Northumberland, Tyne and Wear NHS Foundation Trust

Board of Directors Meeting

Meeting Date: 26th October 2016

Title and Author of Paper: Analysis of natural and unnatural deaths (2010 to 2015) in NTW
Dr Damian Robinson, Deputy Director, Safety / Anthony Gray, Head of Safety and Security

Executive Lead: Gary O'Hare, Executive Director of Nursing and Operations

Paper for Debate, Decision or Information: Information

Key Points to Note:

- This is an analysis of deaths recorded in the NTW SafeGuard system for the six calendar years 2010 to 2015. The data extract was undertaken on 9th September 2016.
- NTW is a member of the Northern Alliance of Trusts which is working with Mazars to improve and standardise the reporting and investigation of deaths, and facilitate cross organisational learning. NTW has established a Mortality and Morbidity Group.
- NTW currently has a high concordance of reports of deaths between RiO and SafeGuard. It is introducing Human Factors Framework into the investigation process and developing additional processes to review natural cause deaths.
- In 2015 there were 79 currently confirmed unnatural deaths but a significant number of pending conclusions remain (31) which may yet prove to be of natural cause. The eventual figure is likely to lie between that seen in 2013 and 2014.
- At the point of data extraction there were 25 coroner confirmed deaths in 2015 with a conclusion of suicide, *killed self*, or open. There has been a shift towards suicide conclusions becoming more common but this is likely to be a recording issue as the total number of *deaths by own hand* is not changing.
- The number of deaths occurring across all community services in 2015 is comparable to previous years but it is too early to comment on the number attributed to *death by own hand*. The majority of deaths occurred in Community Mental Health Teams (CMHT) for working age adults, addiction services and Crisis Resolution & Home Treatment (CRHT) services.
- Following a year on year increase in deaths in adult and older peoples CMHTs there was a reduction in the total number of such deaths in 2015, and a marked decrease in *deaths by own hand*.
- After a fall in 2014, there was an increase in unnatural deaths in addiction

services in 2015, largely due to an increase in misadventure conclusions.

- The number of potential unnatural deaths in CRHTs in 2015 has exceeded the final year figure for 2014, with several conclusions still pending. The number of *deaths by own hand* increased to five.

- The number of deaths occurring within three months of discharge from hospital has continued to fall since a peak seen in 2013. In 2015 there were no more than eight such deaths (one conclusion pending). The number of *deaths by own hand* was similar to previous years.

- The number of deaths of service users while an in-patient is small and has continued to fall.

- There is considerable variation year on year in the number of deaths of service users detained under the Mental Health Act.

- There were 2544 natural cause deaths reported in SafeGuard between 2010-2015, with a year on year increase. There were 714 such reports in 2015. This is likely to be due to increased reporting.

- More men than women dies of natural causes in people aged under 75, while women predominated in elderly age groups.

- Historically, underlying cause of death has not been recorded in SafeGuard when the cause of death is natural. This limits the analysis that can be undertaken.

- A revised review process is being introduced to improve learning from natural cause deaths.

Risks Highlighted to Board :
Potential reputational and regulatory risk from failure to identify, report, investigate and learn from natural and unnatural deaths. Mitigating actions in place to reduce risk.

Does this affect any Board Assurance Framework/Corporate Risks?
Please state Yes or No; No
If Yes please outline

Equal Opportunities, Legal and Other Implications:
Potential for discrimination against people with learning disabilities

Outcome Required:
Note content of report

Link to Policies and Strategies:
NTW (O) 05 Incident Policy

Northumberland, Tyne and Wear NHS
NHS Foundation Trust

REVIEW OF SIX YEARS OF DEATHS (2010 TO 2015) NORTHUMBERLAND TYNE & WEAR FOUNDATION TRUST

(ANALYSIS UNDERTAKEN ON DATA EXTRACTED FROM SAFEGUARD ON 9th September 2016)

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CONTENTS

Dr Damian Robinson, Deputy Medical Director – Safety
Antony Gray, Head of Safety and Patient Experience

Chapter 1.

SUMMARY AND MAIN FINDINGS.

- This is an analysis of deaths recorded in the NTW SafeGuard system for the six calendar years 2010 to 2015. The data extract was undertaken on 9th September 2016.

- NTW is a member of the Northern Alliance of Trusts which is working with Mazars to improve and standardise the reporting and investigation of deaths, and facilitate cross organisational learning. The Trust has established a Mortality and Morbidity Group.

- NTW currently has a high concordance of reports between RiO and SafeGuard. It is introducing Human Factors Framework into the investigation process and developing additional processes to review natural cause deaths.

- In 2015 there were 79 currently confirmed unnatural deaths but a significant number of pending conclusions remain (31) which may yet prove to be of natural cause. The eventual figure is likely to lie between that seen in 2013 and 2014.

- At the point of data extraction there were 25 coroner confirmed deaths in 2015 with a conclusion of suicide, *killed self*, or open. A significant number of conclusions are outstanding. There has been a shift towards suicide conclusions becoming more common but this is likely to be a recording issue as the total number of *deaths by own hand* is not increasing.

- The number of deaths occurring across all community services in 2015 is comparable to previous years but it is too early to comment on the number attributed to *death by own hand*. The majority of deaths occurred in Community Mental Health Teams (CMHT) for working age adults, addiction services and Crisis Resolution & Home Treatment (CRHT) services.

- Following a year on year increase in deaths in adult and older peoples CMHTs there was a reduction in the total number of such deaths in 2015, and a marked decrease in deaths by own hand (bearing in mind pending conclusions).

- After a fall in 2014, there was an increase in unnatural deaths in addiction services in 2015, largely due to an increase in misadventure conclusions.

- The number of potential unnatural deaths in CRHTs in 2015 has exceeded the final year figure for 2014, with several conclusions still pending. The number of *deaths by own hand* increased to five. This is still fewer than seen in 2013, however.

- The number of deaths occurring within three months of discharge from hospital has continued to fall since a peak seen in 2013. In 2015 there were no more than eight such deaths (one conclusion pending). The number of *deaths by own hand* was similar to previous years.

- The number of deaths of service users while an in-patient is small and has continued to fall. Only one in-patient died in 2015; the death occurred while on planned leave and was due to suicide.

- There is considerable variation year on year in the number of deaths of service users detained under the Mental Health Act. In 2015 there was one such death in the community and under a Community Treatment Order.

- There were 2544 natural cause deaths reported in SafeGuard between 2010-2015, with a year on year increase. There were 714 such reports in 2015. The largest increase has been where the person was aged over 65, but also between 45 and 65.

- More men than women dies of natural causes in people aged under 75, while women predominated in elderly age groups.

- Historically, underlying cause of death has not been recorded in SafeGuard when the cause of death is natural. This limits the analysis that can be undertaken.

- A revised review process is being introduced to improve learning from natural cause deaths.

Chapter 2.

REPORTING, INVESTIGATING AND LEARNING FROM DEATHS.

2.1 Reporting and investigations across the Northern Alliance.

NTW is a member of the Northern Alliance of Mental Health and Learning Disabilities Trusts which has been established since April 2016 with the support of Mazars. The Alliance currently comprises 9 organisations and is working towards establishing a standardised system of death reporting and analysis to facilitate cross organisational benchmarking and learning.

As part of the Care Quality Commission (CQC) review into how NHS Trusts investigate and learn from deaths all Trusts were asked to complete a data survey in August 2016. This was based on deaths reported and investigated by the Trust between April 2015 and March 2016. NTW, on behalf of the Northern Alliance, collated the survey returns from the local Trusts and Mazars has complied a presentation to visualise comparisons between organisations. In the following figures/graphs NTW is identified as Trust E

Figure 1.1 demonstrates the attrition of deaths through reporting into Trust patient administration system (PAS – which is RiO in the case of NTW) through the Risk Management system (RMS - SafeGuard in NTW) and the levels of incident investigation.

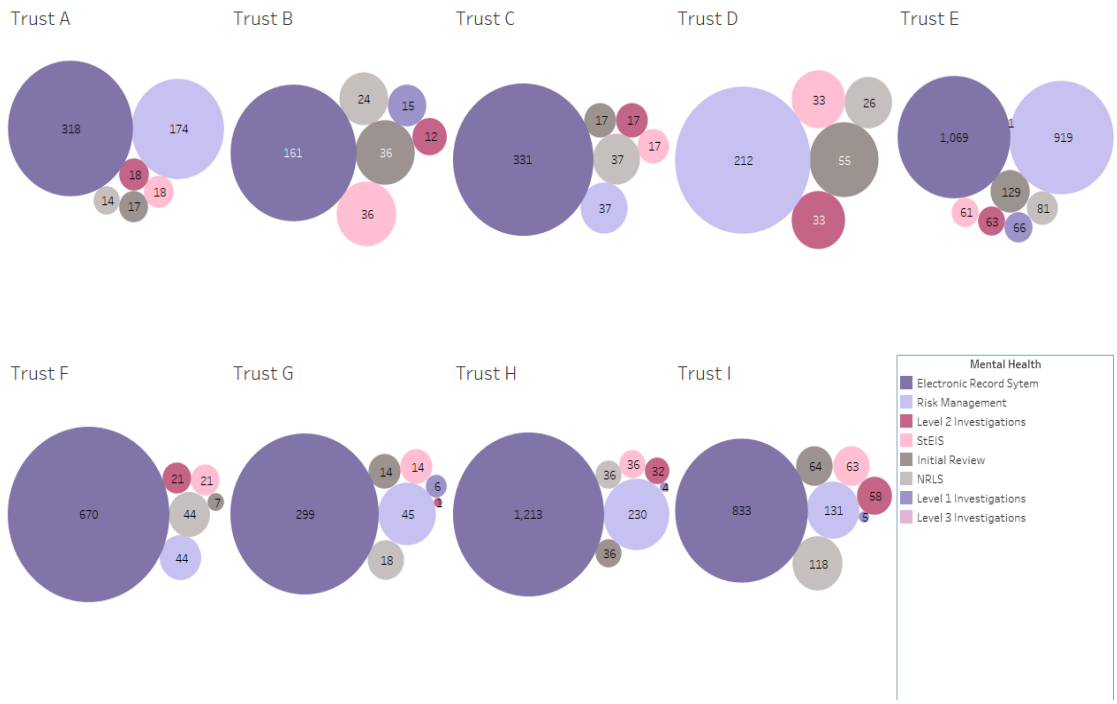


Figure 1.1: Attrition of deaths across 9 Trusts in the Northern Alliance. Source: Mazars/NTW

The Mortality and Morbidity Group in NTW has been working on increasing the concordance of death reporting between RiO and SafeGuard. In this time period 1,069 deaths were reported in the RiO system, and 919 in SafeGuard (86%). This is

the highest proportional concordance of all Trusts in the Alliance. However, further work is needed to improve this level of concordance.

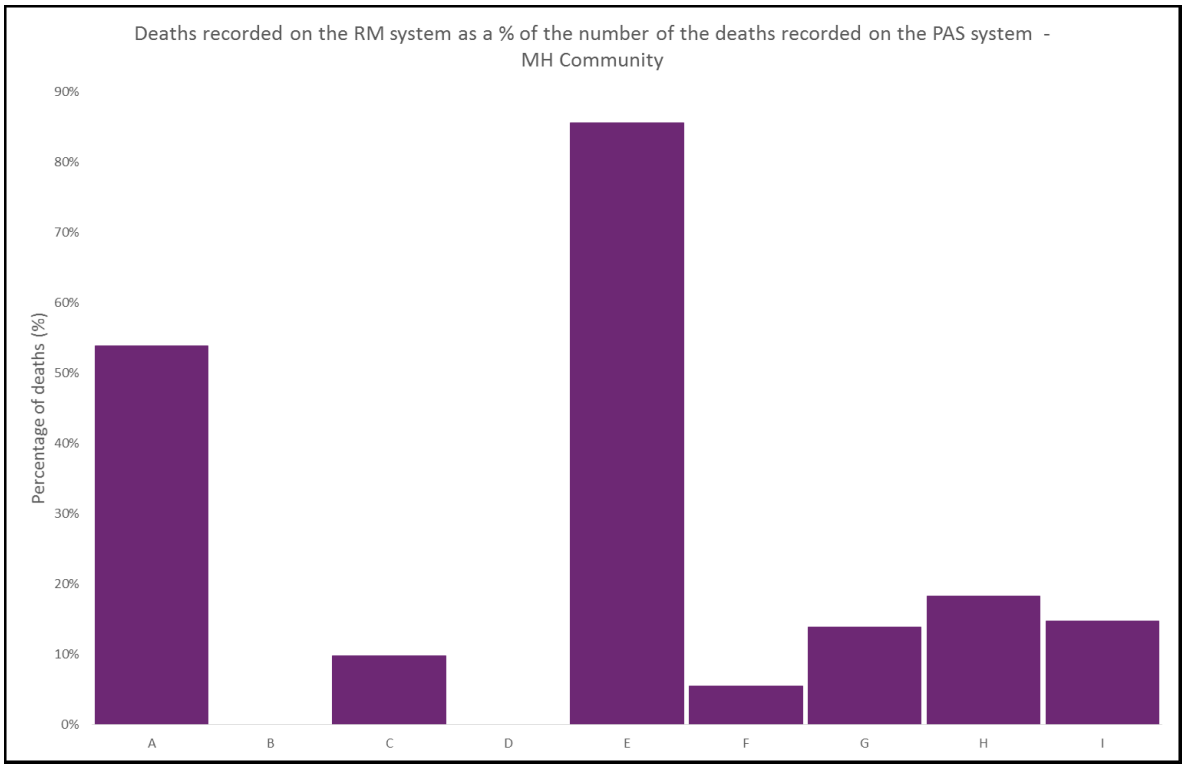
An initial review ascertained that deaths recorded in RiO but not SafeGuard are largely natural cause deaths in older service users. Therefore, it is unlikely that unnatural cause deaths which currently warrant investigation have been missed.

