

Innovating for Improvement

A Nurse-led intervention to improve identification and management of patients with Alcohol Related Brain Injury

Royal Liverpool and Broadgreen University Hospitals NHS Trust



About the project

Project title:

A Nurse-Led intervention to improve identification and management of patients with Alcohol Related Brain Injury (ARBI)

Lead organisation:

Royal Liverpool and Broadgreen University Hospitals NHS Trust

Partner organisation(s):

Liverpool Clinical Commissioning Group

2Bio Ltd

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Part 1: Abstract

Introduction

Alcohol concern estimate that round 35% of the very heaviest drinkers have some form of Alcohol Related Brain Injury, and that 10-24% of all cases of dementia are alcohol related. It is known that with sustained abstinence this form of brain injury can be reversed. Therefore, recognition of ARBI at the earliest opportunity is crucial if we are to optimise medical and psychosocial care, and prevent the cycle of readmissions for increasingly complex physical and psychological harms.

Aims

To ensure early identification of ARBI and evaluate the utility, acceptability, and effectiveness of a bespoke care pathway.

Methods

In April 2017 we implemented an innovative clinical pathway. Patients meeting risk criteria based on a) number of previous admissions or b) carers concerns had an automatic referral to a specialist nurse. The nurse then carried out an assessment utilizing the Montreal Cognitive Assessment tool (MoCA©). A score of <24 was considered positive for potential ARBI. This triggered initiation of our ARBI care pathway and a referral to a psychiatrist for confirmation of diagnosis.

Conclusions

We have demonstrated the potential benefits of this point-of-care screening which can facilitate the initiation of referral and treatment pathways which can improve patient outcomes. Our results show that the opportunity to receive a diagnosis of ARBI is valued by patients and their carers, but is also a good clinical tool ensuring the patients receives the right care at the right time by the right person, and as such significantly improves the change of a positive outcome.

Part 2: Progress and outcomes

Background

The RSYCH College Report (CR185) highlights a need to rapidly assess and diagnose patients in acute hospital settings for Alcohol Related brain Injury (ARBI). Whilst it describes the main deficiencies in current approaches to identifying and treating ARBI, it does not specify a pathway or process that should be followed. This is in part due to the lack of evidence that any one methodology is superior.

Intervention

Our intervention comprises a nurse led pathway to identify and better support patients with ARBI at the Royal Liverpool and Broadgreen University Hospitals NHS Trust (RLBUHT). The pathway aims to identify at risk patients and facilitate assessment and onward referral enabling patients to receive diagnosis at the earliest opportunity. This also ensures patients receive timely interventions with a bespoke package of care aimed toward maximising adherence to abstinence, and therefore limiting progression or achieving reversal of ARBI cognitive impairment.

The intervention was supported by a dedicated Specialist Nurse working jointly with the alcohol care team, and forming close liaison with a dedicated psychiatrist (Dr Kullu), and community alcohol and hepatology team, social services, hospital based nutrition team, the patient and their carers.

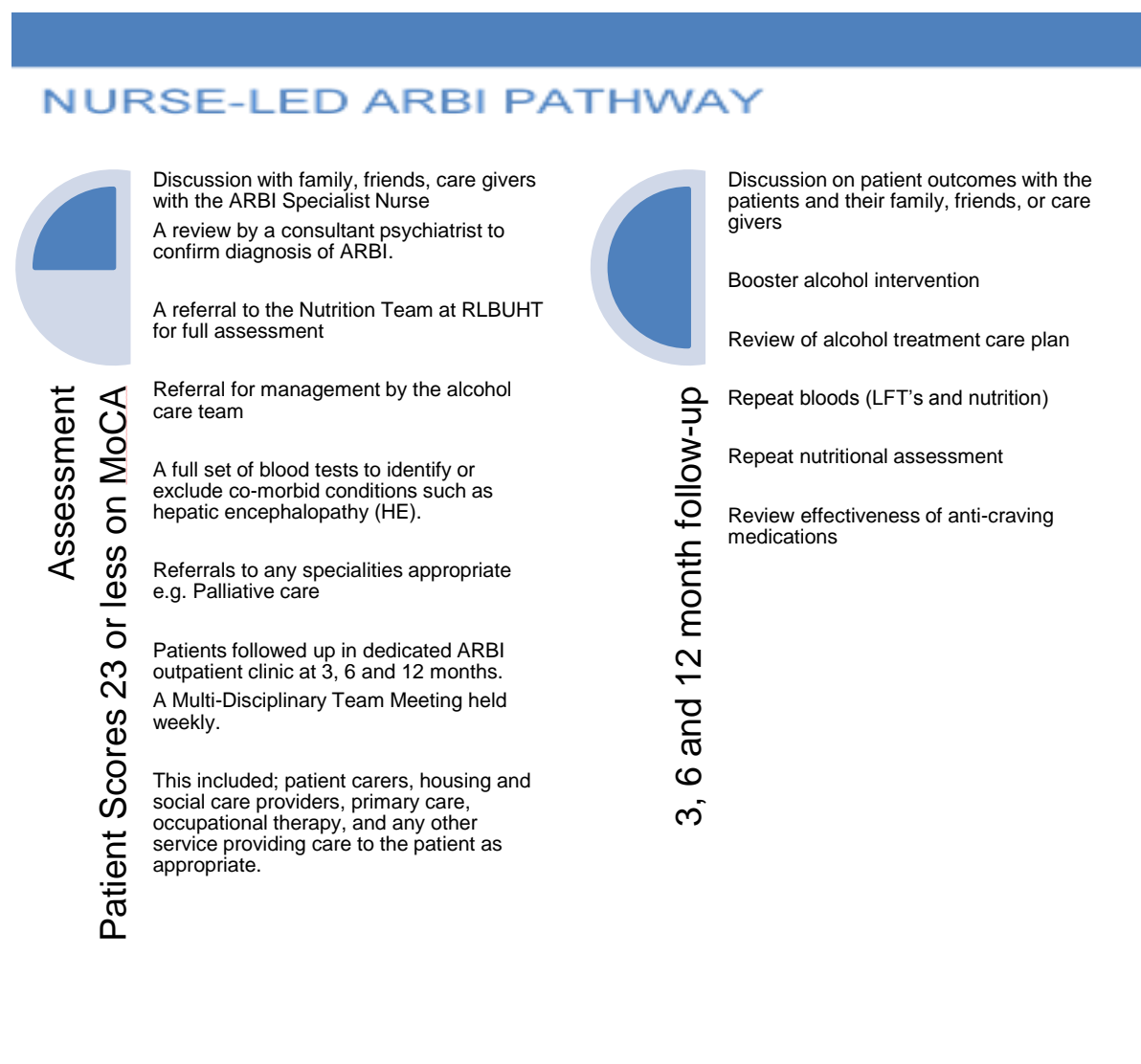
In order to help facilitate this innovation the team implemented two novel interventions to identify those patients thought to be most at risk of ARBI:

