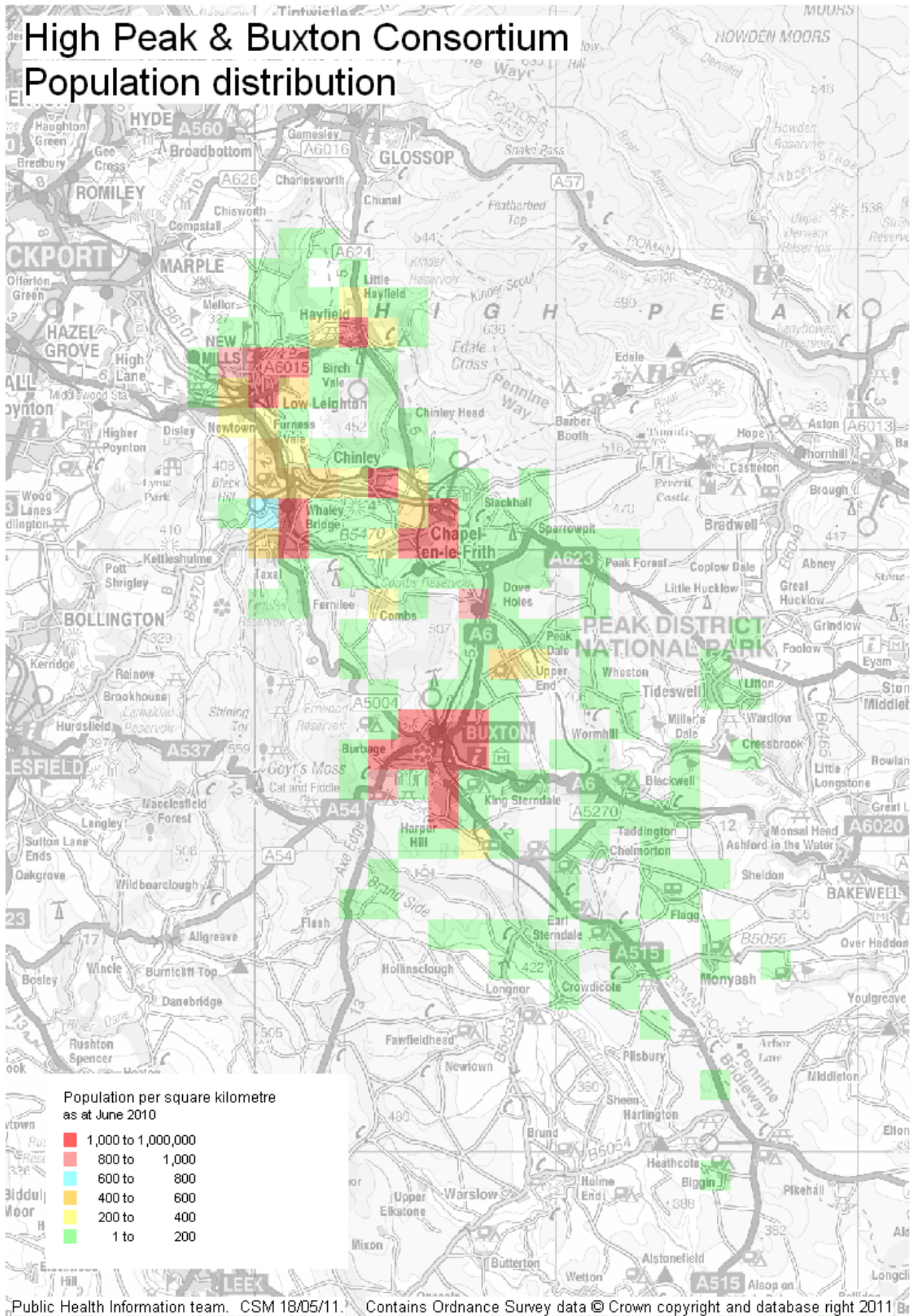
Red	1,000 and over
Orange	800 to 1,000
Yellow	600 to 800
Light Green	400 to 600
Dark Green	1 to 200