RiO (PAS)	SafeGuard (RMS)	Initial review	Level 1 AAR	Level 2 SUI review	Level 3 Independent review	NRLS report	StEIS report
1069	919	129	66	63	1	81	61

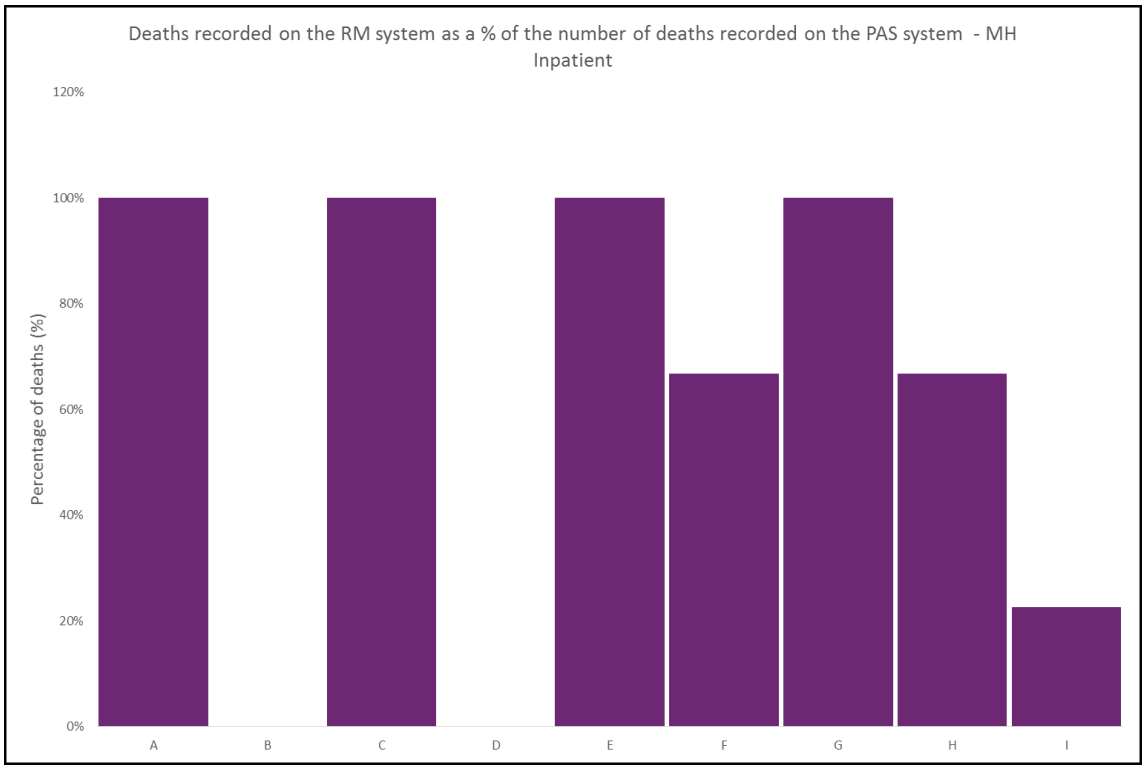
Figure 1.1: Recording, investigations and reporting within NTW 2015-16. Source: NTW Safety Team, 2016

The following graphs show the deaths recorded on the Trust RMS (SafeGuard for NTW) as a percentage of deaths recorded on the PAS (RiO for NTW) for mental health deaths and learning disability deaths in in-patient and community settings. Higher percentages reflect greater concordance between systems and is viewed as a desirable state.

NTW (Trust E) has the highest proportion of mental health deaths occurring in the community reported on both the RMS and PAS (graph 1.1). Most Trusts reported a much lower concordance and two Trusts were unable to provide data. Concordance was higher for mental health deaths occurring in in-patient settings with four Trusts - including NTW – reporting 100% concordance (graph 1.2)

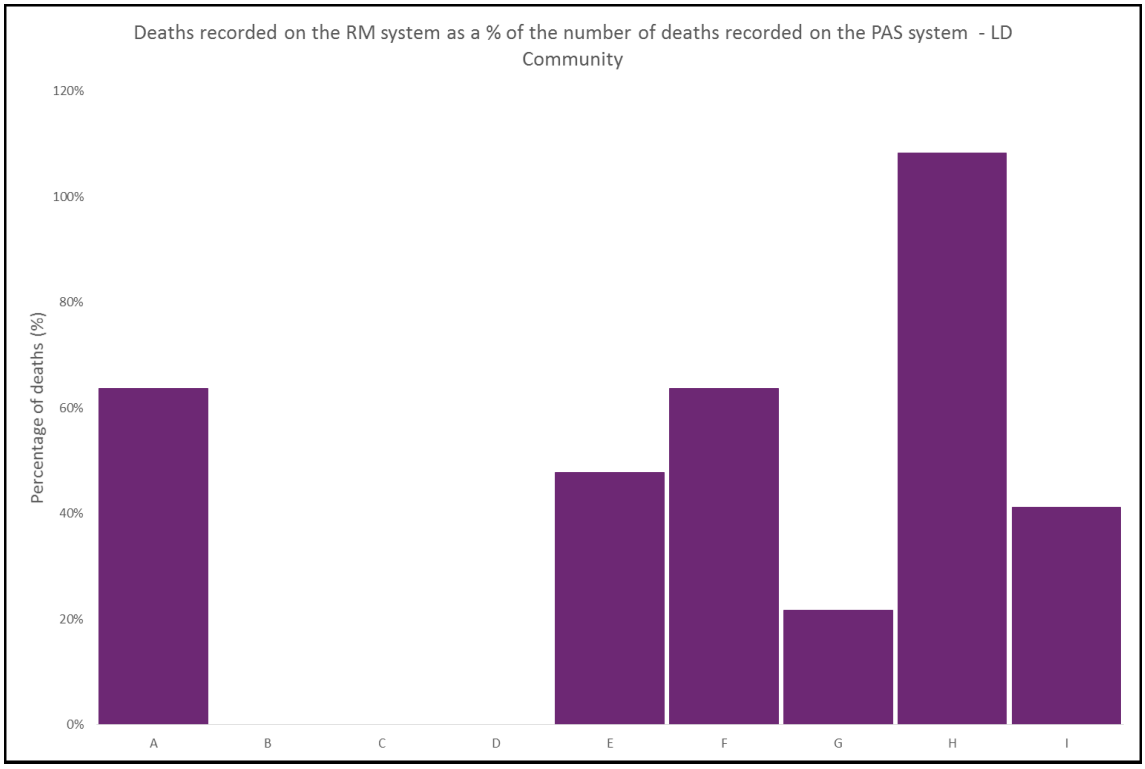


Graph 1.1: Community mental health deaths PAS/RMS system concordance
Source: Mazars/NTW, 2016



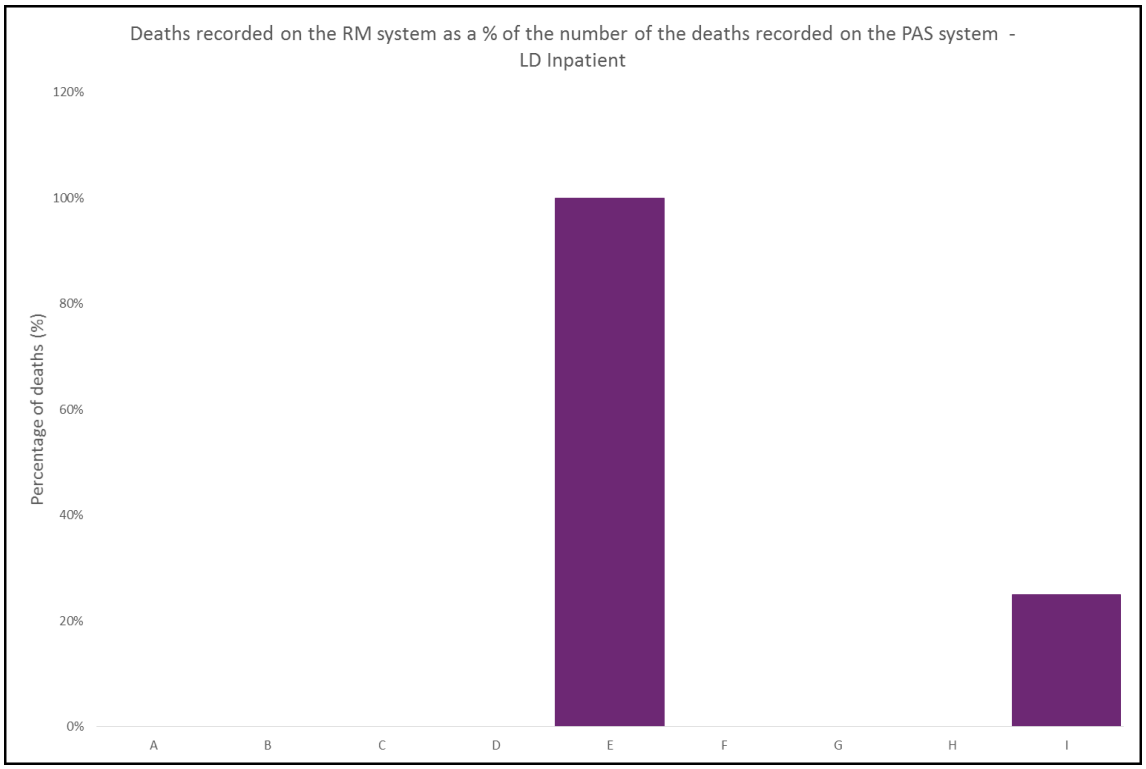
Graph 1.2: Inpatient mental health deaths PAS/RMS system concordance
Source: Mazars/NTW, 2016

The number of community learning disability service deaths was lower. NTW did less well than three other Trusts in concordance between the systems (graph 1.3). There is a need to improve concordance to ensure appropriate reviews are undertaken.



Graph 1.3: Community learning disability deaths PAS/RMS system concordance
Source: Mazars/NTW, 2016

Only three Trusts reported in-patient deaths in learning disability services; all such deaths in NTW were on both systems (graph 1.4)



Graph 1.4: Inpatient learning disability deaths PAS/RMS system concordance
Source: Mazars/NTW, 2016

3.2 Improvement work in NTW

While NTW has a well-established process for the identification and investigations of serious incidents, these predominantly concern unexpected unnatural cause deaths as reported in the next chapter of this report. The Mazars report into Southern Health, and the work of the Northern Alliance, is focused on ensuring that learning is captured from other categories of deaths including those of natural cause.

The Trust has established a Mortality and Morbidity Group which is developing an implementation plan to improve and broaden the scope of reviews and investigations of deaths. This will increase the focus on social and physical factors underlying natural cause deaths.

The Safety team has reviewed various examples of Human Factors Frameworks and is now commissioning training for investigators and members of the Serious Incident Review Panel. The introduction of a new template for reports will, in addition to the training, support the identification of root causes and learning.

A conference was held in September 2016 covering quality improvement from serous incident reviews and attended by senior medical staff from the Trust.

Chapter 3

REVIEW OF UNNATURAL DEATHS

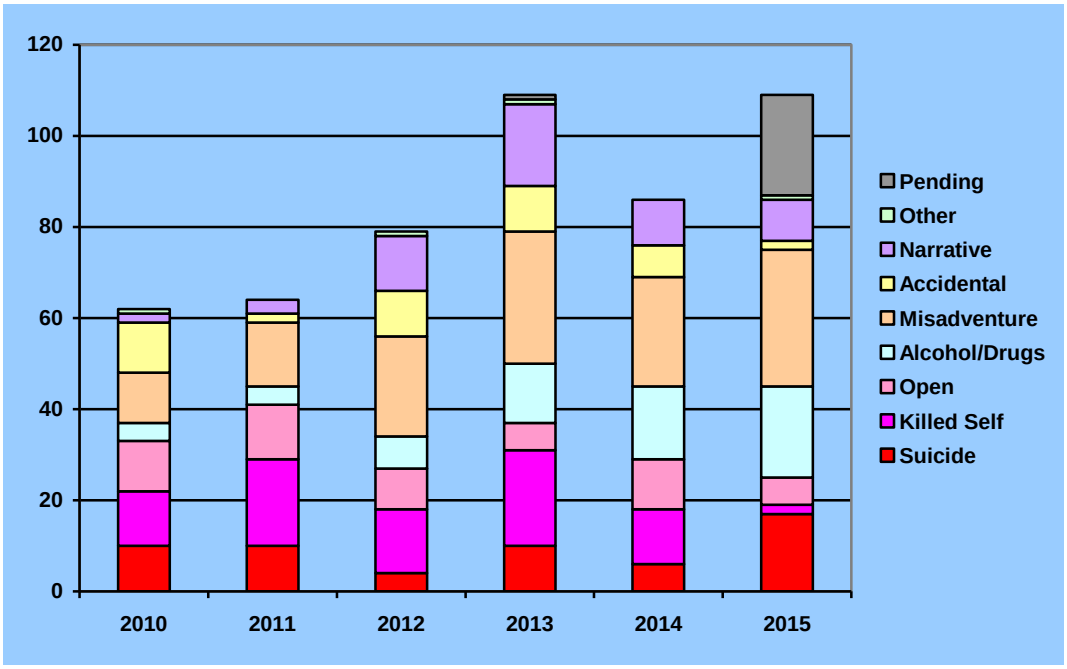
3.1 Unnatural deaths in all services.

Over the six year period there were 509 potentially unnatural deaths reported. At the time of data extraction (9th September 2016) conclusions were pending in 22 cases, so unnatural death had been confirmed in 487 cases.