1. With the help of our project steering group chaired by our PPI representative, and including Trust information technology analysts, lean practitioners, members of our local CCG, and clinicians we co-designed a Standard Operating Procedure (SOP) to identify at risk patients. We agreed and used the following criteria: (Appendix 1)
 - Any patient with two alcohol related attendances in any given month.
 - Any patient known to alcohol services who represents
 - Any patient who has three alcohol related attendances in one year.
 - Anyone or their family who are concerned about cognitive decline.
2. Any patient meeting criteria set out in the SOP was reviewed by the specialist nurse who carried out a cognitive assessment using the Montreal Cognitive Assessment (MoCA) tool. Depending on the score; the following individualised care packages were implemented:

- If the MoCA score is 26 or greater then referral is made to the Alcohol care team at RLBUHT.
- For MoCA of 25 or 24 the patient is reviewed at 3 and 6 months to check for any decline in cognitive function. Relatives or given contact details for the ARBI nurse should they have any concerns about continued decline. Patients are referred to the Alcohol Care Team for review.
- For MoCA of 23 and below the ARBI Care Pathway is commenced.

The third novel innovation was the implementation of the ARBI Care Pathway to facilitate the start of a patient journey to recovery while free from alcohol in an acute care setting. The pathway was designed to mitigate known variations in care delivered in primary, secondary and social sectors of the health economy.

This ARBI Care Pathway included the delivery of the following care bundle:



Throughout the project we adjusted our ARBI pathway SOP to exclude patients with existing brain injuries and patients who had a diagnosis of dementia or HE.

Data and Approach

We used several sources for our data, these included the Patient Administration System (PAS), the trust Electronic Patient Record (PENS) and the trusts business intelligence platform (Light).

We worked closely with the trust business intelligence team to have access to a system dashboard that had all the information in one place.

Our aim was to be able to continually track data completeness and identify data gaps. However, we encountered several challenges along the way including data lag for download, and difficulties in timely access to data from multiple systems.

However, we were able to create two unique IT solutions.

1. An innovative 'patient identifier' that showed us in real time patients meeting criteria for 'At Risk of ARBI'. Location of patient (ward base)
2. An innovative 'patient tracker' that showed in real time the point on the patient journey through the ARBI pathway, i.e. due 3 month follow-up (Picture 1).

Patient Tracker (Draft Version)

