Health and Social Care Board

Public Health Agency

THEMATIC REVIEW

Report on the Regional Choking Review Analysis

February 2018

Contents

Executive Summary

Background

The Regional Serious Adverse Incident (SAI) group identified the need for a review of Adult SAIs and Adverse Incidents (AIs) relating to choking on food, to inform future regional safety work. The aim was to identify recurring themes, consider regional learning, highlight areas of good practice and to determine if regional actions are required to reduce/prevent reoccurrence of these incidents.

Methods

An inter professional review team was established with representation from the Public Health Agency (PHA), Health and Social Care Board (HSCB), HSC Trusts, the Regulation and Quality Improvement Authority (RQIA), a service user and other members of staff from HSC also contributed.

A review was undertaken of all SAIs reported between May 2010 and April 2016 where choking on food was associated with actual or potential harm. Qualitative analysis was carried out to identify the key themes. Themes identified by Trusts from reported AIs within the same period were also considered.

Findings

The review considered 17 SAIs; in 14 (82%) cases tragically the incident resulted in death. Key themes identified are outlined below:

- Aetiology of individuals who are at higher risk of choking;
- Behaviours which increase the risk of choking;
- Recognition of signs and symptoms of swallowing difficulties;
- Communication and understanding of Speech and Language Therapy (SLT) recommendations;
- Implementation of individual care plans;
- Physical environment & impact of changes in environment;
- Mealtimes and snacks;
- Dysphagia training & awareness.

Trust analyses of causal factors associated with 798 AIs related to choking on food were also considered, in addition to the themes outlined above Trusts had also identified the following themes:

- Posture of individuals when eating;
- Visitors, families, friends potentially unaware of SLT recommendations, giving individuals food which were not in keeping with the individuals care plan;
- Appropriate supervision when eating & drinking;
- Training in food preparation, CPR and first aid.

Throughout the review the team were made aware of a number of improvement initiatives underway or planned throughout the region which would have potential for scale and spread across the region.

Conclusion

The number and proportion of SAIs in this review that resulted in death emphasises the scale of the problem and the risks associated with dysphagia. The potential risk is also highlighted by the volume of regional related AIs.

The themes identified through analysis of SAIs and AIs, reinforce a need for co-ordinated efforts to facilitate learning and inform future quality improvement work with an aim of prevention or reduction of risk of choking in future.

A number of key messages relating to the areas below are identified within the report.

- Raising awareness
- Communication to staff delivering care directly
- Terminology
- Roles and responsibilities
- Education and Training
- Reporting
- Support to staff

The Regional Dysphagia Group, led by PHA has been asked to take forward the next steps outlined in the report.

1.0 Introduction

Swallowing is one of the body's most complex actions involving the movement of food and fluids from the mouth to the stomach and comprises of four stages shown below:

1. Pre Oral- What happens before you eat
2. Oral-What happens in the mouth
3. Pharyngeal-What happens in the Throat
4. Oesophageal- What happens in the food pipe from the throat to the stomach

1.1 Swallowing Difficulties

Impairment can occur at any of the four stages and result in an individual developing dysphagia, a condition where an individual has difficulty with some or all of the swallowing process; this can be either a long term or short term issue.

Dysphagia can affect an individual physically, psychologically and socially and consequently their quality of life. It can lead to malnutrition, dehydration, chest infections and choking, complications are significant and can be life threatening.

Common indicators of dysphagia are:

- Coughing or choking before/during/after swallowing
- Difficulty or pain on chewing or swallowing
- Food or saliva pooling in the mouth
- Drooling
- Repeated chest infections or deterioration in respiratory conditions
- Changes in breathing after swallowing such as shortness of breath or wheeze

- Changes to voice quality such as wet, strained sounding voice.
- Food refusal or difficulty placing food in the mouth.

Difficulties that may be observed in those with dysphagia can include:

- Physical problems which can affect chewing, controlling food in the mouth and swallowing ;
- Behavioural problems such as eating too quickly, overloading the mouth or pica (eating inappropriate and non-food items);
- Reduced awareness or insight into the risks associated with eating behaviours.

1.2 Prevalence of Dysphagia

The prevalence of dysphagia varies with the aetiology and age of the individual. It is difficult to ascertain the prevalence rate for some populations because of the way dysphagia is reported, often forming part of other health conditions for which the patient is being treated.

Older adults are at a greater risk of developing dysphagia due to the way the swallow function changes with age. As well as the effects of age on the body, the increased incidence of diseases in older age such as dementia and stroke are also factors which contribute to growing numbers of older people presenting with dysphagia.

Dysphagia can be the result of a wide range of conditions and illnesses which are considered below:

Acquired Neurological Conditions

Acquired Neurological problems are as a result of damage to the brain or the nervous system. The most common acquired neurological conditions which can cause dysphagia are;-

- *Stroke* which occurs when blood supply to part of the brain is cut off. It is estimated that between 51 and 78% of people who suffer a stroke will have

some degree of swallowing difficulty Studies[1]. The nature and severity of dysphagia will depend on the type and location of the stroke.

- *Parkinson's Disease* is caused by a loss of nerve cells within the brain. Recent studies indicate that 80 to 95% of those diagnosed develop dysphagia throughout the course of the disease[2].

- *Multiple Sclerosis (MS)* affects the brain and/or spinal cord, causing a wide range of potential symptoms, including dysphagia**.** Between 35 and 45 % of those with MS will present with dysphagia, whilst more common in the advanced stages of the condition it can occur at any time[3].