There were no pending conclusions for deaths occurring in 2010 to 2012 or 2014. One conclusion was pending for 2013, and 22 conclusions pending for deaths occurring in 2015. It is likely that some deaths will be classified as being of natural causes at inquest so caution is required in interpreting data for time periods for which conclusions are still outstanding.

The number of potential unnatural deaths increased year on year between 2010 and 2013, but decreased in 2014 (see graph 3.1). In 2010 there were 62 coroner confirmed unnatural deaths, 64 in 2011 and 79 in 2012. In 2013 there were 108 confirmed unnatural deaths with one conclusion pending. This fell to 86 confirmed unnatural deaths in 2014.

In 2015 there are currently 79 confirmed unnatural deaths but a significant number of pending conclusions remain (22) which may yet prove to be of natural cause.



Graph 3.1: Unnatural deaths by coroner conclusion across all NTW services. Source: NTW SafeGuard, accessed September 9th 2016.

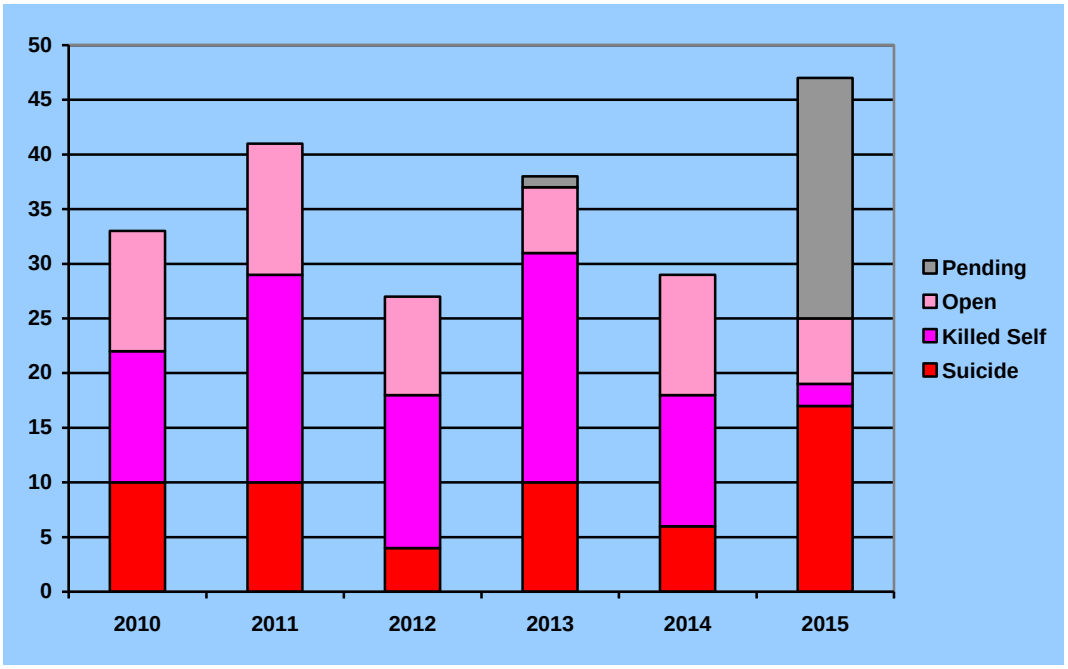
3.2 Deaths by own hand in all services

Deaths classified as those *by own hand* include those where the coroner conclusion is either suicide, open, or indicative of being the consequence of self-applied cause but without evidence of intent to die (termed *killed self*). The latter is derived from the nature of short form conclusions.

At the time of analysis there had been 192 coroner confirmed cases of death by own hand. This included 57 suicides (30%), 80 *killed self* (42%) and 55 open (28%). In addition, there are 23 deaths with conclusions still pending, 22 of which relate to deaths in 2015.

It is notable that for those conclusions so far available relating to deaths in 2015 there has been a marked change in the pattern of conclusions given. Of the 25 conclusions currently available, 17 have received a definitive suicide conclusion (68%); across the five previous years suicide accounted for only 25% of deaths by own hand conclusions. This has occurred at a time when the number of narrative conclusions has substantially fallen. For deaths occurring in 2015 there have been 2 short narrative conclusions and 9 long narrative conclusions, compared to 22 total narrative conclusions in 2014 and 39 in 2013. This probably reflects recent guidance to coroners (Chief Coroner Guidance No17) urging them to stick to standard short form conclusions (such as open or suicide), rather than a change in the nature of the self-harm act itself.

The number of cases of *death by own hand* shows less trend over the six year period (see graph 3.2). This is due in part to the relatively small number of events. Even including potential cases which still have pending conclusions there is no increasing trend though 2010 to 2014. The significant number of conclusions pending for 2015 means it is currently unreliable to comment on the likely number of *deaths by own hand* cases for this year.

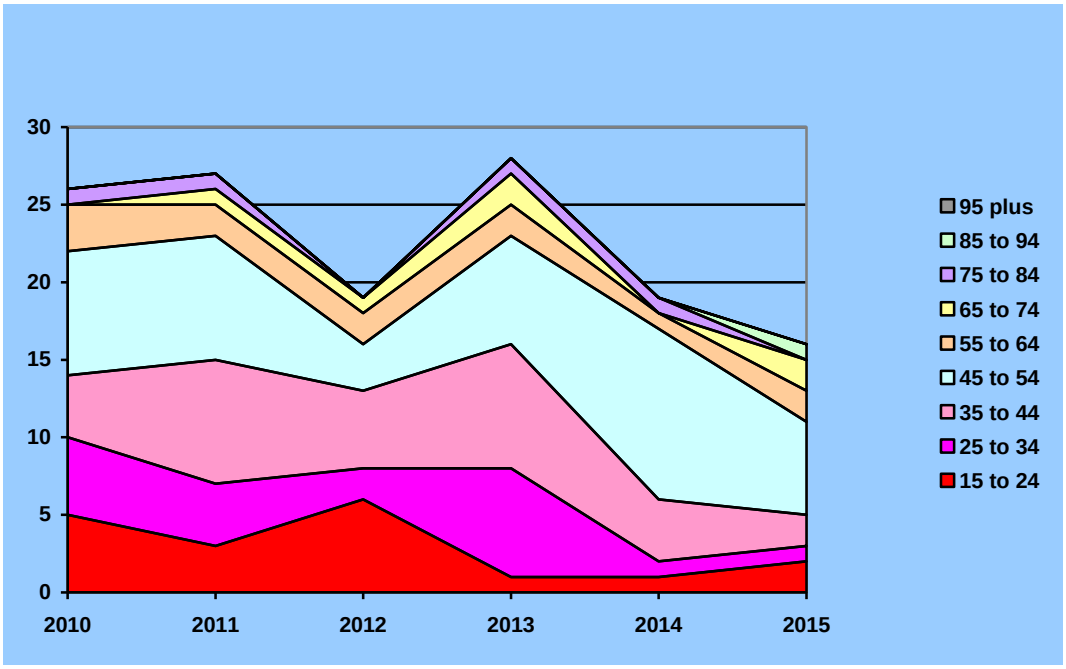


Graph 3.2: Deaths by own hand across all NTW services.
Source: NTW SafeGuard, accessed September 9th 2016

The National Confidential Inquiry into Suicide and Homicide by People with Mental illness (NCISH) published its annual report and 20 year review in October 2016. This report provides detailed analysis of data for the calendar years 2004 to 2014, this being one year behind data reported by NTW. Also, the NCISH report covers only deaths where the coroner conclusion was suicide or open. Therefore, data in the NCISH report is not directly comparable to that held internally by NTW.

Over the 10 year period the NCISH found that 28% of all population suicides had been on contact with mental health services in the 12 months prior to death. Nationally within England, deaths by suicide in male service users have increased more rapidly than male deaths in the general population (22% since 2006 in service users compared to 12% in the general population). Furthermore, increase in the number of deaths in male service users aged 45-54 and 65+ have been particularly noticeable since 2005/6.

Within NTW the number of deaths by suicide (including open conclusions) in males is small, with a range of 12 to 17 each year. Graph 3.3 shows the age pattern for all deaths in men where the cause was suicide/open or interpreted as *killed self*, i.e. not comparable directly with NCISH data. Note that data for 2015 does not include deaths where to coroner verdict is yet outstanding, so is a provisional figure. There were 136 such deaths, of which 43 (32%) where in men aged 45-54 years, and 11 aged over 65 years (8%). Over time, the number of such deaths in younger men aged under 45 has fallen, while the number in men aged over 65 has not shown a trend. Deaths in the age group 45-54 peaked in 2014 at 11, but lay between 3 and 8 in previous years.

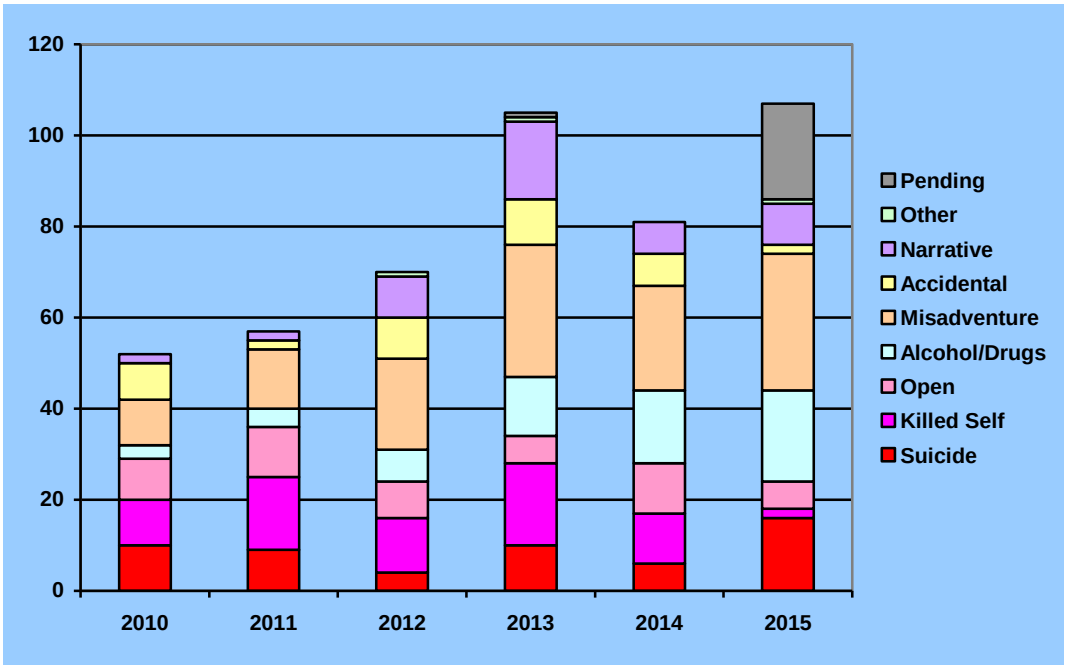


Graph 3.3: Death by own hand by age for male service users.
Source: NTW SafeGuard, accessed September 9th 2016

3.3. Unnatural deaths across all community based services.

Over the four year period there were 472 potential unnatural deaths across all community based services, including specialist community services (see graph 3.4). Conclusions are pending in 22 cases (1 from 2013, 21 from 2015). Therefore, 450 cases currently have coroner confirmed unnatural cause conclusions.

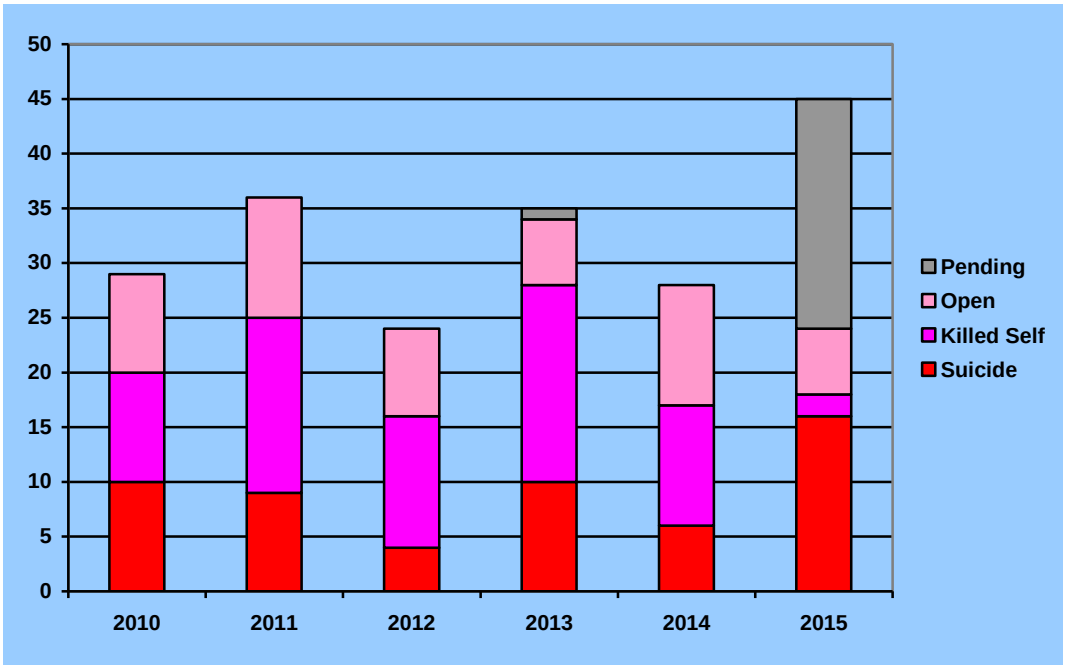
A third of coroner confirmed conclusions (163 cases, 36%) were misadventure or accidental deaths. Death by own hand accounted for 175 cases (41%); this included 55 suicides, 69 killed self, and 51 open conclusions (see note above regarding increase in use of suicide as a conclusion)



Graph 3.4: Unnatural deaths by coroner conclusion across all community based services. Source: NTW SafeGuard, accessed September 9th 2016.