RQ# Number	Pathway Status	Latest Visit Type	Latest MoCA	Latest MoCA date	Next Visit type	Next MoCA Date	Next MoCA Due (Days)	Current Location if Admitted	NEXT OPD APPT	CLINIC CODE	OPD CLINICIAN
	Pathway Continues	Initial Assessment			3 Months						
	Pathway Continues	Initial Assessment	18	03/04/2017	3 Months	02/07/2017	-12				
	Pathway Continues	Initial Assessment	23	03/04/2017	3 Months	02/07/2017	-12		20/07/2017 13:30:00	BARBI	Owens L
	Pathway Continues	Initial Assessment	22	19/04/2017	3 Months	18/07/2017	4				
	Pathway Continues	Initial Assessment	19	13/05/2017	3 Months	11/08/2017	28				
	Pathway Continues	Initial Assessment	22	19/05/2017	3 Months	17/08/2017	34				
	Pathway Continues	Initial Assessment	10	30/05/2017	3 Months	29/08/2017	45		19/07/2017 15:30:00	OMGLGA ST	Lombard M G
	Pathway Continues	Initial Assessment	12	30/05/2017	3 Months	29/08/2017	45				
	Pathway Continues	Initial Assessment	21	02/06/2017	3 Months	31/09/2017	48				
	Pathway Continues	Initial Assessment	22	07/06/2017	3 Months	05/09/2017	53				
	Pathway Continues	Initial Assessment	23	08/06/2017	3 Months	06/09/2017	54		14/07/2017 11:00:00	RLOAS	Richardson P
	Pathway Continues	Initial Assessment	14	15/06/2017	3 Months	13/09/2017	61	RLH Ward 5X	08/09/2017 14:45:00	OMLH SIG	Chaudhry T
	Pathway Continues	Initial Assessment	23	19/06/2017	3 Months	14/09/2017	62		20/07/2017 13:30:00	KULLU-RICH	Richardson P
	Pathway Continues	Initial Assessment	21	23/06/2017	3 Months	20/09/2017	68		07/09/2017 14:30:00	OMR SURG	Burby M G T
	Pathway Continues	Initial Assessment	17	23/06/2017	3 Months	20/09/2017	68				
	Pathway Continues	Initial Assessment	19	25/06/2017	3 Months	24/09/2017	72		19/07/2017 13:50:00	RLOAS	Richardson P
	Pathway Continues	Initial Assessment	9	29/06/2017	3 Months	27/09/2017	75		18/08/2017 15:30:00	BQJHB	Burbaq H
	Pathway Continues	Initial Assessment	18	30/06/2017	3 Months	28/09/2017	76	RLH Ward 5Y			
	Pathway Continues	Initial Assessment	18	11/07/2017	3 Months	09/10/2017	87	RLH Ward 5Y			
	Pathway Continues	Initial Assessment	20	11/07/2017	3 Months	09/10/2017	87	RLH Ward 5Y			
	Repeat MoCA and follow up at 3 and 6 months	Initial Assessment	24	27/07/2017	3 Months	29/10/2017	103				

Summary of Active Pathways

Pathway Status	Number of Pathways
Pathway Continues	20
Repeat MoCA and follow up at 3 and 6 months	1

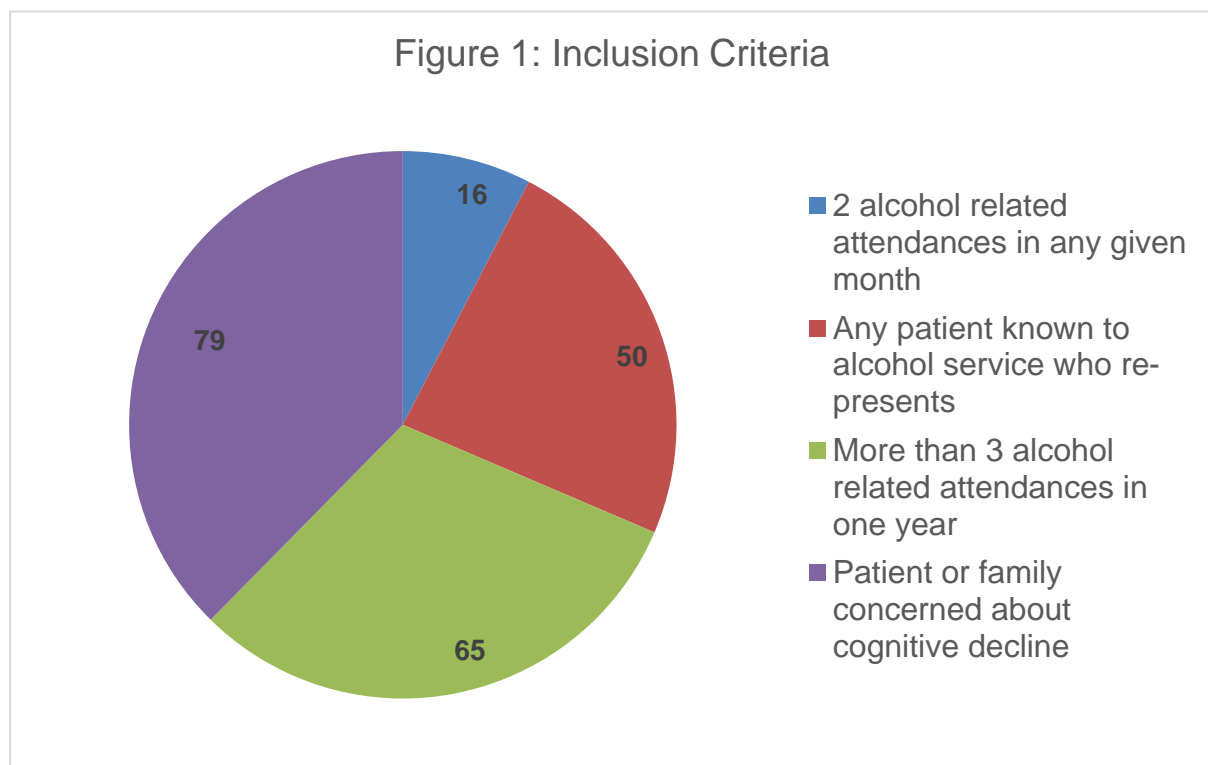
Picture 1

Throughout the course of the project, the team collected over 500 data points on each patient ranging from the postcode, number of acute admissions and diagnosis coding.