- *Motor Neurone Disease (MND*) is a progressive and terminal disease which results in degeneration of the motor neurones, or nerves, in the brain and spinal cord. It is estimated that between 30 and 100% of those diagnosed will experience swallowing difficulties. The degree of difficulty is dependent on the type of MND and also the stage of the condition with significant swallowing problems becoming very common in the later stages of the disease.[4]

- *Dementia* is a condition associated with an ongoing decline of brain functioning. Whilst there are a range of different types of dementia, dysphagia is very common among those diagnosed and is usually related to the aging process combined with changes within the brain caused by the dementia itself. Exact estimates of what percentage of those with dementia will develop dysphagia are difficult to find. Some studies indicate that between 13 and 57% of dementia sufferers will develop swallowing problems[5], when

[1] Martino, R et al; (2005) Dysphagia after stroke: incidence, diagnosis, and pulmonary complications. *Stroke,* Volume 36, Issue 12
Mann, G et al; (2000) Swallowing Disorders following Acute Stroke: Prevalence and Diagnostic Accuracy. *Cerebrovascular Diseases,* Volume.10, No. 5.
[2] Sultrup, I; Warnecke, T; (2016) Dysphagia in Parkinson's Disease. *Dysphagia*. Volume 31, Issue 1, pp 24–32
[3] Calcagno, P et al; (2002) Dysphagia in multiple sclerosis – prevalence and prognostic factors. *Acta Neurologocia Scandinavica,* Volume 105, Issue 1, Pages 40–43
[4] Walshe, M; (2014) Oropharyngeal Dysphagia in Neurodegenerative Disease. *Journal of gastroenterology and hepatology research* , volume 3, no 10.
[5] Alagiakrishnan, K et al; (2013) Evaluation and management of oropharyngeal dysphagia in different types of dementia: a systematic review. *Arch Gerontol Geriatr Volume 56,* Issue 1, Pages 1-9

individuals have needs that require them to reside in a care home environment this figure rises to 68%[6].

Congenital/developmental conditions

Dysphagia can also be caused by conditions a person is born with or problems which occur as an individual develops.

Learning disability

A learning disability is a lifelong condition which affects a person's ability to learn new skills. Learning disabilities, also known as intellectual disabilities, can be caused by a wide range of factors such as birth injury, an accident or illness in childhood or the presence of specific conditions such as Down Syndrome or Rett Syndrome.

Adults with a learning disability are at greater risk of eating, drinking and feeding difficulties than the general population. Whilst there is no reliable data on the numbers of people with learning disabilities who have swallowing problems, estimates range from 36% (based on speech and language therapy caseloads) to over 70% (based on inpatient populations). More recent studies have shown that approximatley15% of adults with learning disabilities require support with eating and drinking and 8% of those known to learning disability services will have dysphagia[7]. People with learning disabilities are more likely to present with behaviours which increase the risk of choking whilst eating and drinking, such as eating quickly or impulsively.

Cerebral palsy

Cerebral palsy is caused by a brain injury which occurs before, during or soon after birth. It **i**s a lifelong condition which affects normal movement and coordination. Typical swallowing problems in those with cerebral palsy include reduced oral skills, poor coordination of the swallow and difficulty coordinating swallowing with

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[6] Steele, C et al; (1997) Mealtime Difficulties in a Home for the Aged: Not Just Dysphagia. *Dysphagia*, Winter; **12**:43-50.

[7] Guidance, Swallowing difficulties (dysphagia), Updated 23 June 2017, Public Health England.

breathing. Dysphagia can range in severity depending on the nature and severity of the brain injury.

Mental health conditions

Individuals with mental health problems are reported to be at a higher risk of choking than the general population[8], this can be as a result of side effects of medication, movement disorders, seizures and eating/drinking behaviours which increase the risk of choking. In addition, those with mental health problems may be more likely to have a higher incidence of dental problems due to long term medication. It is also important to note that mental illness can co- exist with the conditions listed above which may further increase the risk and likelihood of significant swallowing problems occurring. Literature shows that 35% of people admitted to an acute mental health unit and 27% of patients attending a mental health day hospital can present with dysphagia[9].

Respiratory conditions

Any condition which causes difficulty in breathing can also cause swallowing problems. Studies have shown that 27% of those with chronic respiratory conditions such as COPD (Chronic Obstructive Pulmonary Disease) show signs of dysphagia when screened[10]. When breathing conditions deteriorate, the incidence of swallowing problems increases significantly, with recent studies showing 88% of those with acute respiratory conditions having significant dysphagia[11].

Cancer

Dysphagia is common among those presenting with cancers of the head and neck occurring in between 50-60%[12] of head and neck cancer survivors, this may be a

[8] Fioritti, A et al; (1997) Choking Incidents among Psychiatric Patients: Retrospective Analysis of Thirty-one Cases from the West Bologna Psychiatric Wards. *Canadian Journal Psychiatry*, Vol 42, Issue 5.
[9] Regan, J et al; (2006) Prevalence of Dysphagia in acute and community mental health settings. *Dysphagia* Volume 21, Issue 2, pp 95–101.
[10] McKinstry, A et al (2010) Outcomes of dysphagia intervention in a pulmonary rehabilitation program. *Dysphagia,* Volume 25, Issue 2, pp 104–111
[11] Kobayashi, S et al (2007) Impairment of the swallowing reflex in exacerbations of COPD; *Journal List Thorax,* volume .62 issue 11
[12] Shune, SE et al (2012) Association between severity of dysphagia and survival in patients with head and neck cancer. *Head and Neck,* Volume 36, pp 776-784

result of the location of the tumour, surgery or a side effect of treatment such as chemotherapy or radiotherapy.