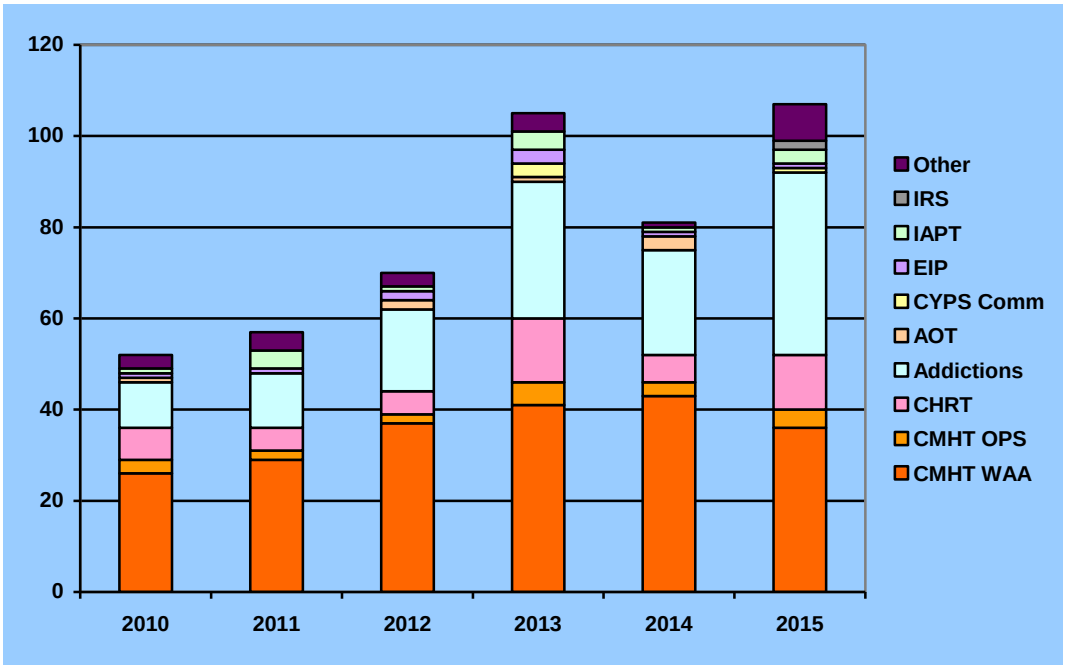
The number of unnatural deaths increased each year from 2010 to 2013 before falling in 2014. In 2015 the final number will lie between the numbers reported in 2013 and 2014.

The number of *deaths by own hand* is harder to interpret (see graph 3.5). The high number of pending conclusions in 2015 makes interpretation for this year unreliable. The increase in use of suicide as a conclusion is apparent, as previously discussed.



Graph 3.5: Deaths by own hand across all community based service. Source: NTW SafeGuard, accessed September 9th 2016.

Graph 3.6 shows that the majority of the 472 total community deaths occurred amongst service users in community mental health teams for working age adults (N=212, or 45%), addiction services (N=133, or 28%) and crisis resolution and home treatment services (N=49, or 10%).

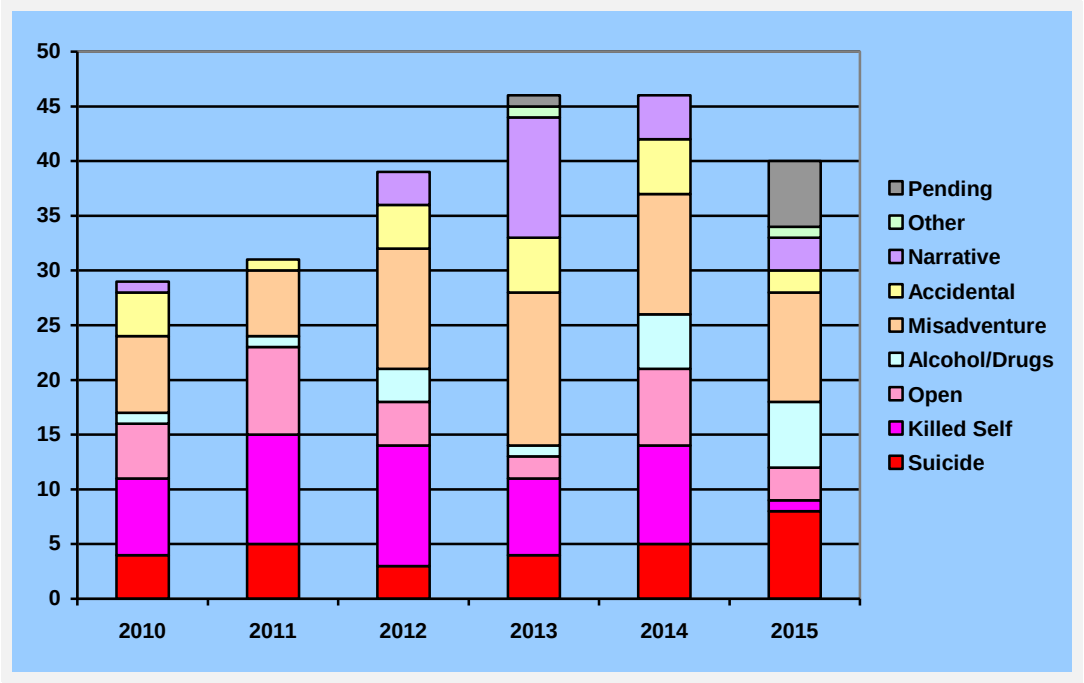


Graph 3.6: Unnatural deaths across all community based services, by service type. Source: NTW SafeGuard, accessed September 9th 2016.

The number of such deaths increased between 2010 and 2013 but has decreased in 2014. In 2015 the number and service type of unnatural deaths was similar to that seen in 2013 largely due to an increase in deaths in addictions services.

- **3.3.1 Community Mental Health Teams (CMHTs)**

Over the period there were 231 deaths in Working Age Adult and Older Peoples CMHTs. There has been a slight fall in 2015 following several years of increasing numbers. There were 40 potential unnatural deaths with 7 conclusions still pending (Graph 3.7). The number of deaths currently attributed to own hand (12) is also less than in previous years, though a greater proportion were given a conclusion of suicide rather than "killed self"



Graph 3.7: Unnatural deaths by conclusion in Community Mental Health Teams. Source: NTW SafeGuard, accessed September 9th 2016.

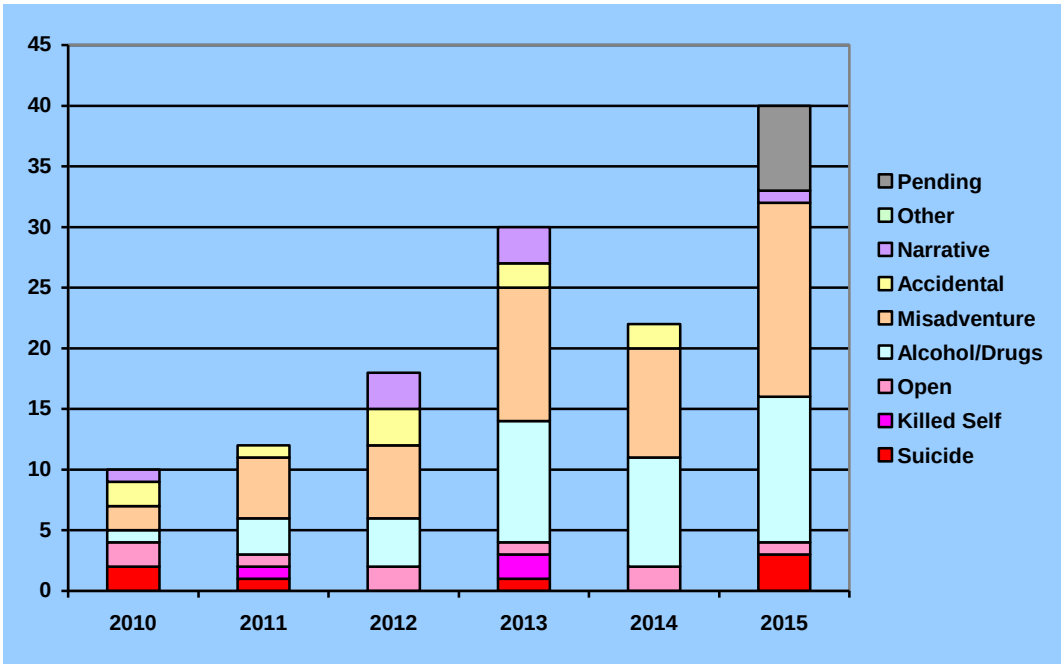
- **3.3.2 Addiction Services**

In this analysis addiction services were defined as those where the word "addiction" appears in the "department" field in SafeGuard.

The total number of unnatural reported in addiction services over the six year period was 133. Of these 7 still have conclusions pending (graph 3.8).

The total number of deaths has increased over the period, with the exception of a fall in the single year 2014. This increase is associated with new addiction services being incorporated into the Trust and so may not reflect an increased risk of death in individual service users.

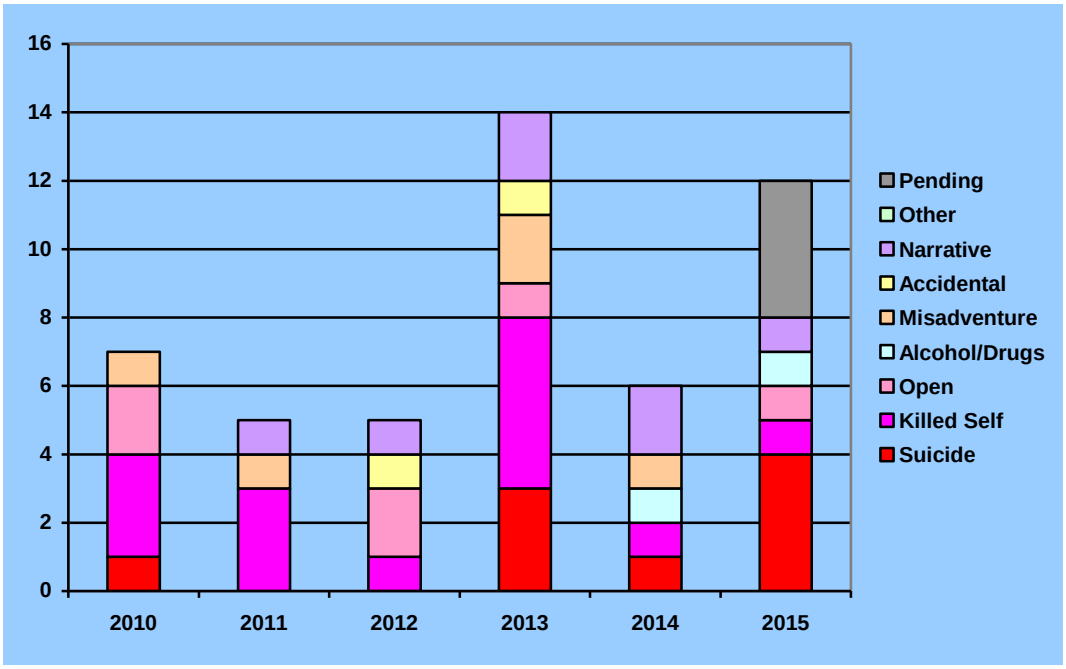
Misadventure and accidental death accounted for almost half of all coroner confirmed unnatural deaths (60 cases, 45%), while a further 39 cases were attributed to alcohol or drugs. Nineteen cases were deaths by own hand (7 suicide, 3 killed self and 9 open), and this shows no trend over the four year period.



Graph 3.8: Unnatural deaths in community addiction services.
Source: NTW SafeGuard, accessed September 9th 2016.

- **3.3.3 Crisis and Home Resolution Teams (CRHTs)**

The number of potential unnatural deaths in CRHTs rose in 2013 to a peak of 14 deaths but fell significantly to 6 deaths in 2014 (see graph 3.9). The number of deaths in 2015 will lie between these two figures having already exceeded the final year figure for 2014.



Graph 3.9: Unnatural deaths by conclusion in Crisis Resolution & Home Treatment teams.
Source: NTW SafeGuard, accessed September 9th 2016.

The number of deaths by own hand increased to six deaths; although this is much less than the 9 such deaths occurring in 2013, it is the same as the second highest peak in 2010.

The NCISH have expressed some concern about the number of suicides occurring nationally in CHRTs, noting that the number of deaths in these teams has increased year on year while the number of in-patient deaths has fallen. Data recorded since 2012 show that 37% of patients who died had been under CHRT care for under a week. One third of deaths occurred in service users who had been discharged from in-patient care within the previous three months. This led the report authors to express concern that *"… CRHTs may not have been a suitable setting for their care and that CHRT has become the default option for acute mental health care because of pressure on other services particularly beds*"".

The data set held in SafeGuard does not currently hold information to enable a comparison of NTW with the national experience.