This has enabled us to monitor and evaluate the impact of our innovation on individual patients and the patients as a cohort. A research fellow from the university of Liverpool provided independent data validation and analysis.

Measuring Impact

For the duration of the project (1st April 2017 to 31st March 2018) 2104 referrals were made to the Alcohol Care Team (these include re-presentations). 210 individuals ~10% met the SOP criteria for MoCA assessment by the ARBI Specialist Nurse (figure 1 shows the breakdown of SOP inclusion criteria).

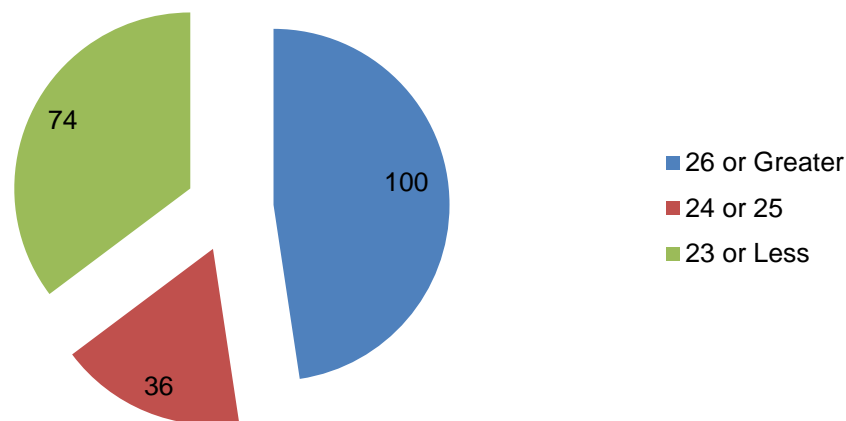


It is interesting that most of the referrals were initiated as a direct concern of family and friends. This prompted us to provide additional training to healthcare staff to support them in asking carers of patients admitted with alcohol-related problems, questions around memory and emotions that might lead to suspicion of ARBI.

Our data have been used to develop and NiHR Research for Patient Benefit bid for an RCT to validate some of our findings. Unfortunately we were not successful on this occasion but have very useful reviewer feedback and intend to resubmit for the next round.

Over the duration of the project 210 patients were screened through the implementation of the SOP (Figure2)

Figure 2: MoCA Category (n=210)



In this observational data set we have demonstrated that:

- Our SOP helped to identify at risk patients, but did not help to identify those we might have missed
- Screening utilising MoCA is doable in the acute hospital setting.
- Families and patients valued the opportunity to assess for cognitive problems. (see patient and carer responses from PROMS data appendix 2)
- Staff valued the interventions, particularly as it helped them understand patient behaviour and some of the possible reasons for poor compliance with treatment pathways.
- Once an MDT had been held for this group, improved communication and shared treatment goals facilitated reductions in both admissions and length of stay (Figure 4).
- Our project relied on the specialist nurse being available to attend for screening. This is a major limitation to full implementation of the screening SOP which we hope to address in the sustainability and spread plans.

Importantly, we are able to demonstrate significant improvements in the cognitive function (assessed by MoCA score) for those patients who achieved and sustained abstinence from alcohol for 3 months. For those who did not continue abstinence outcomes were worse (Figure 3).

Figure 3: Individual difference in MoCA score from baseline to 3 months (N=31)