Malnutrition

Dysphagia is strongly associated with malnutrition and vice versa. Literature shows that patients with Parkinson's disease who have dysphagia are four times more likely to lose 4.5 kg weight and require puree food and energy dense supplements[13]. For patients with Motor Neurone Disease, 70-80% can develop dysphagia and 20% develop malnutrition[14]. Patients with dementia who are malnourished are at higher risk of dysphagia (68.6%) and 41.7% of patients with dysphagia are at higher risk of malnutrition.[15] The practical issues include consuming too little of energy and protein releasing food due to eating smaller food portions and consuming less fluid despite eating more frequently throughout the day.

1.3 Choking

Choking is the introduction of a foreign object (edible or non-edible) into a person's airway which becomes lodged and reduces or completely obstructs the airflow to the lungs. It is an acute episode in which the person will cough incessantly or experience a colour change (with inability to cough or speak effectively) while ingesting food or drink. The solid or liquid has to be expelled to terminate the event.

Whilst it is recognised that anyone can experience a choking episode people with dysphagia have a higher risk of choking and the consequences can be fatal in all groups.

Whilst it is not possible to prevent all episodes of choking, reducing the risk of choking and improving the safety of individuals who have dysphagia, is essential. For the purpose of this review the focus is related to *choking on food*.

[13] Beyer PL et al (1995), Weight change and body composition in patients with Parkinson's Disease. *Journal of the American Dietetic Association,* Volume 95, Issue 9, Pp 979–983.
[14] Desport JC et al (1999), Nutritional Status is a prognostic factor for survival in ALS patients. *Neurology* Volume 22; 53(5):1059-63.
[15] Carrion, S et al; (2015) Oropharangeal dysphagia is a prevalent risk factor for malnutrition in a cohort of older patients admitted with an acute disease to a general hospital. *Clinical Nutrition,* Volume 34, Issue 3, Pp 436–442.

Higher risk food

Certain types of food can carry a higher risk of choking and may need to be modified or avoided for people with dysphagia, they include:

- round or long-shaped foods eg. sausages, grapes, sweets
- hard, tough, chewy, fibrous, stringy, dry, crispy, crunchy or crumbly foods
- floppy' foods eg. lettuce, cucumber, uncooked baby spinach leaves
- pips, seeds, pith/inside skin, skins or outer shells eg. on peas, grapes, husks
- hard chunks eg. pieces of apple
- sticky foods eg. cheese chunks, marshmallows
- juicy food where juice separates off in the mouth to a mixed texture eg. water melon
- foods of mixed consistency (eg. solids mixed with gravy, soup with lumps of vegetables)

National Patient Safety Agency's National Dysphagia Texture Descriptors provide standard terminology that be used by all health and social care professionals and food providers when communicating about an individual's requirements for a texture modified diet.

The food textures are:

B= Thin Puree

C= Thick Puree

D= Pre-mashed

E= Fork mashable

Normal Diet

The fluid texture are:

Normal fluid

Stage 1: Syrup thick

Stage 2: Custard thick

Stage 3: Pudding thick

2.0 Background

2.1 National context

Over the last 15 years there has been an increasing focus on choking as a significant safety issue. The National Safety Council highlight that choking is identified as the 4th leading cause of unintentional death.

The National Patient Safety Agency (NPSA)[16] in Great Britain reported that there were 605 reported incidents of choking related to adults with learning disabilities between April 2004 - 2007. Review of these incidents identified that they mainly happened at mealtimes with 41% occurring in residential care homes and 58% within inpatients and assessment services.

In 2007 NPSA developed specific guidance with an aim to ensure safer practice for adults with learning disabilities who have difficulty in swallowing. The guidance highlights best practice and provides resource materials to give practical help[17]. The National Reporting and Learning Service (NRLS) encourage healthcare organisations to foster a culture of patient safety and to consider human factors when designing and implementing systems and process.

In June 2011, the Department of Health England as part of the 'Improving Health and Lives Confidential Inquiry'[18] examined preventable deaths of people with learning disability and reported that a number of deaths were caused by solids or liquids going down the wrong way in the lung. The review included stories relating to people with learning disabilities who choked and died in care homes. Their findings showed that people died when carers were not looking after them, first aid was not used properly when the person was choking, staff were not following the care plans for eating and drinking and that people who were at risk of choking were not protected from that risk.

In September 2012, a multi-agency review carried out in Hampshire[19] following 5 cases of choking resulting in death, in learning disability clients, reported to Hampshire County Council between 2005 - 2010. The report sought to understand why people with a learning disability are at greater risk of choking and to determine how outcomes could be improved for individuals who are at risk of choking, in any care setting. There were a number of work stream areas identified during the review which were seen to influence the successful management of risk of choking, including:

[16] www.nrls.npsa.nhs.uk
[17] National Patient Safety Agency 'problems swallowing?' (July 2007) Resources for clients and carers: Ensuring Safer practice for Adults with learning disabilities who have dysphagia
[18] www.improvinghealthandlives.org.uk
[19] Hampshire Safeguarding Adult Board, Multi-Agency Partnership, September 2012, Reducing the risk of choking for people with a learning disability.