- **3.3.4 Other Services.**

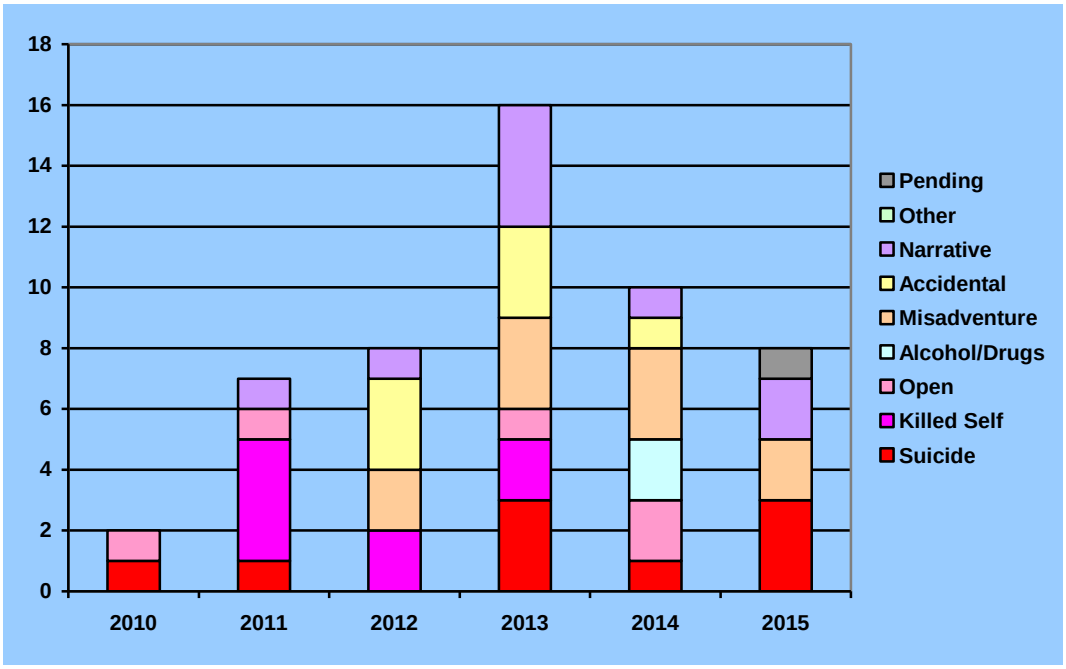
Over the six year period there were seven deaths in assertive outreach (AOT) services, nine deaths in early intervention in psychosis (EIP) services and fourteen deaths in IAPT services. There were four deaths in CYPS services.

Deaths in other services were small with only one to three deaths over the six year period. These included community treatment team for learning disability, psychology services, primary care, gender dysphoria, and rehabilitation services.

3.4. Unnatural deaths within three months of discharge from hospital.

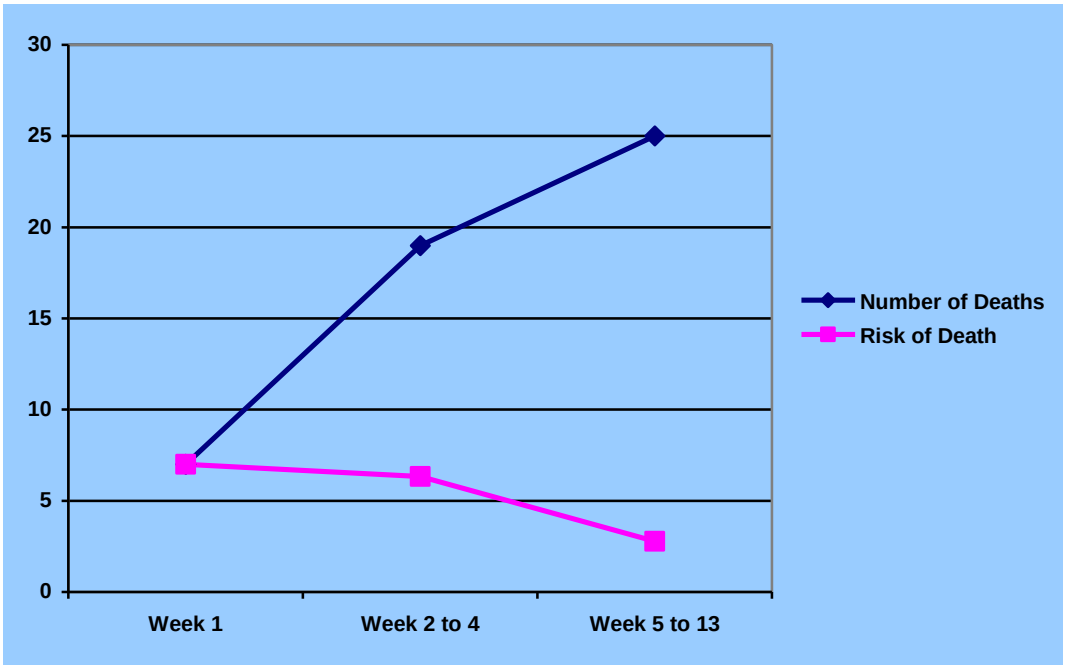
The number of deaths occurring within three months of discharge from hospital has continued to fall since a peak seen in 2013 (graph 2.10). In 2015 there were no more than eight such deaths (one conclusion pending). The number of *deaths by own hand* was similar to previous years.

This is a further area raised as a concern by the NCISH as there had been an annual fall in the number of such deaths between 2004 and 2013, but an estimated increase in 2014. In particular, deaths had increased following discharge from a non-local unit. This was contrasted with the significant fall in the number of deaths occurring on the inpatient unit.



Graph 3.10: Unnatural deaths within three months of discharge.
Source: NTW SafeGuard, accessed September 9th 2016.

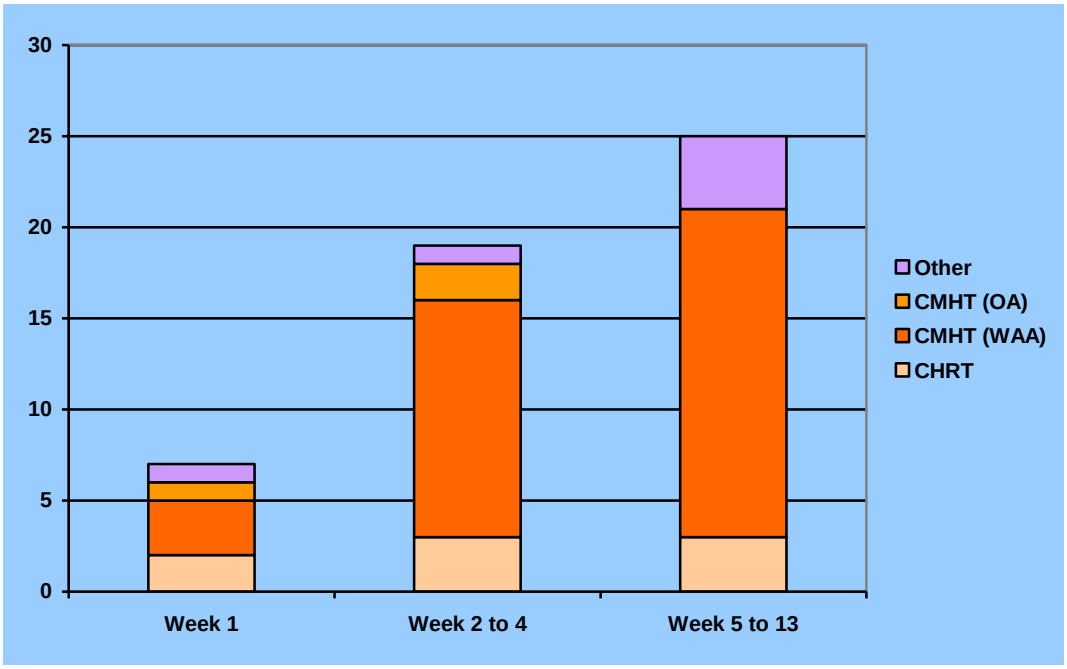
Most deaths occurred in the period from week 5 to week 13 after discharge (see graph 3.11). However, the period when service users were at highest risk of death, measured by the incidence rate, was in the first week followed closely by weeks two to four.



Graph 3.11 The number and risk of unnatural death following discharge from hospital.
Source: NTW SafeGuard, accessed September 9th 2016.

This is reflected in the NCISH report which notes that most suicides occurred in the first week following discharge and that 15% of all patient suicides occurred within three month of discharge. Over the six years of this report 22 patients died by own hand in that period compared with 192 across all services (11.5%)

Graph 3.12 shows which service the patient was under at the time of death. Of the 50 deaths (including pending conclusions) 34 occurred while the patient was being managed by a CMHT and towards the end of the three month period. Eight deaths occurred in CRHTs. Deaths under CRHT care accounted for a larger proportion of deaths occurring during the first week, but this was still less than the number of deaths occurring in CMHTs.



Graph 3.12: Unnatural death following discharge from hospital by service. Source: NTW SafeGuard, accessed September 9th 2016

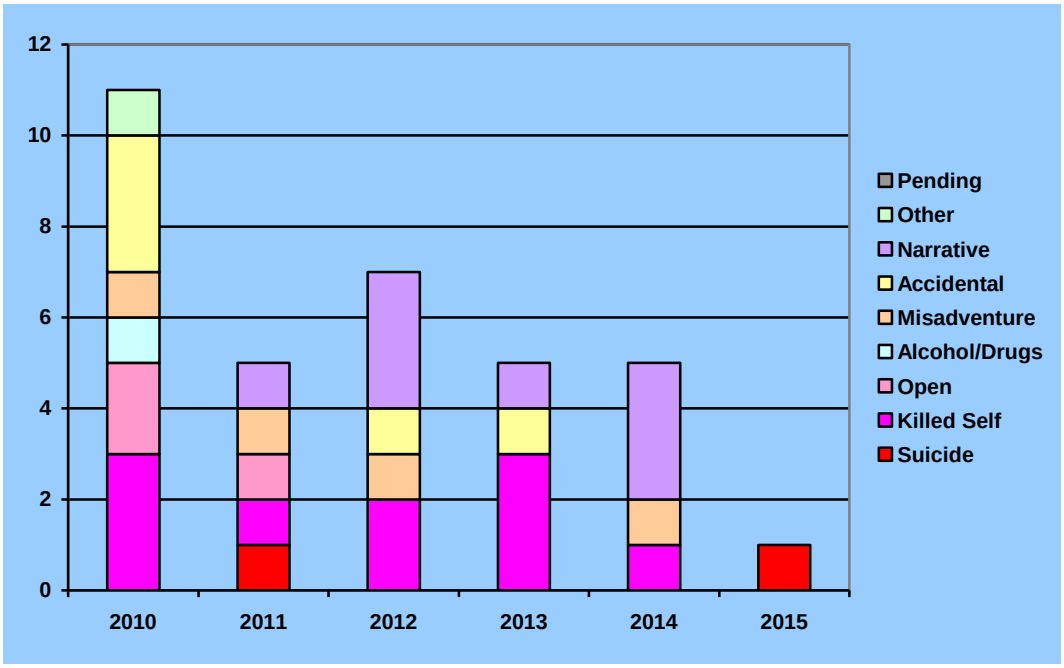
3.5. Unnatural deaths occurring whilst an inpatient.

This analysis includes deaths of service users while an in-patient. It includes deaths which occurred on the ward but also deaths which occurred while an in-patient was on leave or absent without leave (AWOL).

Fortunately, deaths while an in-patient are rare events (graph 3.13). Over the five year period there were a total of 34 deaths. Just over a half of these occurred on the ward (19 cases, 54%), with the remainder while the patient was on leave (11 on leave and 4 while AWOL).

The trend has been downwards, although the annual numbers involved are small. In 2010 there were 11 in-patient deaths, falling to 5 in 2011, 8 in 2012 and 5 again in 2013 and 2014. In 2015 there was only one death relating to in-patient care, which occurred whilst the patient was on leave.

Fifteen deaths were attributed to death by own hand, ten deaths to misadventure or accident and a narrative conclusion was given in eight cases. There are no outstanding conclusions.



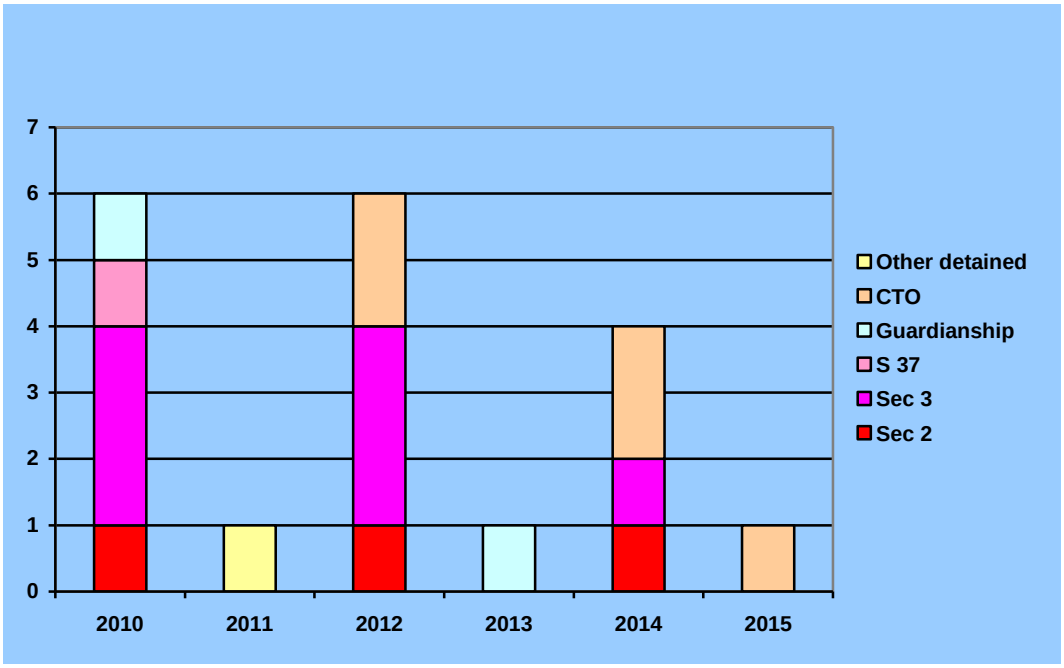
Graph 3.13: Unnatural deaths amongst in-patients.
Source: NTW SafeGuard, accessed September 9th 2016.