# South Derbyshire Consortium Population distribution



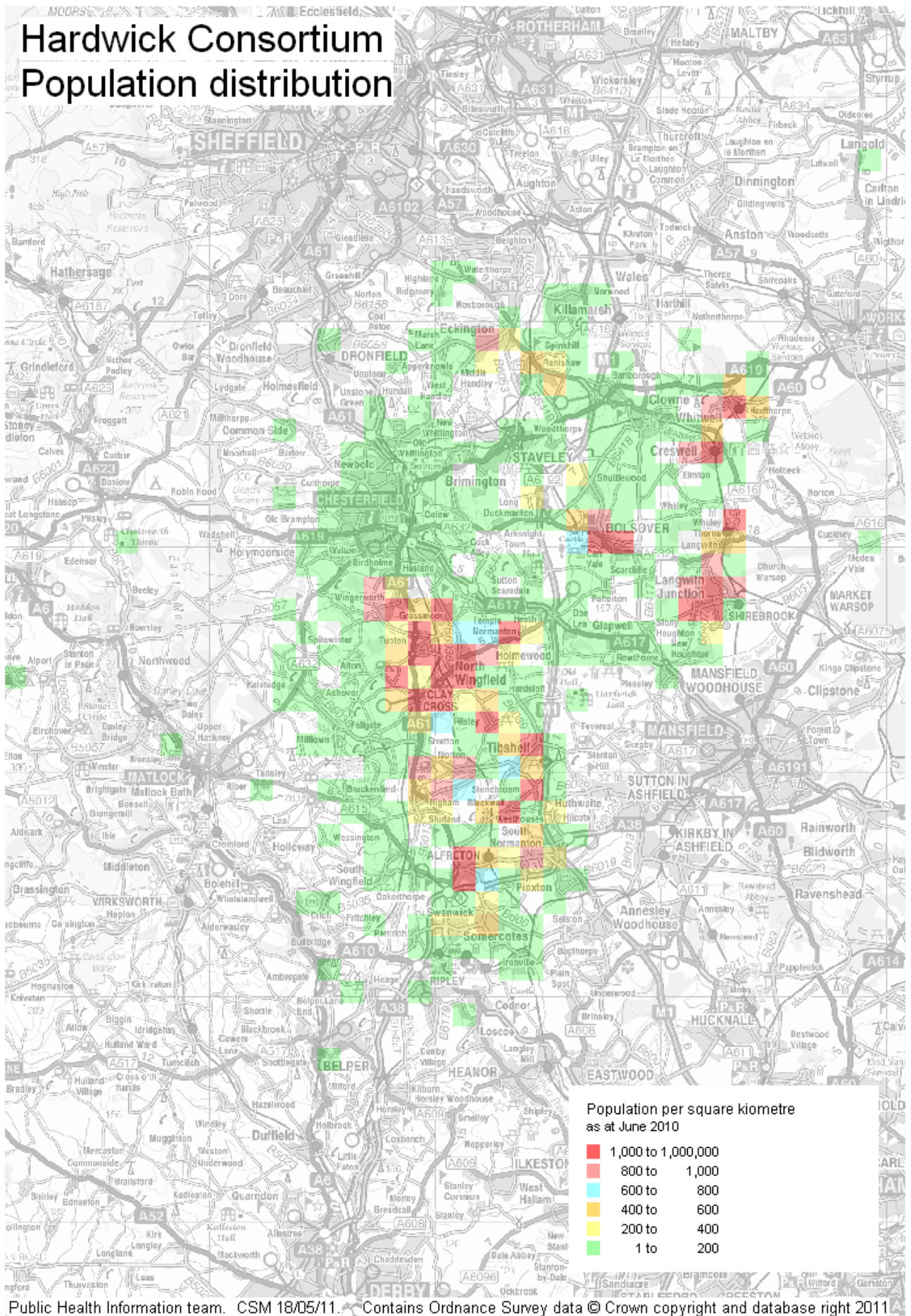
Public Health Information team. CSM 18/05/11. Contains Ordnance Survey data © Crown copyright and database right 2011