- Recognition of people who may be at risk of choking
- Appropriate referral to health professionals for advice and planning
- Care staff training around the recognition of risk, mental capacity assessments and best interests decision making, and First Aid to be given when someone chokes
- Effective commissioning and monitoring of placements for people who are at risk of choking
- Consistent reporting of choking incidents including application of safeguarding processes
- Information for the public.

Public Health England "making reasonable adjustments to dysphagia services for people with learning disabilities" – provides some excellent examples of training models for service providers, carers and families[20]

2.2 Local context

Minimum Care Standards for Regulated Services

The Department of Health NI has developed minimum standards for a range of regulated services. The standards outlined below, specify the arrangements, facilities and procedures that need to be in place in each setting to ensure the delivery of a quality service.

- Care standards for Nursing Home April 2015
- Minimum Care Standards for Independent Healthcare Establishments (2014)
- Residential Care Homes Minimum Standards Updated August 2011
- Domiciliary Care Agencies Minimum Standards Aug 2011
- Day Care Settings Minimum Standards Jan 2012

Within each of the standard documents there are specific standards and criteria related to nutrition and mealtimes which have direct relevance to providing care for individuals with dysphagia.

[20] Public Health England, Making reasonable adjustments to dysphagia services for people with learning disabilities (March 2016).

The minimum care standards for each setting also have specific standards related to staff training and development, with the following related criteria:

The training needs of individual staff for their roles and responsibilities are identified and arrangements are in place to meet them.

Trust Policies & Procedures

Each of the Trust organisations has policy or procedures/protocols in place relating to the management of dysphagia.

Promoting Good Nutrition Strategy

The overall vision of PGN strategy, is to improve the quality of nutritional care of adults in Northern Ireland in health and social care, whether delivered or commissioned, through the prevention, identification, and management of malnutrition in all health and social care settings including peoples own homes. The PGN strategy clearly demonstrates that malnutrition and swallowing difficulties are interlinked.

The 10 Key Characteristics within the strategy sets the scene for the development of a framework for action, by describing what good nutritional care looks like for each characteristic.

The two key actions related to dysphagia are:

- People with swallowing difficulties are screened
- All adults identified as having swallowing difficulties have a full swallow assessment by a Speech and Language therapist.

Evaluation of the implementation of the PGN strategy, within adult hospital settings, identified an opportunity for further regional engagement in order to understand current regional practice in relation to dysphagia screening and full swallow assessments. A scoping exercise which focused on 3 particular elements pertaining to dysphagia, namely dysphagia awareness, dysphagia screening and full swallow assessment of patients was carried out regionally. The findings of the scoping

exercise have been shared with the Regional Adult Dysphagia Group and will inform the regional dysphagia action plan going forward.

Incident Reporting

When a serious event or incident occurs, it is important to ensure that there is a systematic process in place for safeguarding services users, staff, and members of the public. One of the building blocks for doing this is a clear, regionally agreed approach to the reporting, management, follow-up and learning from serious adverse incidents (SAIs). Working in conjunction with other Health and Social Care (HSC) organisations, the *HSCB/PHA Procedure for the Reporting and Follow up of Serious Adverse Incidents* was developed to provide a system-wide perspective on serious incidents occurring within the HSC and also takes account of the independent sector where it provides services on behalf of the HSC. The procedure defines an adverse incident and outlines the criteria for reporting of a serious adverse incident.

Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)

In May 2014 the Health & Safety Executive (HSENI)[21] advised that if a death or major injury arises due to service user choking, in connection with the Trust's work activities, and it could have been prevented by the Trust through risk assessment, identifying and implementing control measures or if a failure to do any of these was identified, that this should be reported under RIDDOR[22].

RIDDOR requires employers and others to report deaths, certain types of injury, some occupational diseases and dangerous occurrences that **'arise out of or in connection with work'**. Generally, this covers incidents where the work activities, equipment or environment (including how work is carried out, organised or supervised) contributed in some way to the circumstances of the accident.

[21] https://www.hseni.gov.uk/publications/date/2014
[22] RIDDOR (Reporting of Injuries, diseases and Dangerous Occurrences Regulations (NI) 1997)

Dissemination of Regional Learning

Prior to this review being commenced and following regional recommendations arising from a SAI review, a reminder of best practice letter relating to management and advice for patients/clients with swallow/dysphagia problems, was issued in October 2015[23]. The learning focussed on the need to have robust systems in place, and working, to ensure that all staff involved in delivering care are fully aware, and reminded of, each resident's individual needs and care plans.

Dysphagia Awareness Training

Currently dysphagia awareness training is not considered mandatory across the region. There is a variation of training provided across HSC and independent sector organisations which is accessed from both statutory and private providers, including training offered by nutritional and pharmaceutical companies.

Improvement Initiatives

There are many examples of improvement initiatives related to the prevention of choking across the region, a small sample of which are highlighted below.

Stop Choking DVD link/song

A free help stop choking app which has been developed for people with learning disability is available at helpstopchoking.hscni.net. The app provides easy access to resources which include a choking awareness book, videos, leaflets and advice. Feedback has shown that people with learning disability have found the app easy to use and have loved being in control of their own learning.

Experiential Learning

A project using quality improvement methodology was undertaken in a care home in one Trust area. This project looked at the level of support required by care home staff to care for dysphagic clients safely. The model has suggested that experiential learning allows staff to have a concrete experience with clients they know, to reflect

[23] HSCB/PHA Reminder of Best Practice Letter, Management and advice for patients/clients with swallow/dysphagia problems, October 2015

on their experience and generate ideas on how to manage in the future, and to transfer this learning to new clients. This is done safely with a SLT clinician on hand through the early stages to support and guide.