Deaths occurring whilst an in-patient was on leave have become less common. In 2010 four in-patients died on leave and another one died while absent without leave. Two in-patients died on leave in 2011, two in 2012 (while AWOL), three in 2013 (all on agreed leave) and three in 2014 (one on leave, two AWOL). In 2015 the only in-patient who died was on agreed leave.

The NCISH report notes that there has been a national fall in in-patient suicides between 2004 and 2014. Such deaths accounted for 9% of all patient suicides. In NTW *deaths by own hand* whilst an in-patient accounted for 9% of all *deaths by own hand* in the Trust.

3.6. Deaths while detained under the mental health act.

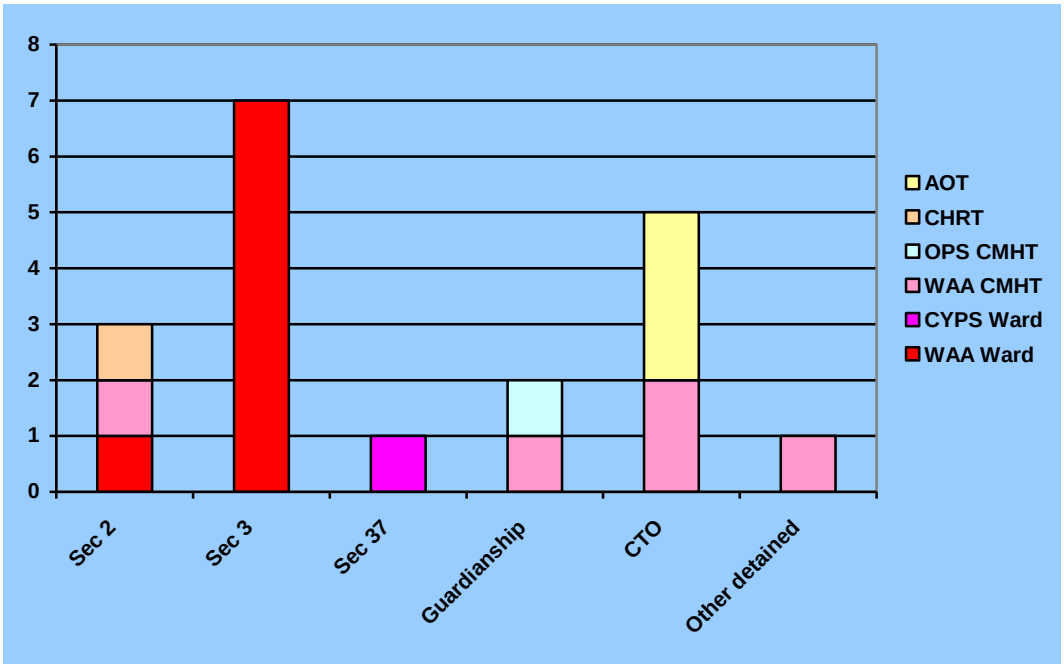
Each year a small number of people die unexpectedly while detained under the Mental Health Act. Over the six year period there were 19 deaths ranging from only 1 death in 2011 and 2013 to six deaths in each of 2010 and 2012. There were four such deaths in 2014 and one death in 2015.



Graph 3.14: Unnatural deaths by MHAct status at time of death.
Source: NTW SafeGuard, accessed September 9th 2016.

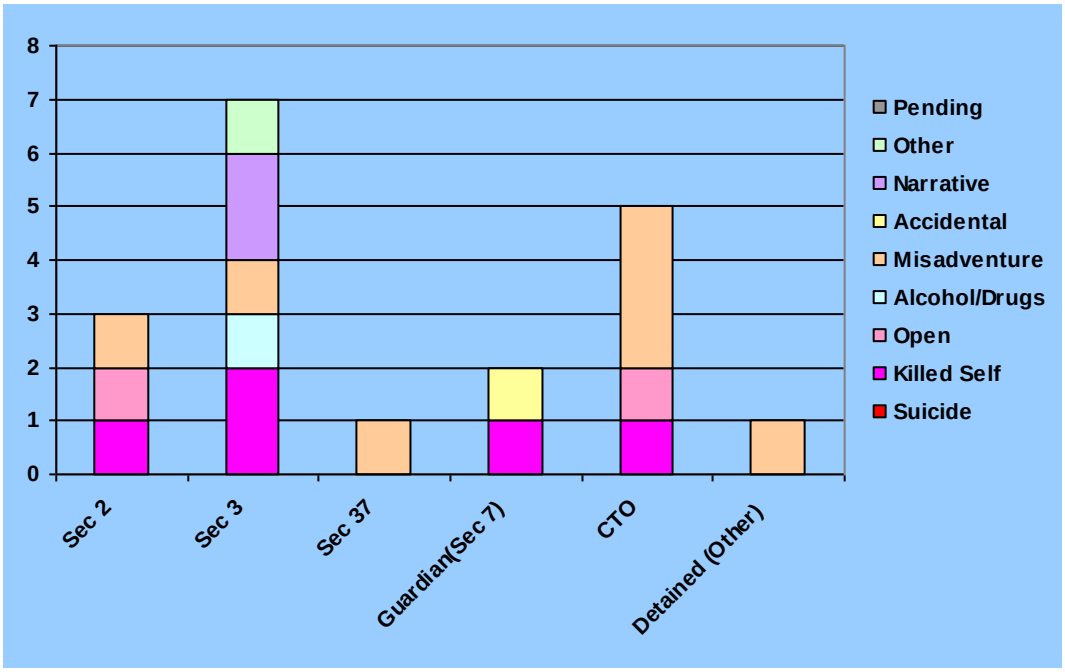
Seven deaths occurred while the service user was detained under Section 3, five deaths under a Community Treatment Order (CTO) and three under Section 2.

All deaths under Section 3 occurred on adult wards as did one of the deaths under Section 2 (graph 3.15). The remaining deaths under Section 2 occurred in adult CMHT or crisis home resolution teams. Five deaths of detained patients occurred while on Community Treatment Orders; three of these patients were in Assertive Outreach Teams and two in an adult CMHT.



Graph 3.15: Unnatural deaths by MHAct status and service type.
Source: NTW SafeGuard, accessed September 9th 2016.

Misadventure was the most common conclusion (7 cases) followed by killed self (5 cases). A narrative or open conclusion was given in 2 cases each (graph 3.16)



Graph 3.16: Unnatural deaths by MHAct status and conclusion.
Source: NTW SafeGuard, accessed September 9th 2016.

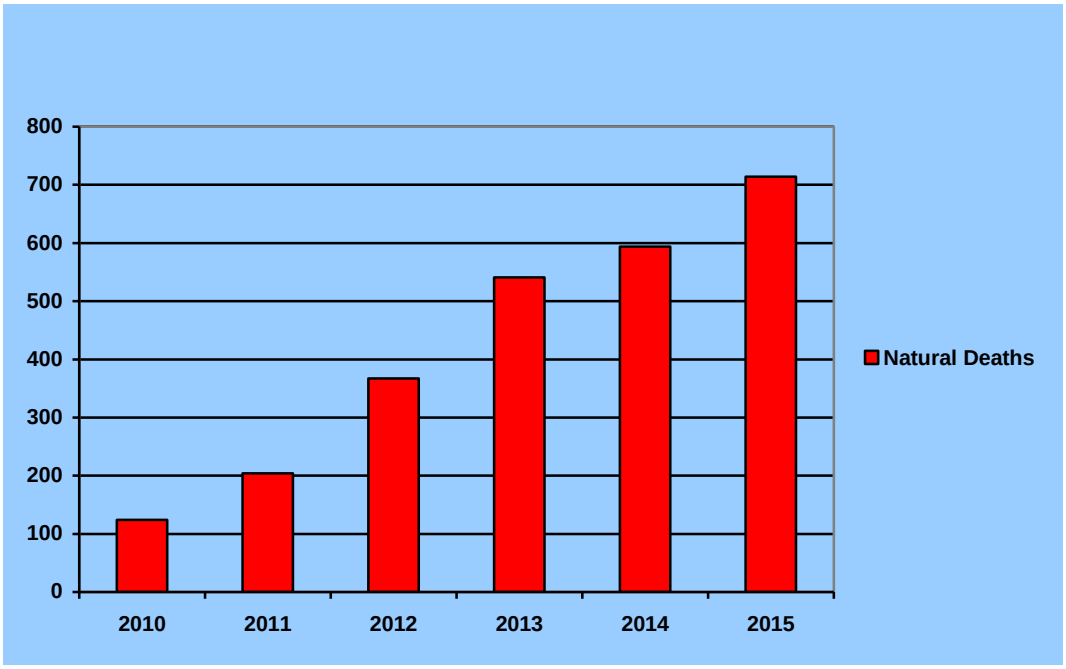
Chapter 4.

REVIEW OF NATURAL CAUSE DEATHS

4.1 OVERALL NUMBERS

This report summarises the data available in SafeGuard for deaths which have been reported into the system and determined to be of natural cause. The extent of this data is limited as significantly less data is held for natural cause deaths than unnatural cause deaths. Planned improvements to the reviews and investigation process will address this issue going forward, thought the historical lack of data will persist.

Over the six years there were 2544 deaths recorded in SafeGuard where the cause of death was classed as natural. The number of deaths has increased year on year reaching a peak in 2015 of 714 deaths reported. A death will be reported as of natural cause if the death was certified so by the attending doctor or, when the death was unexpected and there was no doctor involved in the persons care immediately prior to death, by the coroner. In the latter case there may not have been an inquest where the coroner determined the cause of death shortly after death and there was no reason to suspect otherwise.



Graph 4.1: Natural deaths by year.
Source: NTW SafeGuard, accessed September 9th 2016.

The increase seen year on year does not necessarily indicate an increasing underlying rate of death; there has been a developing culture in the Trust encouraging reporting of natural deaths. However, it is not possible to confirm this from the data currently held.

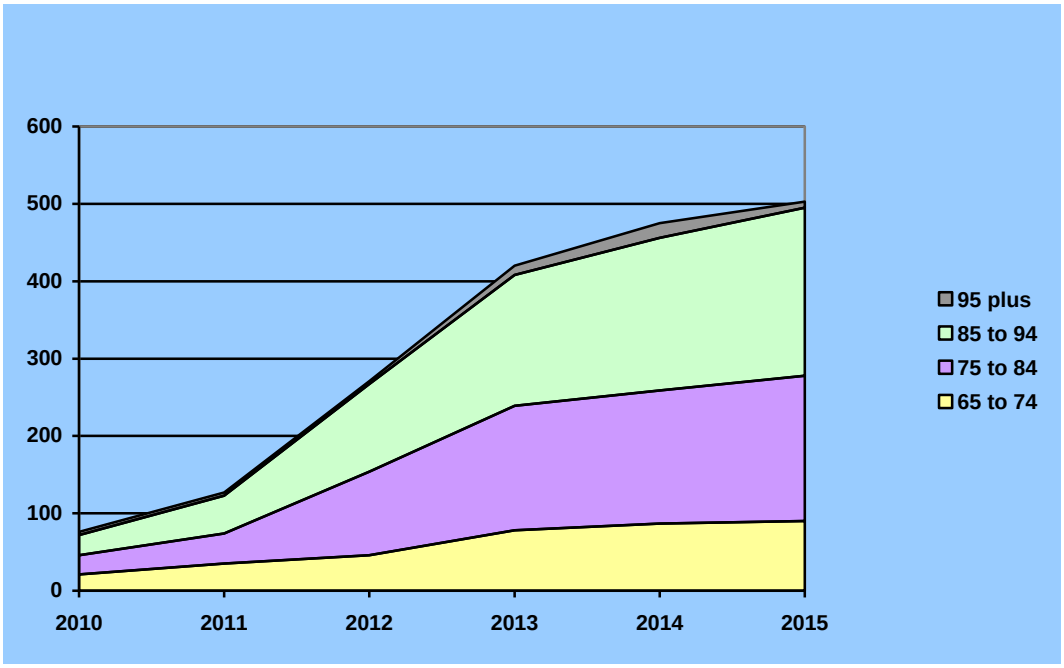
4.2 ANALYSIS BY AGE

Table 4.1 shows the total number of natural cause deaths by age band. The number of cases where an age has not been recorded in 2015 has been noted and additional work on data quality is being undertaken.