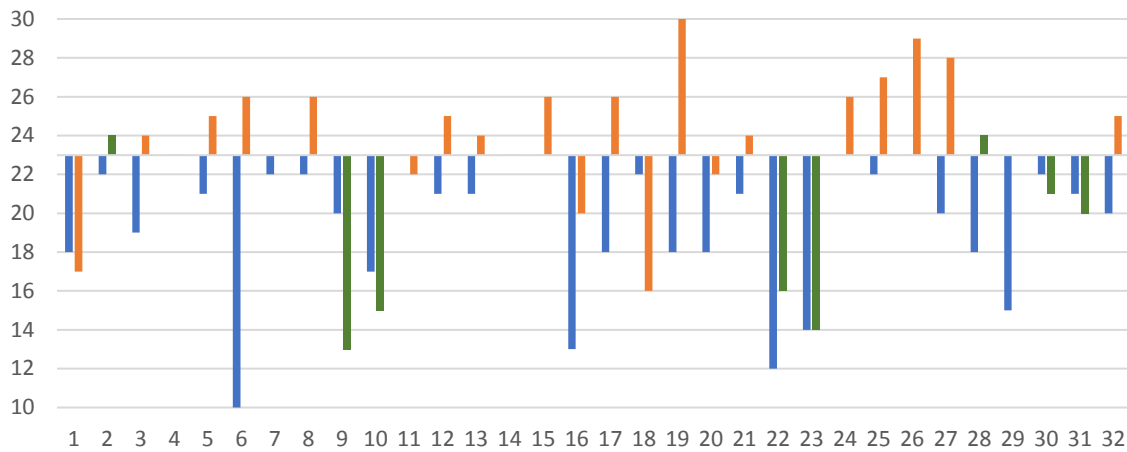
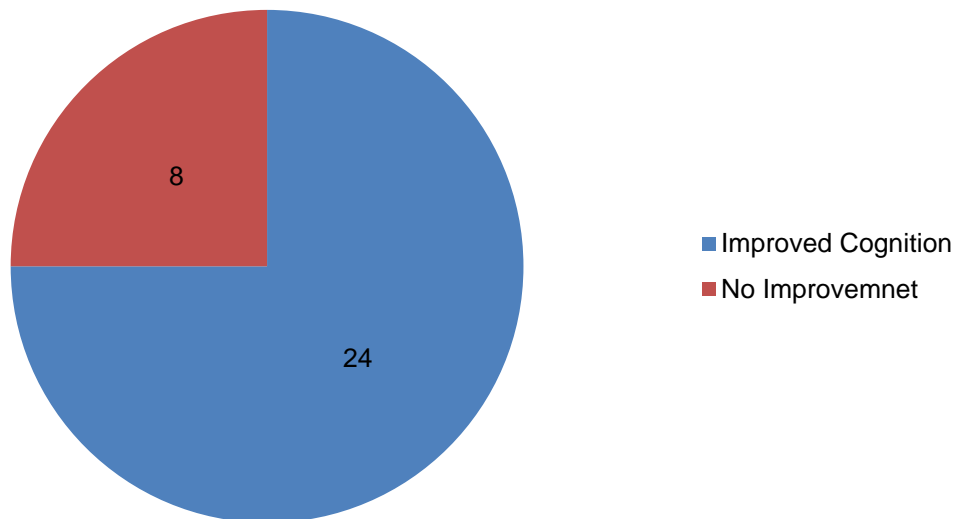
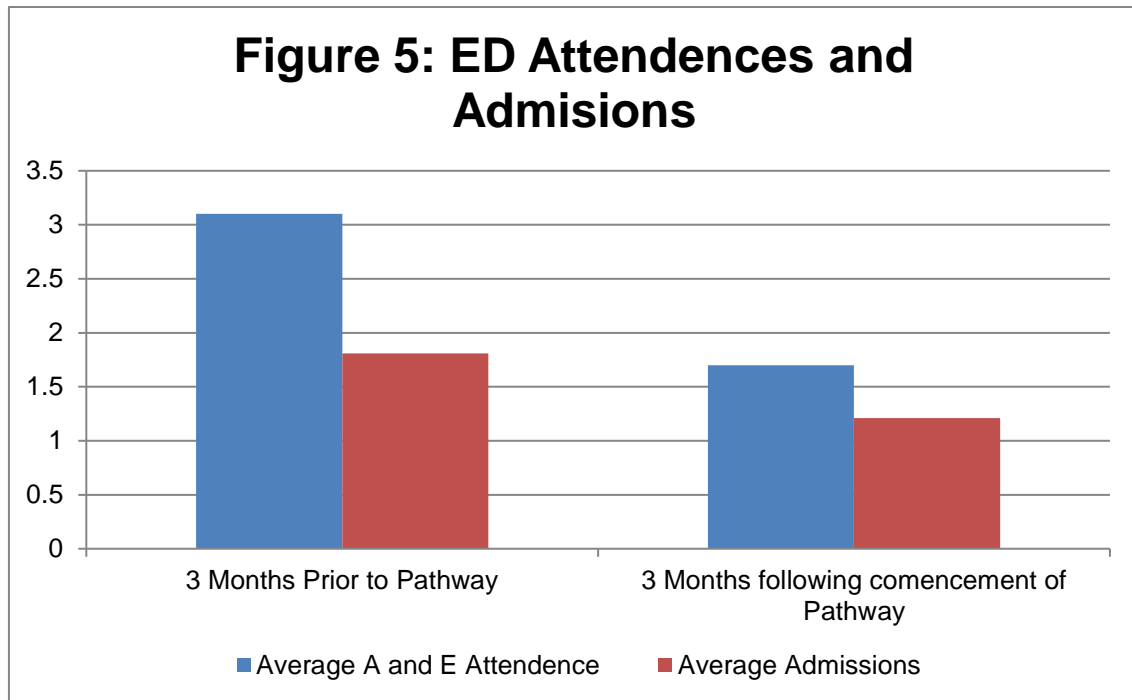


Figure 4: Patients showing improvement at 3 Month follow up (N=32)



This figure 3 and 4 also demonstrates the potential for a strong correlation between abstinence and outcome of improved cognition. However, as this project was not designed to measure this we choose to report it as descriptive data.