Quality Improvement

A nationally recognized quality improvement project was undertaken by an independent provider organisation in partnership with a Trust. The project focused on choking, dysphagia and speech and language assessments with a key aim that all nurses, care assistants and support staff working within the group of care homes were aware of speech and language recommendations for each individual resident.

This drive in quality improvement resulted in the displaying of choking risk cards for visitors and visual cues for staff in dining rooms and tea trollies. This piece of work also helped improve written and verbal communication processes between the multidisciplinary team, the care teams and the catering staff through face-to-face learning and practice development. The outcomes of this initiative led to statistically significant reductions in episodes of choking and associated weight-loss.

Trust wide improvement initiative

One organisation has established a Trust wide cross- divisional group to fully implement and embed the Trust Dysphagia Management Policy for Adults. Training has been provided to over 800 staff community and hospital settings and 'pop up' ward based key facts information sessions have also been delivered. A Dysphagia page has been created on the staff intranet to allow all staff easy access to information to support their practice such as the SLT regional information leaflets re Textured Modified Diets. Additionally guidance is now available regarding the provision of snacks to service users who require a textured modified diet; snack lists are available which are appropriate to Acute and Community Hospital settings and for community and domiciliary settings. An information poster has been provided to all hospital wards, adult centres, short breaks and supported living settings along with a leaflet which has been produced and disseminated to all staff who work with adults who have dysphagia, including domiciliary care staff. A dysphagia champion was appointed on an interim basis in September 2016 and has audited practice in

Acute and community Hospitals and in Learning Disability facilities. The audit identified areas of excellent practice and areas for improvement. Excellent practice in Learning Disability facilities included the discrete use of service user photographs in serving areas to ensure that people who required texture modified foods were provided with the correct meals and snacks and having a dedicated member of staff responsible for ensuring that all SLT dysphagia care plan documentation is shared within the unit.

3.0 Aims and Objectives

The Regional SAI review group identified the need for a review of SAIs & AIs relating to choking on food, to inform future safety work. The aim of this review was to identify recurring themes, consider regional learning and determine actions required to reduce/prevent reoccurrence of choking on food as well highlighting areas of good practice.

It is important to note that the SAI reports included are unlikely to represent all of the near misses and harm that result from choking on food. In recognition, all HSC Trusts agreed to share adverse incident information (related to choking on food) from Trust Datix systems. This review therefore considers both SAIs and AIs to obtain an overall view of actual and potential harm associated with choking on food and related causal factors.

The SAIs and AIs included in this analysis have been individually reviewed at Trust level and resulting recommendations have been implemented locally or regionally where appropriate.

The objectives of this review were:

- Document the number of SAIs and AIs relating to choking on food
- Document key issues raised, in relation to care and treatment
- Identify themes arising from the SAIs
- Identify documented contributory or causal factors
- Give consideration to learning from AIs relating to choking on food
- Identify areas of good practice

- Make recommendations for further work or for specific improvements in the delivery of care and services, where appropriate; and
- Prepare a written report of the review, for learning and sharing with relevant parties. This report will be presented to Quality, Safety & Experience Group (QSE) prior to approval from SMT/AMT.

4.0 Methodology

4.1 Analysis of Serious Adverse Incidents

SAIs for consideration within this review were identified using the agreed search criteria below within the Regional DATIX database

- Choking
- Aspiration pneumonia
- Asphyxiation
- Difficulty swallowing

SAI notifications forms were screened for inclusion in the review by two reviewers. Full reports were requested where the SAI was related to choking on food. Using the above methodology, there were 17 cases which were identified and considered within the review.

Identification of the contexts and causal factors associated with choking on food was undertaken using qualitative methodology, predominantly the use of grounded theory[24], whereby the issues were identified while reviewing the data (instead of using preconceived hypotheses). Each SAI report included was assigned analytic theme(s), which formed the basis for the issues identified.

4.2 Findings of Serious Adverse Incidents

[24] Charmaz K. Grounded theory. Qualitative psychology: A practical guide to research methods. 2003 Mar 6:81-110.

Outcome

In 14 (82%) cases tragically the incident resulted in death.

Demographics

Reporting Organisation

There was variation in the number of SAIs reported by Trust organisations across all Adult Programmes of Care, ranging from 0 to 7.

Age and Gender

Of the 17 incidents, 10 occurred with males and 7 with females. 11 of the SAIs occurred in persons under 70 years, 6 occurred in those greater 70 years. Ages ranged from 42-80 years.

Care Setting

There was a variation in the settings in which the incidents occurred with most (58%) in nursing and residential care homes. Other settings included supported and independent living, and day centres.

5.0 Thematic Analysis of SAIs

From the SAIs reviewed the following themes were identified:

Causes

The SAIs reviewed show a prevalence of choking episodes among groups for whom the risk of choking is inherently higher, such as those with a mental health diagnosis (41%), learning disability (35%) and dementia.

Behaviours known to increase the risk of choking were identified as a strong theme. This was referenced in 9 (52%) of cases with the following terminology being used within reports:

- Eating quickly;
- Bolting food;
- Drinking fluids impulsively;

- Eating non-food items;
- Taking and eating other people's food;
- Tendency to gulp food/liquids;
- agitated behaviours;
- Holding food in mouth

Patients/Clients known to Speech and Language Therapy

In 13 (76%) of the 17 cases, individuals were known to Speech and Language Therapy (SLT) and there is evidence in the majority of the cases that recommendation for management and texture modification had been made.