Age Band	15 to 24	25 to 34	35 to 44	45 to 54	55 to 64	65 to 74	75 to 84	85 to 94	95 plus	N/R	Grand Total
2010	3	4	17	10	14	21	25	26	4		124
2011	2	8	16	22	29	35	39	49	4		204
2012	3	6	18	26	43	46	108	113	4		367
2013	2	3	15	42	59	78	161	169	12		541
2014	2	7	26	43	40	87	172	197	19	1	594
2015	3	10	21	42	70	90	188	217	8	65	714
Grand Total	**15**	**38**	**113**	**185**	**255**	**357**	**693**	**771**	**51**	**66**	**2544**

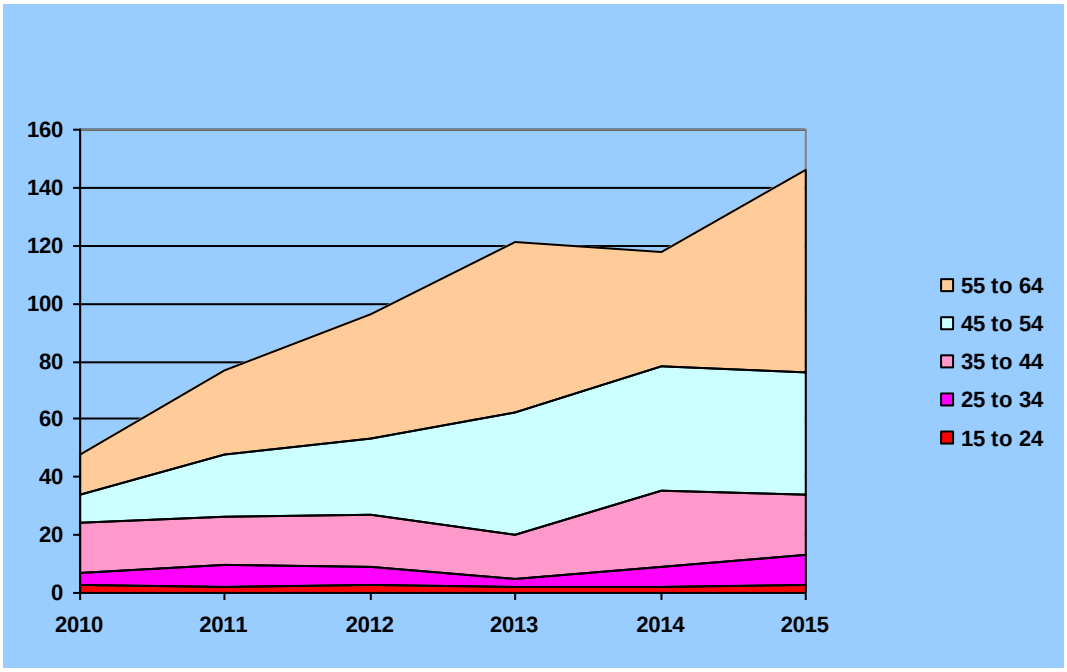
Table 4.1 Natural cause deaths by age band
Source: NTW SafeGuard, accessed September 9th 2016.

Over time the biggest increase in reporting of natural deaths has been for persons aged over 65 (graph 4.2). In 2010 only 76 such deaths were reported while in 2015 this had risen to 503. The increase was particularly marked in the age bands 75-84 and 85 -94. This may reflect the increasing age of the general population and case-loads and/or enhanced emphasis on the importance of reporting deaths in these age groups.



Graph 4.2: Natural deaths by age group - over 65
Source: NTW SafeGuard, accessed September 9th 2016. .

Deaths in service users aged under 65 increased from 48 in 2010 to 146 in 2015 (graph 4.3). The largest change has been in the age groups 45-54 and 55-64 which have increased throughout the six year period. The reasons for this change are not clear currently. As described in section 4.3, the bulk of deaths in these age groups are in men.



Graph 4.3: Natural deaths by age group - under 65
Source: NTW SafeGuard, accessed September 9th 2016

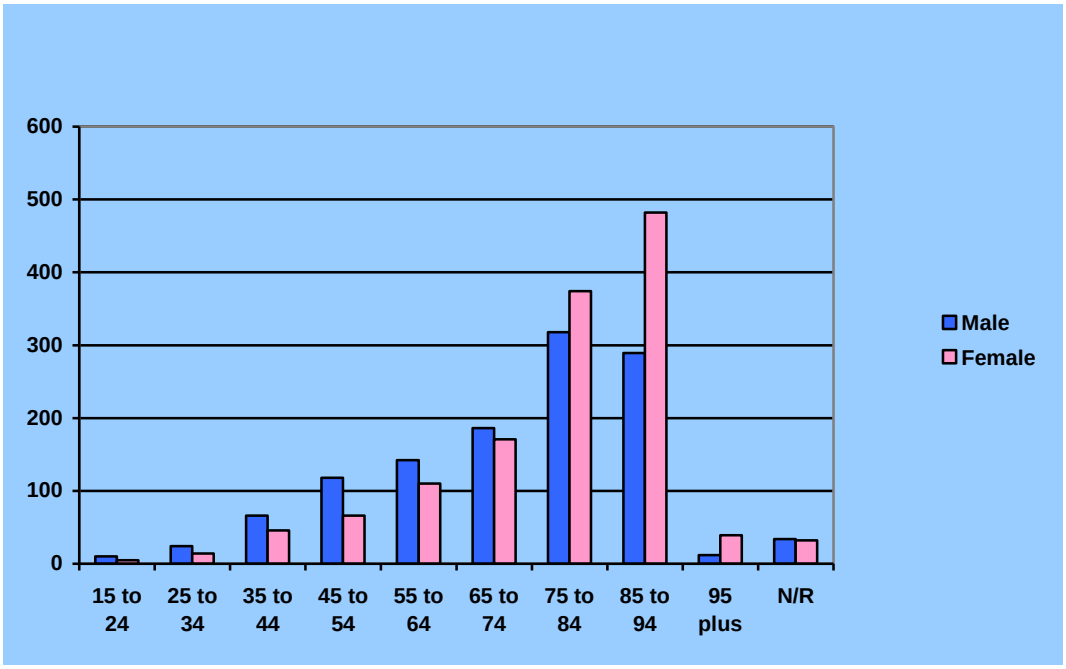
4.3 ANALYSIS BY SEX

Sex was recorded for 2538 records but was absent in six reports. Of the incidents in which sex was recorded 1199 deaths were in men (47%) and 1339 in women (53%).

However, natural deaths in men were more common at younger ages while natural deaths in women only predominated after the age of 75 (see graph 4.4).

At age under 65, there were 360 deaths in men and 241 in women; this is a male: female ratio of 3:2. In service users aged over 65 the ratio was reversed with 805 deaths in men and 927 in women (male:female ratio = 1:0.87).

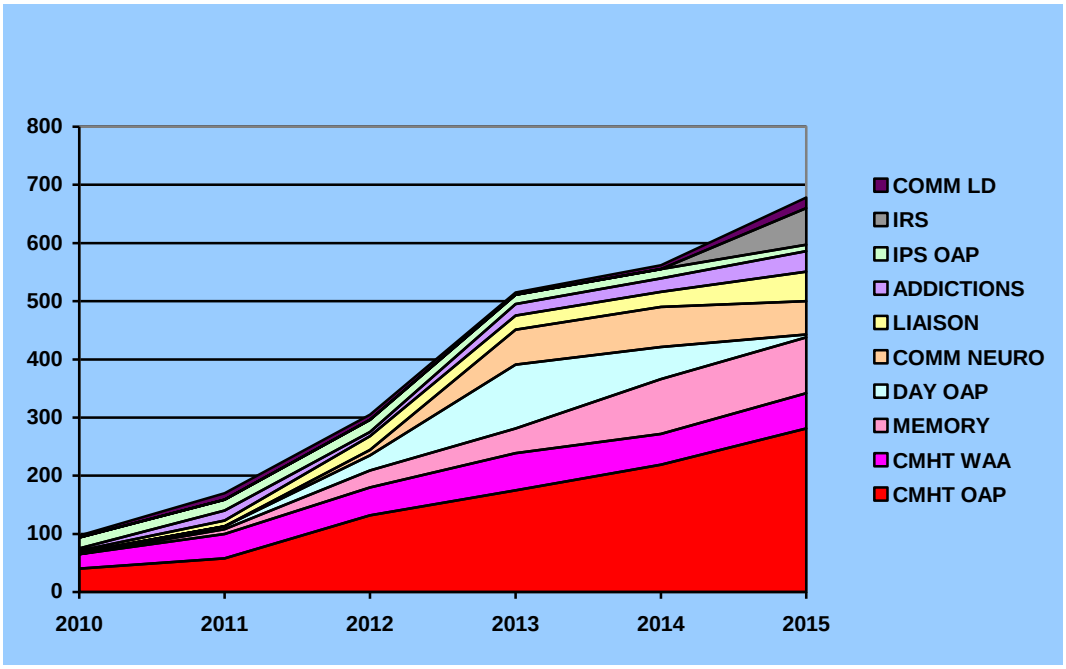
The feasibility of exploring this difference in age/sex distribution at younger ages is being explored, although a lack of historical data may be problematic.



Graph 4.4: Natural deaths by sex and age band
Source: NTW SafeGuard, accessed September 9th 2016

4.4. ANALYSIS BY SERVICE TYPE.

Graph 4.5 shows the change over time for the number of natural cause deaths reported by the top 10 service types between 2010 and 2015.



Graph 4.5: Natural deaths by service type for top 10 services
Source: NTW SafeGuard, accessed September 9th 2016

Over the six year period the largest increase in natural death reporting has occurred in CMHTs for older people and memory services, where the majority of service users are older people. Memory services have increased in number and client base over

the period. Reports from older people's day services increased until 2013 and then declined with the closure of some facilities. Older people dying within in-patient wards has fallen, probably explained by the closure of several long stay wards for dementia and behavioural problems. Deaths reported from older people community and in-patient services accounted for 50% of all natural deaths reported over the period 2010-2015

Service Type	CMHT OAP	CMHT WAA	MEMORY	DAY OAP	COMM NEURO	LIAISON	ADDICTIONS	IPS OAP	IRS	COMM LD	Others
2010	40	25		3		3	4	19		3	27
2011	58	42	8	5		10	17	19		11	34
2012	132	48	29	26	9	24	7	21		9	62
2013	175	64	42	110	60	24	20	16		4	26
2014	219	53	94	55	69	26	23	16		7	32
2015	281	61	96	5	57	51	35	11	63	18	36
Grand Total	**905**	**293**	**269**	**204**	**195**	**138**	**106**	**102**	**63**	**52**	**219**

Table 4.2 Natural cause deaths by top 10 service types.
Source: NTW SafeGuard, accessed September 9th 2016.

Natural cause deaths in adult CMHTs has increased since 2010, but remained fairly static since 2013. Deaths reported from learning disability services has been largely in single figures but peaked in 2015 to 18 deaths.

Natural cause deaths have been reported from IRS in 2015 as the service has developed. There were 83 such deaths reported in 2015. Similarly, liaison services have expanded over time and this may explain the increase of natural cause death reports from 3 in 2010 to 51 in 2016. Community neurological services did not report any natural cause deaths prior to 2012 but is now reporting a consistent number each year.

4.5. ANALYSIS BY CAUSE OF DEATH.

SafeGuard does not currently hold comprehensive data on the underlying cause of death for those reported as natural cause. This seriously hampers exploration of the cause of such deaths to determine which may have been avoidable. The improved review process will address this issue.

Appendix 1:
Methodology and cautions.

This analysis was undertaken on data extracted from NTW SafeGuard on 9th September 2016. As this is a live database, which is continually updated with results from coroner conclusions[1], the data, and consequently the analysis, will change on a daily basis.

The analysis covers unexpected deaths reported through the Trust web based reporting system over the six year period from January 1st 2010 to December 31st 2015. Cases are allocated to a calendar year based on the date of death, where known, or notification of death from the coroner. The calendar year is used as the time period to enable comparison with national data from the National Confidential Inquiry into Suicides and Homicides which also uses calendar, rather than financial, years. This comparison is undertaken later in the year following the publication of the NCISH report in July.

Cases are allocated to a service line based on the entry in SafeGuard, which is derived from information provided through the web report. With the rollout of Transforming Community Services the names of many community services have changed from those used in previous years. In this analysis services have been clustered into service types representing similar services such as CMHTs.

In undertaking the analysis on this occasion a data cleansing and validation exercise was undertaken on the records held in SafeGuard. Several records have been reclassified and therefore data presented in this report are not directly comparable with data presented in previous years.

An ***unexpected death*** is one which occurs in the absence of ill health which led to a predictable death. Where that death occurred as the result of a natural pathological process (e.g. heart attack/stroke/pneumonia etc), it is termed a ***natural unexpected death***. Where death was otherwise caused, often through own intent and/or the involvement of an external agent, it is termed an ***unnatural unexpected death***.

Coroner conclusion outcomes are obtained from the coroner's office after the inquest has been held. This may be several months after a death has occurred, although this time gap is currently falling. The data provided in SafeGuard is a direct quote from the coroner office report.

For the purpose of undertaking this analysis some reclassification of the coroner conclusion is necessary.

1) Where a coroner has used a standard form of conclusion this is the term used. This includes ***Suicide, Open, Misadventure***, and ***Accident***.

2) Where the coroner has used a short narrative conclusion the following reclassification has been used.

    - Where the words drug(s) and/or alcohol appear the conclusion is reclassified as ***Drug/Alcohol***.

[1] Previous reports have used the term *verdict*; this has been replaced with the current term *conclusion*

- Where there is an indication that the person has killed themselves, but no indication of intent is apparent, the conclusion is reclassified as ***Killed Self***.

3) Where the coroner has given a long narrative conclusion this is reclassified as ***Narrative***.

4) There are a small number of cases where it is not possible to determine the coroner conclusion. These cases are classified as ***Other***.