# High Peak & Buxton Consortium Population distribution





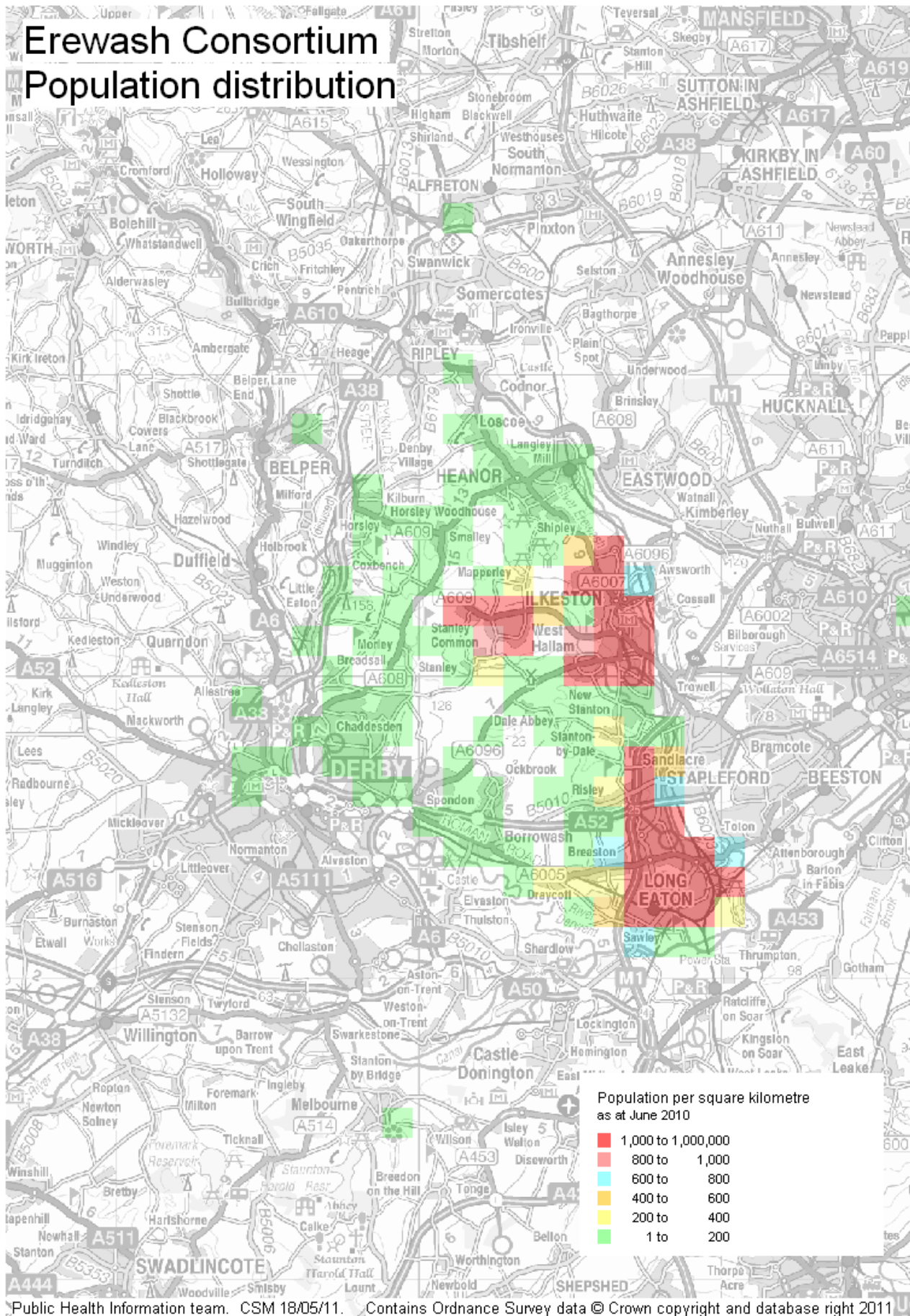
# Hardwick Consortium Population distribution



Population per square kilometre  
as at June 2010

1,000 to 1,000,000
800 to 1,000
600 to 800
400 to 600
200 to 400
1 to 200

# Erewash Consortium Population distribution



Public Health Information team. CSM 18/05/11. Contains Ordnance Survey data © Crown copyright and database right 2011

## Appendix 6: Charting Exercise

**Table 4: Charting of qualitative data**

MAIN THEME	<b>1.Stoicism</b>			
Sub themes	1.1 illness as 'something you get on with'	1.2 illness as unimportant in relation to business	1.3 illness and death as part of natural cycle	1.4 male and female stoicism
Summary	Most of the respondents talked about illness and also health more widely as something that just needed to be coped with, that it wasn't enormously important. Several told stories about patients leaving quite serious conditions until the very last minute- sometimes to the point where the problem cannot be adequately treated.	The perception of health and illness being 'something you get on with' was thought by those who felt this to be largely linked with the importance of business and keeping the farm running. Participants talked about how farmers needed to work as they often didn't have staff to rely on to do essential work such as animal care and milking.	Seeing illness and death as part of a natural life cycle and as something 'normal' was also discussed by some and was considered to contribute to the stoic nature of the farming community.	Men in particular were seen as stoic and unwilling to accept help when unwell. It was also reported that sometimes farmer's wives asked for advice about health problems on their husbands behalf. Respondents did though report that women also displayed a stoic approach to health and health care.
MAIN THEME	<b>2.Relationships and trust</b>			
Sub themes	2.1 HP and services viewed with suspicion	2.2 HP trusted	2.3 Importance of relationship building	
Summary	Although not experienced by all of the participants, some of the respondents, including some of the community nursing respondents, felt that HP were viewed with some suspicion and that it often took a lot of time and effort to build	Being treated with suspicion was not something experienced by all respondents. One GP respondent for example felt that their relationship with the farming community was	Many of the respondents talked about the importance of building relationships with their farming patients. This sometimes seemed to develop over time or sometimes by word of mouth. One participant said she had learned to develop relationships by showing her interest in the farm, asking the farmer about his livestock for example.	