Documentation of SLT recommendations

Of the 13 cases known to SLT, In 11 (87%) cases the investigation report considered that there was evidence of written documentation to support the swallow recommendations.

Communication of swallow recommendations to staff

From review of the incident reports it would appear that despite swallow recommendations being documented, availability of these recommendations to staff actually involved in meal provision and feeding was not always ensured. Some of the reasons detailed within the incident reports for this included:

- Nursing care plan relating to dysphagia needs was not in place;
- New staff member;
- Staff member was transferred from another unit;
- Swallow recommendations were not easily accessible in the dining area;
- Personal individual placemat was not in place in dining room;

Understanding of SLT terminology

The reports indicated that there are issues with the clarity and/or understanding of individual care plans and the SLT terminology used within care plans**.** On a review of the incidents there is evidence to suggest that even when recommendations were available to staff there was a lack of understanding in staff actually involved in the meal provision and feeding. There was recognition within a small number of the

review reports that food textures observed, as well as those recorded on food diaries and records of care were not in keeping with those recommended by SLT.

In 5 (41%) of the 12 cases where SLT assessment had resulted in modification to diet recommendations, texture descriptors had been used. It was recognised that in the remaining cases, a small number had occurred prior to 2012 when national texture descriptors had been published. It was noted that the Dysphagia Diet Food Texture Descriptors terminology was not used universally in all verbal and written communication and reference was made to training and awareness which had been delivered in advance of the introduction of texture descriptors.

Meal and snack times

Over half (58%) of the choking episodes reported as SAIs occurred at mealtimes, 5 occurred at snack time and in in a small number of cases it was unclear as to when the incident had occurred.

Food Type

In 5 (30%) of the cases sausages where identified as the food which caused the individual to choke. Other foods detailed within review reports included bread & butter, sandwich, cake, orange, scone, soup and braised steak.

In 9 (53%) of the 12 cases where SLT recommendations had been made for a modified diet, the food which resulted in choking was not of the texture recommended by the SLT, a small number of incidents occurred outside of mealtimes when individuals where given snacks, not by staff but by others who may not have been aware of their dietary requirements or by taking food not intended for them.

Change of environment

There does appear to be a theme relating to a move or change in environment or change to routine, this was referred to in 6 (35%) of the reports, with individuals recently resettled from long term care facilities, discharged from hospital to a nursing home and admitted to the acute hospital environment from home or another care environment.

Changing needs of individuals

Changing needs of the individual was noted in a number of the 17 cases reviewed. Signs of chest infection, recurrent chest infections, requirement for antibiotic therapy and pneumonia were referenced within reports along with recognition of chest infection as a possible sign of swallow difficulty and aspiration. Deterioration in clinical course in individuals with conditions known to increase the risk of swallowing difficulties, as having the potential to affect their ability to swallow is also noted.

Swallow awareness training for frontline staff

In less than 5 of the 17 reports reference was made to swallow awareness training. In a small number of reports reference was made to in house training provided both by Speech and Language Therapists and by catering staff within the care settings.

In 7 (41%) of the 17 reports, recommendations are made in relation to swallow awareness/dysphagia training, they are not explicit as to who should deliver the programmes or the content. A small number of the reports note that this training is not currently considered as mandatory.

Support to staff and others who witness choking incidents

The need for support to families, carers and other residents/clients who witness choking incidents is referenced within reports.

A small number of the reports make specific reference to the traumatic nature of these incidents and the need for support to staff. Within these reports there is reference to the support provided from senior staff in clinical areas along with occupational health input and care call helplines.

6.0 Good Practice Identified

It is important to note there were many examples of good practice highlighted throughout the SAI review reports these included:

- Prompt and effective management of choking episodes. The benefits of ensuring all staff are trained and updated in emergency first aid and CPR has been demonstrated throughout a number of these reported incidents. The procedure for summonsing emergency assistance worked extremely well in many instances;
- Comprehensive pre admission assessments and documentation completed in many cases;
- Early and appropriate involvement of SLT and dietetics teams within the care planning process;
- Clear evidence of written documentation from SLT to support the swallow recommendations and this had been communicated and shared by the SLT professional with the clinical areas;

7.0 Analysis of Adverse Incidents

In order to complement the findings of the thematic review of SAIs, Trusts agreed to share information held on DATIX relating to all AIs resulting from choking on food between May 2010 to end April 2016 (across all adult Programmes of Care). Datix was searched using the following key words:

- choking;
- aspiration pneumonia;
- asphyxiation;
- difficulty swallowing.

Following review by Trusts **798** AIs were considered as relevant.

7.1 Findings

Reporting Organisation

There was a variation in the number of AIs reported by Trust organisations ranging from 62 - 349.

Care Setting

There was a variation in the settings in which the incidents occurred with almost half (46%) occurring in Day Care settings, 28% in hospital settings and 15% in nursing and residential care homes. Remaining settings included supported living and individuals' own homes.

Day Care Settings

There was variation in the number of reported AIs in day care settings between Trusts, this ranged from 33 to 140 per Trust with 365 in total. The majority of day care settings in which incidents occurred where those who provided care for individuals with learning disabilities and mental health needs.