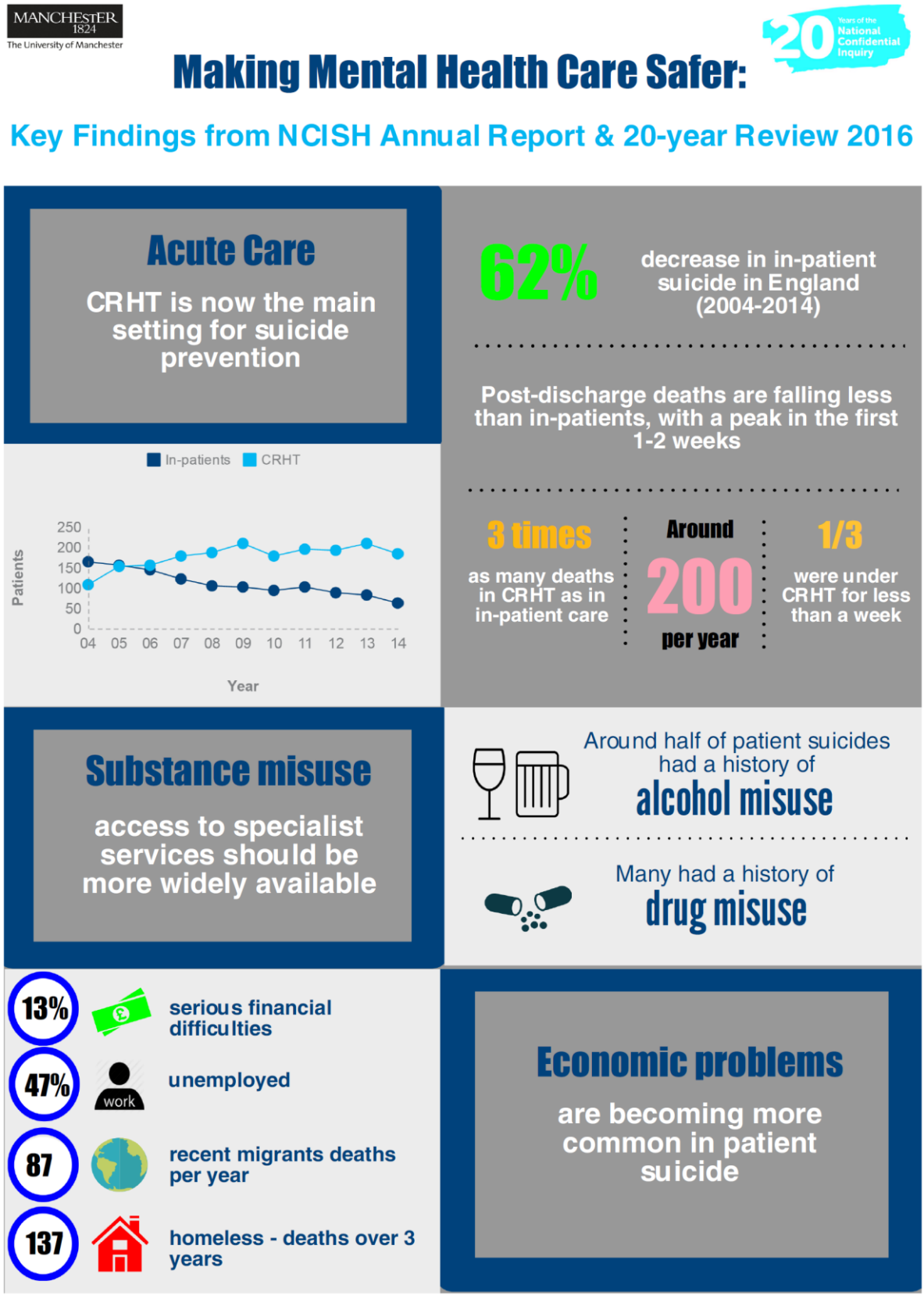
5) Where the coroner has not yet given a conclusion the cases is classified as ***Pending***.

The term ***Death by own Hand*** is used to describe all events where it is likely that the person killed themselves, whether they had intended to do so or not. This includes all *Suicide* conclusions, all deaths re-classified as *Killed Self* and all *Open* conclusions (conventionally included in analyses of suicide cases).

This is an interim analysis as there are a significant number of conclusions still pending, particularly for deaths occurring in 2015. Many of these may be returned as either natural deaths, or due to accident/misadventure. Therefore, it cannot be concluded, at this stage, that they represent persons who died by own hand. There is a balance to be drawn between an early analysis which is timely and spots developing patterns, and a later analysis which is accurate and allows informed interpretation. National data which can be used to benchmark NTW data is not available until at least one year behind Trust data.

In many cases, particularly the analyses on individual services, the number of events in any time period are small and subject to random variation. Therefore, caution is needed in interpreting short term trends; for example, year to year differences.

Appendix 2:
Infographic summarising major findings of the 2016 NCISH report.



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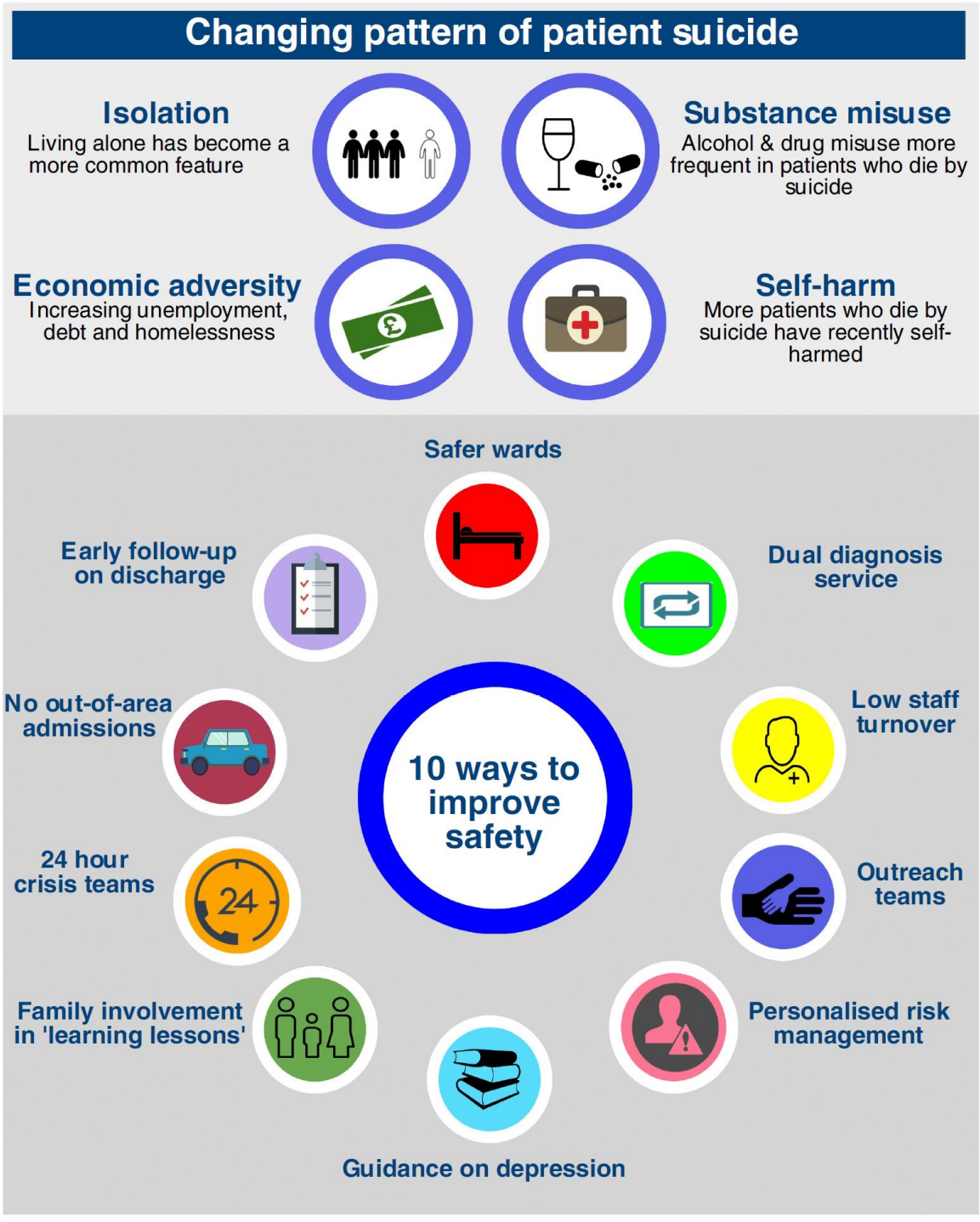
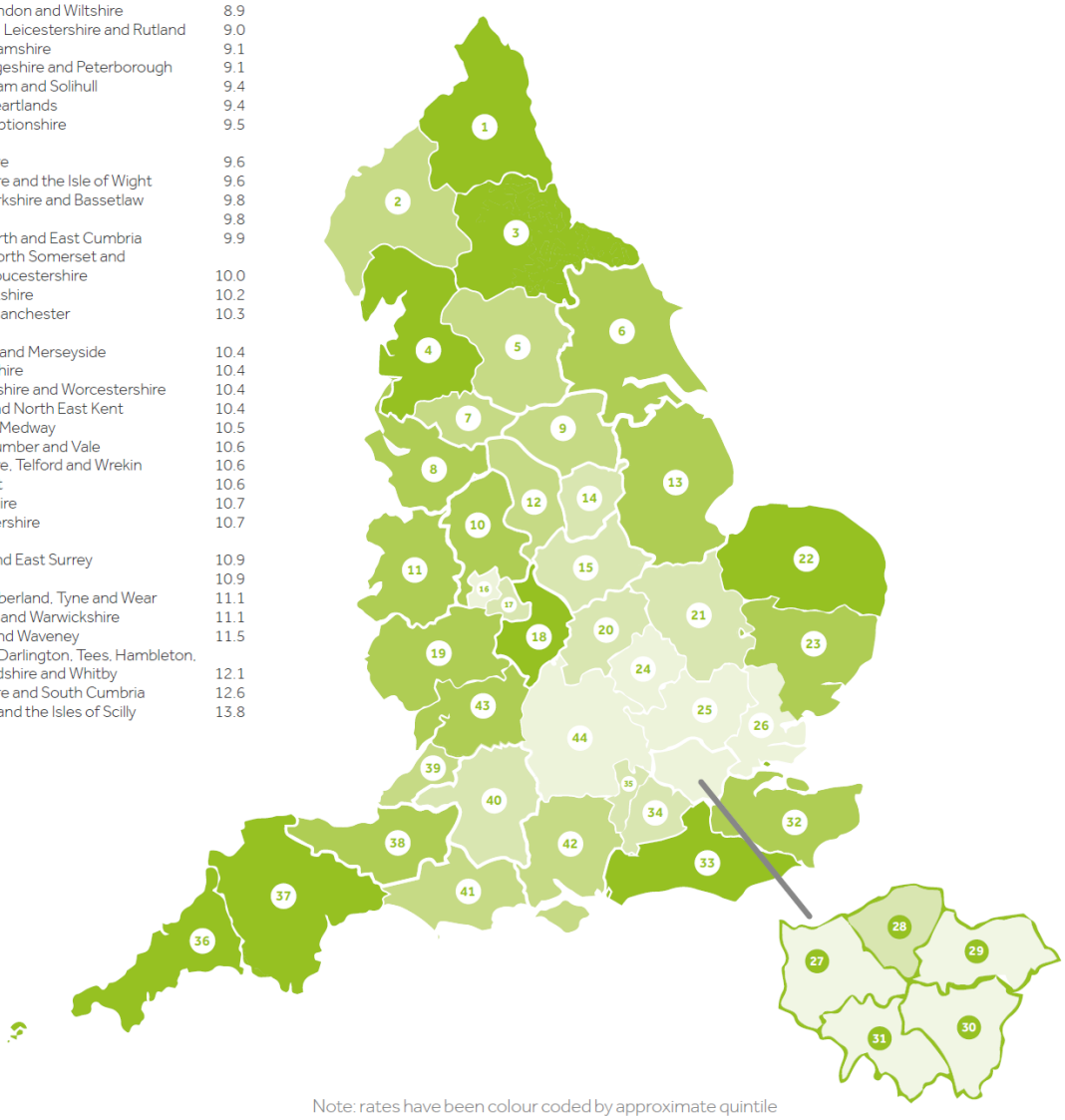
Key Findings from NCISH Annual Report and 20-year Review 2016



Appendix 3:
Rates of suicide in the general population by STP area, 2012-14 (NCISH report, 2016)

Area	Rate
31. South West London	6.9
24. Milton Keynes, Bedforshire and Luton	7.2
16. The Black Country	7.3
25. Hartfordshire and West Essex	7.3
27. North West London	7.5
29. North East London	7.6
30. South East London	7.6
26. Mid and South Essex	8.6
44. Buckinghamshire, Oxfordshire and Berkshire West	8.7
28. North Central London	8.8
34. Frimley Heath	8.9
40. Bath, Swindon and Wiltshire	8.9
15. Leicester, Leicestershire and Rutland	9.0
14. Nottinghamshire	9.1
21. Cambridgeshire and Peterborough	9.1
17. Birmingham and Solihull	9.4
35. Surrey Heartlands	9.4
20. Northamptionshire	9.5
12. Derbyshire	9.6
42. Hampshire and the Isle of Wight	9.6
9. South Yorkshire and Bassetlaw	9.8
41. Dorset	9.8
2. West, North and East Cumbria	9.9
39. Bristol, North Somerset and South Gloucestershire	10.0
5. West Yorkshire	10.2
7. Greater Manchester	10.3
8. Cheshire and Merseyside	10.4
10. Staffordshire	10.4
19. Herefordshire and Worcestershire	10.4
23. Suffolk and North East Kent	10.4
32. Kent and Medway	10.5
6. Coast, Humber and Vale	10.6
11. Shropshire, Telford and Wrekin	10.6
38. Somerset	10.6
13. Lincolnshire	10.7
43 Gloucestershire	10.7
33. Sussex and East Surrey	10.9
37. Devon	10.9
1. Northumberland, Tyne and Wear	11.1
18. Coventry and Warwickshire	11.1
22. Norfolk and Waveney	11.5
3. Durham, Darlington, Tees, Hambleton, Richmondshire and Whitby	12.1
4. Lancashire and South Cumbria	12.6
36. Cornwall and the Isles of Scilly	13.8

Figure 3: Rates of suicide per 100,000 population, by STP 'footprint' area of residence (average rate 2012-2014)



Note: rates have been colour coded by approximate quintile