Figure 4 shows reductions in attendance and admission from baseline



We can see a reduction in admissions in just 3 months of 33% from this cohort. We also see a significant reduction in ED attendances of 45% from commencement of the pathway. We see that successful delivery of the pathway reduces healthcare utilisation.

Part 3: Cost impact

- This innovation was mainly funded by the Heath Foundation with additional resources from RLBUHT.
- We did not have access to a health economist, but with advice and guidance from finance we utilised the Health Resource Group (HRG) to identify cost savings based on reductions in admissions and length of stay.
- We were unable to provide costs in terms of YLL and hope to include this in our RCT methodology.
- Our multidisciplinary team pathway (MDT) analysis demonstrated that the cost benefits might be applied to all those services caring for our patients. This is due to the reduction in duplication, and the improved communication between services that has facilitated admission avoidance and reduced delays in discharge from hospital.
- We are due to present an abstract to the British Society of Gastroenterology annual meeting 2018, reporting our MDT results: *“MDT facilitated communication between services, professionals the patient, and their carers. This helped us provide planned rather than reactive care. For our 46 patients who have been presented at MDT and have 6 month follow-up, we were able to demonstrate a significant reduction in hospital attendance and admission, resulting in ~120 less admissions and ~434 ED attendances across the acute trust; this equates to a saving within the last 6 months of an estimated £63,600 on ED attendance alone”*.
- We have identified that the most cost effective method for the innovation to be continued, will be to integrate the care pathways, including screening and assessment into the usual clinical care of the alcohol care team. This would require additional resource for the alcohol care team of wte 0.6 instead of a dedicated nurse working with a service.
- The project was executed as a quality improvement project using an adaptive, iterative process. The Trust is building a business case for the cost of the specialist nurse resource, which now that the project is complete is the identified resource needed to sustain and spread the project.
- Our PPI chair of the steering group has agreed to help in the coproduction with our patient and partners, of guidelines and information for dissemination to patients and services.
- The indicative cost of maintaining a patient with Alcohol Related Brain Injury is unknown. This is in part due to the variability in approaches and important factors that influence ongoing care. For example, the under 65yrs age group cannot be easily placed in dementia services and therefore their discharge is

delayed.

- In future analysis when all data are available for a full 12 follow-up period we will more reliably be able to estimate the likely cost-savings resulting from reduced variation in care and better communication across the care pathway.
- Our Service Improvement & Excellence Team that comprises a team of skilled Lean Practitioners will assist in this analysis

Part 4: Learning from your project

The time taken prior to the commencement of the project to identify key skills and knowledge proved crucial in our ability to implement the project and maintain our developments. Our patient representatives continue to be invaluable in ensuring we met our milestones and have a critical friend to steer our proposed changes.

Enablers

The MDT members were valuable asset in building positive relationships across the patient journey.

The local clinical commissioning group and Liverpool City Council were very supportive in disseminating the project aims and are committed to continuing to work with us to disseminate our outcomes.

Engagement with the mental health services in the Trust was invaluable; ensuring timely access to assessment, diagnosis and support for the patient.

Challenges

The development of the electronic patient pathway was challenging. Continuous developments and changes to IT systems required many iterations of our pathway. This proved frustrating and required diligence and commitment from our IT support. Regular data monitoring group meetings ensured that we were able to respond to these challenges and make necessary adjustment.

Patient follow-up in out-patient clinic was challenging. Initially the rate of attendance was very poor. However with help from our patient representatives we were able to devise a call back and reminder system with patients and their carers to improve attendance of patients in clinic at 3 and 6 month follow-up. This continues to improve and we will continue to monitor this.

Delivery of the project very much relied on the role of the ARBI specialist nurse. Due to a family emergency the nurse was on leave for 2 months early on in the project. As we had agreed and begun to implement the care pathway the alcohol care team were able to step in and do as much screening and assessment as possible. However this did limit the ability of the project to identify as many patients as we had planned for. We learned that reliance on an individual might not be sustainable and we need to integrate this role into the usual clinical care of the nurses in the alcohol care team

At the beginning of the project our specialist nurse spoke to doctors and allied health professionals across the organisation. This work identified scepticism as to whether our proposed pathway was valuable and doable. We were delighted and surprised that at the end of the project, speaking to the same staff in the form of a qualitative open interview, we received very different positive responses.

Jenna Simmons (Senior Occupational Therapist)

Quote:

“The Alcohol Related Brain Injury pathway has enhanced collaborative working between professionals in order to provide a higher quality of specialised care for patients, with a shared focus on preventing re-admissions. Earlier intervention helps to increase awareness and understanding of the condition to support the patient and the multi-disciplinary team in order to identify appropriate support and discharge pathways. It has further enhanced our understanding of the condition and highlighted potential service developments which could improve outcomes for these patients in the future.

From my experience to date, patient experience has been positively influenced by the passion and enthusiasm by the staff involved in the pathway. Equally, this plus the vast knowledge they have collectively as a team, not only improves the patients journey but has also enhanced and continues to consolidate and further develop my knowledge and understanding as a Senior Occupational Therapist”.