In-patient Hospital settings

Many of 222 incidents occurring in hospital where reported within mental health and learning disability settings along with clinical areas which provided care for the elderly and those with dementia. A small percentage of incidents where reported from acute inpatient hospital settings. The range of incidents reported by Trust was 16 to 109.

Nursing & Residential Care Settings

There were 116 (15%) incidents occurring in nursing and residential care home settings, reported incidents ranged by Trust from 7 to 66.

Supported Living

Adverse incidents in supported living settings accounted for 7% (57) of total reported incidents, which Trust reported numbers ranging from 6 to 19.

Own home

Incidents in this category were reported mostly by support workers providing care within the clients own home.

Other

The 23 incidents categorised in the other setting were mostly community settings including rehabilitation environments and also where exact location was not specified.

Food Types

Where the type of food which caused the individual to choke was detailed, similar to the review of SAIs, the majority of the food types are known to carry a higher risk of choking, these included:

- Sausage
- Chicken
- Biscuits
- Toast
- Lettuce
- Orange

7.2 Themes identified

Whist it was acknowledged that there would be less information available than that within an SAI review report, Trusts were asked if to identified key themes from AI analysis. The key themes identified below where similar to those identified in the analysis of SAIs:

- Known history of swallowing difficulty;
- Interpretation, understanding and documentation;
- Training: food preparation, dysphagia, CPR, first Aid;
- Recommendations which were present were not always adhered to;
- Behavioural issues;
- Posture of patient when eating;
- Visitors giving patients food they were not allowed;
- The importance of personalised care planning with regards to dietary requirements;
- Appropriate supervision in dining rooms.

Outcome

When reviewing the information provided in relation to adverse incidents it was also noted that in a number of incidents reference was made to the requirement of first aid measures including, back slaps, abdominal thrusts and suctioning measures by staff members present at the time of the incident along with doctors on call and paramedics. Prompt response and effective first aid measures clearly had a positive impact on the outcome for these individuals.

8.0 Learning

The SAIs reviewed show a prevalence of choking episodes among groups for whom the risk of choking is inherently higher, such as those with a mental health diagnosis, learning disability and dementia. Similarly, although the aetiology for all AIs was not available to the thematic review team in all cases, almost half of the incidents (365) occurred in day care settings, the majority in day care centres for those with learning disabilities and mental health needs. In addition, many of the incidents occurring in hospital (222) where reported within mental health and learning disability settings along with clinical areas which provided care for the elderly and those with dementia. Behaviours which are known to increase the risk of choking where described in many of the cases.

In the SAIs reviewed there is reference to level of access to SLT where it was requested. Interventions by SLT tend to be in response to a referral to the service. In order to obtain timely and appropriate referrals to SLT there continues to be a need for awareness training of frontline staff in the identification of signs and symptoms that indicate that there may be swallowing difficulties and how and when to refer appropriately for full swallow assessment.

Another causal factor highlighted was the changing needs of the individual and the timeliness of reassessment. Many people's ability to swallow safely will rapidly decline during periods of ill health and advice on how to respond in this urgent situation is often needed. Review of recommendations and consideration of clinical

condition allow patients/clients to follow the least restrictive diet, supporting a better quality of life, adherence to SLT recommendations and appetite. As the SAIs incidents have all occurred within client groups for whom swallowing difficulties are prevalent, swallow awareness training for frontline staff may result in increased safety for this population and rapid identification of those at increased choking risk so that timely referrals can be made to SLT.

Currently within Northern Ireland there is no regional consensus to which staff groups should access training & dysphagia awareness training is not recognised as mandatory. There is a variety of training programmes available in relation to dysphagia, swallow awareness and food preparation. However, there does not appear to be consistency across the Trusts and Independent Providers in relation to access to this training, length, content, whether they are mandatory or not or how competency is accessed. Those who access training do so from both statutory and private providers including nutritional and pharmaceutical companies. This ad-hoc approach has the potential to result in confusion. There is a need to ensure that the training for staff that is delivered is quality assured and standardised so that a common message is communicated in agreed language.

It is important to stress that simply accessing training is not enough and practice and learning from recent improvement initiatives would indicate that on-going monitoring of practices and support relating to dysphagia management within care facilities is essential to ensure that training is embedded.

In reviewing the SAI reports the importance of effective communication with the staff caring directly for individuals with swallowing difficulties was highlighted as an area for learning. Whilst the reports referred to written documentation of swallow recommendations in most cases detail relating to the availability of these recommendations to staff actually involved in meal provision and assistance with feeding was not always clear.

Although not referred to in all reports, a small number referred to the displaying of information relating to swallowing recommendations for example on a personal placemat at the clients table, whilst others displayed them on the walls of the

residents room. Sharing of the information contained within care plans including swallow recommendations can be misunderstood or misinterpreted by staff who are delivering care.

There is a need to consider the impact of environmental changes and changes to routine both on the individual and staff involved. The transfer of information from one facility to the next can be an issue but importantly there may be issues relating to the knowledge one team will have of a person from whom they have had caring responsibility for a long period of time. Some of the subtle caring practices may be difficult to capture and therefore to communicate effectively.

The precise sharing of information relating to all aspects of care and where possible, the careful and planned transfer of a client from one care setting to another so that those with the most knowledge of the individuals' care needs can be closely involved in the resettlement of the client into their new surroundings. The discharge care pathway needs to be clearly described with the "key" worker clearly identified. This individual is the central point through whom information relating to all care needs is disseminated.