	relationships with some members of the farming community. This seemed to be less of an issue where staff were known to the farming community through farming connections or through farming families. Not wanting people to know their business seemed to reinforce this – and this influenced some people’s decisions to utilise some services/facilities, including the FLC. Social care services seemed to be viewed with greater suspicion than health care services, though most respondents felt that the farming community had little knowledge of the services offered by social care providers.	based very much on trust, but this has been a long standing relationship.	Attitude of the health professional was also seen as important and that poor attitude could hamper relationships.
<b>MAIN THEME 3: Knowledge of health/social care services and related services</b>			
Sub themes	3.1 Knowledge of FARM OUT	3.2 FLC	3.3 Social care and CAB
Summary	All of the respondents interviewed talked about the Farm Out clinic based at Bakewell Agricultural Centre. It was widely felt that this clinic provided an important and accessible service to the farming community. Many referred patients directly to it	Most of those interviewed also talked about the FLC and tended to see this as an important service providing largely social opportunities and support. Some, particularly those	All of the respondents thought that knowledge of social care services was low in the farming community. This was partly linked with not wanting to accept social care and also not wanting to pay for any associated costs. Knowledge of things like benefit entitlement was also considered to be poor. The CAB was only raised by one respondent (GP) who felt that this might not be fully utilised by the farming

	and had direct relationships with the staff working at the clinic. This service was also reported as being highly valued by the farming community.	working with older farmers thought that this offered important opportunities to socialise and reminisce, but not all those who could benefit from used it. It was also thought to be a service more widely known to farmers in that geographical area, which may fit with its remit of providing support to those farming in the upland areas.	community, even though it was accessible through the agricultural centre.	
<b>MAIN THEME 4: Access to services</b>				
Sub themes	4.1 Access and timing/responsibilities	4.2 Problems become crises	Farming specific services	Improving access
Summary	Respondents felt that efforts had been made to make primary health care services more accessible to the farming community. This included providing later opening on market day and early surgeries. However many still thought that this wouldn't fit easily with many farmers – those involved in milking for example might particularly struggle. In terms of children, the HV	Perhaps in line with their stoic nature, farmers were thought to leave health problems until they became crises or until they could no longer work as a result.	The Farm Out Clinic was thought to be very accessible to the farming community largely as it coincided with market day and provided a drop in facility.	It was suggested that a similar facility to the farm out clinic be provided on the south of county – again to coincide with market day on a Thursday in Derby. It was also suggested that the Farm Out Clinic in Bakewell may benefit from a GP or Community Matron who could refer/prescribe.

	interviewed reported that farming mums were willing and able to attend clinics and were not more likely to miss essential appointments such as imm and vac appointments.			
<b>MAIN THEME 5: Mental health</b>				
Sub themes	5.1 Depression and anxiety.	5.1.1 financial problems	5.1.2 Paperwork and the CAP	5.2 Role of wives
Summary	Most did think that depression was an issue in the farming community, but their reluctance to access services meant that it was largely untreated.	Most thought that financial pressures contributed greatly to depression and anxiety in the farming community.	Most also mentioned paperwork and bureaucracy as perhaps the biggest cause of anxiety and depression in the farming community, as this often included farmers wives then this would most likely also impact negatively on them.	Wives and daughters had at times sought help on behalf of a husband when they were unwilling to seek help themselves.
<b>MAIN THEME 6: Physical health issues</b>				
Sub themes	6.1 Musculoskeletal issues.	6.2 Injury	Other	
Summary	This was considered to be the most significant health problem faced by the farming community.	Injuries were also common, and often these were left until they became very problematic or until they could access the Farm Out Clinic on market day.	Other conditions included hypertension, obesity and high cholesterol.	

<b>MAIN THEME 7: Role of the family and social networks</b>			
Sub themes	7.1. Looking after your own	7.2 Social networks	7.3 Accessing on behalf of others
Summary	<p>Some but not all of those interviewed thought that the farming community were very good at looking after each other when times were hard. This might include helping isolated people in times of snow. However some (including one respondent that was also involved in farming) felt that farmers did not help each other enormously as they didn't want others knowing their business.</p> <p>In terms of family, they were seen as very important in providing support and care for ill relatives.</p>	<p>Social networks were seen as important but could be constrained by limited leisure time. The agricultural centre was seen as important in facilitating these networks as farmers often used market day as opportunity to socialise as well as buy and sell live stock.</p>	<p>Some respondents reported that wives at times consulted with concerns over their husbands health.</p>