Dr Cecil Kullu (Consultant Psychiatrist)

Quote:

“An exemplar of integrated working in a hospital between physical and mental health services for a group of people who are significantly disadvantaged by their condition and impaired cognition. In some instances this has been life changing for the patients and their families.”

Amanda Mulhane (Matron)

Quote:

“I realise that patients can sometimes be in hospital for a longer period of time initially, but it actually improves the re-admission rate in the future. It has a better outcome for the patient in the long term. Previously these patients were slightly forgotten, but now someone has taken responsibility for them”.

Ward Manager (Digestive Diseases)

Quote:

“Due to the nature of the type of patient attending, it has been nice to have someone to identify with. The pathway has benefitted patients as there has been continuity for the patient and they have been able to build up a rapport with them”.

We learned about the electronic barriers and enablers that exist in all hospital settings. Our aim was to develop the ability to quickly and continuously access data (in a semi-automated fashion) using as many existing data sources as possible. During the project design we engaged a member of our business intelligence team to advise and assist with the data collection and analysis process.

This team is typically tasked with analysing data and generating reports on wider operational aspects of the organisation. During the project set-up we mapped out all of the data sources that would supply the information we required, and determined the feasibility of extracting data from each system. We learned that in some cases this was not possible. We therefore worked with our business intelligence team to develop a bespoke project dashboard that enabled us to track project measures over the course of the project. This was available on our network to the core project team 24/7. This dashboard proved invaluable in the quality control and project monitoring process, enabling us to quickly spot any missing data and query any outlying results.

This has now become an invaluable clinical tool, which should be transferable to any hospital setting. We will continue to use this dashboard and update it as we learn.

Project Team

The diverse set of skills provided by the project team has been critical to delivery of the project. We could not have achieved what we have to date without sourcing expertise from outside our own clinical area. These included; mental health practitioners, occupational therapist, nutritionists, alcohol specialist nurses, learning disability team, palliative care team business intelligence team, innovation specialists and service improvement expertise. Of particular importance were the links we made with outside agencies such as community social workers, housing support workers, homeless outreach workers, hostel managers, and community nurses.

Stakeholder Engagement

It has been helpful that, in our organisation, supporting innovation is a high priority. Nevertheless, we have still found that bringing stakeholders into the clinical environment is an effective way to motivate them to help. The data produced are a very powerful tool for motivating others to work with you to support change and innovation.

We have also found that by constantly talking about the project both formally in our steering and data monitoring groups, and informally on the wards and departments, we have maintained support and motivation. Our senior management and executives have been kept up-to-date and we have therefore managed to make the project strategically important to the organisation. The project has become a fundamental driver for other schemes and innovations around alcohol awareness, i.e. Hospital Watch – a collaborative approach to reducing the sale of alcohol to hospital inpatients, it also instigated a Trust wide focus on raising awareness of the negative impact of bringing alcohol into hospital for inpatients. (Video attached)

Part 5: Sustainability and spread

Much of the work to implement our innovation has been undertaken by staff currently working with hepatology and alcohol teams.

The key to success for sustainability is the learning and sharing of core skills developed as part of the project. The knowledge and skills of key leaders and contemporaneous care providers, will be sustained through continued leadership. We will build on these skills and continue to support the implementation of screening by embedding the MoCA tool into usual clinical assessment carried out by the nurses within the alcohol care team.

We have dedicated senior clinical leadership for pathway continuation. We have ongoing quality review to enable changes over time in response to finding from our service or new evidence within the literature or professional bodies.

We are confident that our pathway documentation, both paper and electronic could be easily adopted by any clinical team.

Support from patients, carers and our business intelligence team has enabled us to build a minimum data set for the recording and reporting of important outcomes; both clinical and patient and carer focused. This data set could be available to any clinical service as an example or to enable benchmarking.

External dissemination, scale and spread will include the wider health community. We have successfully raised the issue of ARBI as an area for investigation and development in the Cheshire and Merseyside Sustainability and Transformation Partnership (STP) regional steering group.

The clinical commissioning group have identified ARBI as a priority within their work plans. Also the local Alcohol Strategy Group have also included ARBI as a priority area for development.

Liverpool Health Partners; Liverpool Alcohol Research Alliance (LARA) will act as facilitator to bring researchers from across the region and beyond to work collaboratively to design research proposals of the highest standards that will be developed into NiHR funding bids.

We have had a lot of interest from our colleagues attending our MDT. This had led to invites from our CCG partners to provide feedback on the project objectives and to work across our health economy to raise awareness of and provide advice for the identification of ARBI.

We have utilised our early observational data to disseminate the project process and provisional outcomes at professional meetings including the Royal College of Physicians and the British Society of Gastroenterology.

We have throughout the project had support and feedback from Patient / Public Involvement and Engagement Senate (PIES) of the Innovation Agency.