When a patient safety incident occurs, a first priority is to care and support for the person, their family members and carers and indeed other service users who have witnessed the adverse/serious adverse event. The subsequent impact on front-line workers involved in or exposed to the event should also be acknowledged. These staff members need emotional and professional support from colleagues and supervisors, so that the occurrence of patient safety incidents results in learning and constructive changes in practice if indicated.

9.0 Conclusion

This review provides an analysis of SAIs relating to 'choking on food' reported across all programmes of care for the period of 6 years, 1 May 2010 to 31 March 2016. Themes identified from regional AIs associated with choking on food between 1 May 2010 to 30 April 2016, were also considered.

The reasons why patients choke are complex and can have numerous contributing factors such as physical illness, learning disability, mental health, medication and age.

The regional multi-disciplinary review group have identified recommendations to facilitate learning and inform future quality improvement work with an aim of prevention or reduction of risk of choking in the future. It is not usually possible to eliminate all risks but staff have a duty to protect individuals as far as 'reasonably practicable'[25]. This means the avoidance of any unnecessary risk. It is also clear that there were many examples of good practice highlighted throughout the reviews.

10.0 Key Messages

Regional

- Public awareness and awareness of staff should be raised regionally of the groups of people for whom there is a higher risk of choking.

- Terminology for food and fluid texture descriptors should be agreed regionally for use universally across all HSC facilities and by providers of modified meal contractors.

- A regional approach to agreeing roles, responsibilities along with tailored training & education to the level of competence and skills required by different groups of staff should be taken.

- Key safety messages from the thematic review and the dysphagia scoping exercise should be shared with relevant stakeholders, especially with those caring directly for individuals with swallowing difficulties.

[25] NPSA (March 2007) *'Healthcare risk assessment made easy'*

Individuals

- Care plans relating to individual dietary needs should be clear and unambiguous and should include swallowing recommendations, requirements for supervision, assistance with feeding and food and fluid consistency.

- Clear mechanisms for the communication of swallowing recommendations to those who are caring directly for individuals with swallowing difficulties should be developed including when transferring between locations.

- The needs of individuals with swallowing difficulties should be communicated effectively, particularly at pivotal times such as handover, meal and snack times, or if patients/clients move facilities, attend day centres or go out in the care of their relatives, carers or others. The development of a process for a safety pause before any meals and snack times are served to consider risks, based on one question such as *'what patient safety issues for meal and snack times do we need to be aware of today?*' should be considered.

- When planning menus consideration should be given to food that can carry a higher risk of choking and requirement for necessary modifications or in some cases avoidance.

- Individuals who have experienced a deterioration with their swallowing, dysphagia, or who have difficulty with chest infections or aspiration should be reviewed and their needs reassessed.

Family/ carer

- Families, carers and visitors (if appropriate) should be made aware if there is any risk of individuals choking and be kept up to date of relevant requirements regarding individual dietary needs.
- Information in an easy to understand format on dysphagia management should be made available for people with swallowing difficulties and their families and carers.

Staff

- The training and development needs of staff providing care and services for individuals with swallowing difficulties should be identified and arrangements put in place to meet them.

- Staff/witness support and counselling, should be available for any member of staff or witnesses involved either directly or indirectly in a choking incident.

- To help continuously improve safety in the future, systems should be put in place for the accurate reporting of patient safety incidents involving all patients with dysphagia**.**

11.0 Next Steps

A Regional Adult Dysphagia Group led by PHA has been recently established, comprised of Service Users, Carers, Statutory, Independent, Voluntary and Community Sectors and relevant staff groups.

The aim of the group is to improve identification and management of swallowing difficulties for adults with dysphagia and the following objectives have been set:

- Improve awareness of dysphagia;
- Standardise approach for identifying people with dysphagia;
- Standardise approach for managing people with dysphagia;
- Improved access to specialist intervention;
- Work towards a co production approach with service users and carers.

As a result of learning from this review the Regional Adult Dysphagia Group are asked to engage with relevant stakeholders to consider the following actions and subsequently develop an action plan with clear time frames for completion and implementation;

1. Develop a regional plan for communication of key safety messages arising from the thematic review, to include consideration of promotional materials and media aimed at raising awareness.

2. Develop proposals for consideration and approval by relevant stakeholders in relation to a regional approach to dysphagia awareness and training for all staff groups which would carefully consider the following areas:

    - Access to awareness and training;
    - Delivery options;
    - Theoretical content as required by staff group;
    - SLT care plan “language”/terminology including texture descriptors;
    - Appropriate supervision of patients whilst eating or drinking.
    - Assessment and compliance
    - Roles and responsibilities

3 Develop regional recommendations in relation to timeliness of SLT dysphagia assessment and intervention.

4 Seek regional consensus in relation to the use of Dysphagia Diet Texture Descriptors across the region. In reaching comprehensive consensus with all relevant stakeholders, agree a regional plan for dissemination and implementation using an agreed communication and assurance framework to ensure sharing with and awareness of relevant staff groups families and carers.

5 Seek and share outcomes of current improvement initiatives related to choking on food and give consideration to potential for spread to other areas.

6 Determine the value of a standardised format for swallow recommendations for use in all care settings. If agreed, engage with relevant stakeholders including professional groups to develop same.

7 Determine the value of regional guidance in relation to accurate reporting of patient safety incidents involving all patients with dysphagia. If agreed, engage with relevant stakeholders including professional groups to develop same.