As a large NHS acute trust we are similar to any other hospital in a big city. We therefore feel that our findings will be generalizable to any acute care setting. The differences will be in identification of clinical teams or individuals responsible for the screening, assessment and referral process.

Our electronic patient tracker system could be implemented in any Trust, however this still leaves the problem of who will be responsible for responding to referrals.

We have produced a very short training video to increase awareness. This has been used at several local meeting by; Liverpool City Council, Public health England, and our own training programmes.

We will require continuation of funding for the nurse post and are currently developing a business case.

As part of Liverpool City Council Alcohol Summit we produced a video aimed at raising awareness of ARBI across health and social care and the wider public sector. The senate included members of staff from health, police, fire, housing, and local government departments. (Video file attached)

Upcoming milestones / activities

To ensure dissemination of our findings we are hoping to bring together a group of international experts for a scientific meeting here in Liverpool.

We will spend the next few months ensuring that our data are reliable and accurate. Following this we will publish our data in a peer review journal.

Development of research methods to answer questions identified as part of the analysis of this project.

In future analysis when all data are available for a full 12 follow-up period we will more reliably be able to estimate the likely cost-savings resulting from reduced variation in care and better communication across the care pathway for this cohort of patients.

Appendix 1: Resources and appendices

Standard Operating Procedure for Alcohol Related Brain Injury Screening

Purpose: To ensure all patients at risk of Alcohol Related Brain Injury (ARBI) undergo cognitive assessment

1. Patients identified as an alcohol-related attendance or admission should be considered to be at risk of cognitive impairment.
2. Exclusions to ARBI Pathway
 - a) If patient has a previous diagnosis of a neurodegenerative disease.
 - b) Any patient with previous diagnosis of moderate to severe learning disability.
 - c) Recent evidence for cerebral bleed.
 - d) Positive blood/breath alcohol level
 - e) Overt presence of HE – MoCA to be performed when HE resolved
3. Those meeting the following criteria should undergo assessment utilising the MoCA screening tool:
 - a) Any patient with more than 3 alcohol related admissions in one year.
 - b) Any patient with 2 alcohol related presentations in any given month.
 - c) Any patient who is concerned or their family are concerned about cognitive decline.
 - d) Any patient known to the alcohol service who re-presents
4. Request the MoCA assessment on ICE
5. Perform MoCA and report on ICE – also add score to patient record on PENS
 - a) If score is 26 or above end pathway – repeat MoCA if patient represents after 3 months
 - b) If score is 24 or 25 repeat prior to discharge and invite to outpatient follow up in 6 months
 - c) If score is less than 24;

- I. ICE request for alcohol MDT
- II. MDT proforma to be recorded on PENS and presented at the next available MDT meeting
- III. Referral to Dr Kullu on ICE following completion of pharmacological management with benzodiazepines.

6. Perform contemporaneous

- a) Blood Alcohol Level (ABI)/ Breath Alcohol Level (BrAc)
- b) SaO₂, Blood Pressure, Heart Rate, Temperature, Respiratory rate
- c) Seizure history
- d) Bloods
 - I. Ammonia
 - II. U&E (record Sodium level)
 - III. LFT
 - IV. B12, Folate
 - V. Iron studies, Ferretin
 - VI. Calcium Profile
 - VII. Vitamin D (25 OH)
 - VIII. Magnesium
 - IX. Zinc, selenium
 - X. HbA1c

6. Nutrition Assessment

- a) MUST
 - I. Weigh patient using TANITA body composition scales, record weight and BMI.
 - II. Calculate MUST score based on BMI, percentage weight loss and acute disease effect (0-6).
 - III. If patient scores 2 or above, refer to Dietitian
- b) Body Composition using TANITA body composition scales. Record the following data
 - I. Fat: mass and percentage
 - II. Muscle: mass and percentage
 - III. Water: mass and percentage
 - IV. Visceral fat score
 - V. BMR
- c) Muscle function using JAMAR dynameter to measure hand grip

strength

I. Record best of three values of right and left hands

d) Nutritional Intake

I. Thiamine prescription and compliance

II. Any other micronutrient supplements (i.e. Vit B Co strong, multivit, calcium) frequency taken

e) Dietary questions to be asked

I. How is your appetite at present? Good/Poor

II. On days that you eat, how many meals would you eat?

III. Do you have days that you don't eat

IV. Do you take any oral nutritional supplements? Are these prescribed (i.e. Ensure etc.) or over the counter supplements (i.e. Complan, protein shakes)

6. Record presence of

a) Cirrhosis – if yes

I. Child Pugh

II. Hepatic Encephalopathy (grade)

7. MoCA <24

a) Request EEG

b) Request CT Head to exclude head injury if suspicion or indication of recent head injury or significant trauma.

c) Do not request CT head if performed in last 6 months and no recent history of trauma

8. Repeat MoCA at 24 hours and appropriate intervals throughout in-patient stay

a) Request ASN to perform MoCA at weekends

9. Please ensure all patients being assessed have a contemporaneous assessment by ASN team for risk of developing Acute Alcohol Withdrawal. ASN will commence the Alcohol Pathway to dovetail with ARBI pathway

