Innovating for Improvement

Development of Multidisciplinary Cow's Milk Allergy Management Clinic in a Community Setting

South Eastern Health and Social Care Trust





About the project

Project title: Development of Multidisciplinary Cow's Milk Allergy Management

Lead organisation: South Eastern Health and Social Care Trust

Partner organisation: n/a

Project lead/s: Bernadette O'Connor, Consultant Paediatrician and Pauline

Mulholland, Lead Dietitian

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Part 1: Abstract

Aims & background

This project has developed a 'MOO clinic' aimed to provide early access to advice and assessment for babies with suspected cow's milk allergy (CMA) by developing a new type of clinic for babies and carers, combining group education, along with individual assessments for each child.

Cow's milk allergy (CMA) presents within the first year of life and affects an estimated 2–6% of the population. Treatment with strict avoidance of cow's milk is required for babies and breast-feeding mothers, with an appropriate substitute infant formula. Inadequate or delayed treatment increases psychological stresses within the family and can increase the likelihood of persistence of CMA and/or development of further food allergy.

The project idea was developed in response to an increasing demand in two services (paediatric allergy service and community paediatric dietetic service) within the South Eastern Health & Social Care Trust (SEHSCT).

In 2013, a new infant feeding pathway for CMA was launched in Northern Ireland to improve the awareness, diagnosis and management of CMA. This led to increased referrals and the services were unable to respond to increasing demand and babies were experiencing unacceptable waiting times. The allergy team was committed to finding a more effective way to provide much needed support to the carers of these babies.

The MOO clinic was developed in collaboration between the two services and provided an outreach multi-professional service to the families of the SEHSCT. It was innovative in its combination of assessment and education within a group session, and with the development of direct access of referral for health visitors.

Implementation

A clinic model involving group parental education material on the management of CMA was developed alongside 1:1 assessment tool to screen for more serious allergic conditions. The clinics were based outside the hospital in community/primary care settings, and referrals to the service were scaled up to include GP, and direct health visitor referral. Telephone follow-up by nurse at 6 weeks and dietitian for weaning advice were planned.

During the project the clinic model was continually evaluated, (using PDSA cycles) to improve on triage/selection criteria, assessment sheet development, and follow-up protocols, along with patient satisfaction regarding accommodation and educational content.

Progress

The project has been scaled up successfully throughout the trust and the team has adapted well to providing a service outside the confines of the normal hospital setting. The referral pathways were adapted to allow direct referrals from health visitors and this was felt to reduce time taken for baby to be referred. The project faced a number of challenges during the year. We had not fully

anticipated the administration requirements of the clinic; however we were able to respond to these problems with support from other colleagues within the teams to rectify this.

We also experienced some unanticipated nursing shortfalls during the project; we were able to adapt the clinic format and transition towards a dietetic led service. As a team we were able to continue to evaluate the clinic during this transition phase. To our advantage we were able to prove that a dietetic led MOO clinic would provide the best service model as we prepared for sustainability post Health Foundation funding.

Outcomes

238 babies were invited to attend a MOO clinic during 10 months of active phase of the project, with 180 patients attending.

Our waiting times have dramatically shortened from a hospital clinic waiting time of 28 weeks, and a community paediatric dietetic wait of 52 weeks, to a median waiting time for MOO clinic of 11.4 weeks in September 2016.

Following MOO clinic individual assessment there is a proportion of babies needing further allergy assessment, the transfer rate into the hospital allergy service is approximately 30%. This is an important consideration and highlights the importance of the individualised assessment to screen for these individuals.

The uptake of home milk challenge to confirm diagnosis was significantly improved, with 90% of babies advised to challenge doing so.

90% of the babies achieved 100% of the clinical dietetic outcomes including:

- Established on appropriate milk free formula/breastfeeding
- Achieving timely and appropriate milk free weaning
- Resolution of symptoms

Carer feedback has been uniformly positive with 99% of carers felt that the clinic was good or excellent, and 100% feeling it was worth attending.

Team members felt reassured that the clinic was meeting patient's needs, without compromising on quality of care, and were delighted about the reduced waiting times for assessment.

Refers particularly the health visitors felt that the clinic provided a very worthwhile service and they felt supported in their care if the baby and family.

Conclusion

The project has allowed the development of a clinic model that is responsive to the needs of the parents of children with CMA. It provides a more streamlined efficient use of clinical time, and reduced patient visits to hospital clinics. During the evaluation of the clinic we have moved to a dietetic led service, incorporating the group education with a screening tool to identify the patients that need onward follow-up with the allergy service.

Part 2: Progress and outcomes

The aim of this project was to develop a multidisciplinary early intervention clinic for infants with suspected or confirmed Cow's Milk Allergy (CMA). This included:

- Set up of a multi-disciplinary clinic
- Redesigning referral pathway
- Assessment and follow up

This was achieved through effective collaborative team working to transform the service involving testing and adapting our approach as we learnt throughout.

Set up of multidisciplinary clinic

The clinic involved group education and individual assessment. The aim was to improve uptake of home milk challenge to confirm diagnosis of CMA and reduce parental anxieties associated with food allergy and diet restriction. Therefore, content and layout of the clinic was targeted to normalise CMA.

We branded the clinic with the theme 'keep calm it's only milk allergy' and designed our logo for 'MOO' clinics.





Yazmin Stephenson (age 13)

Picture 1: Milk Allergy Poster and MOO logo

We used the model for improvement as our methodology with Picture 2 illustrating one cycle of change.

Clinic Format and Content PDSA 5 On-going evaluation has led to minor changes such as PDSA 3 additional slides on PDSA 4 Content was further food items in Further testing refined and tested presentation within clinic led to at our pilot clinic. the presentation After clinic we acting as an aid received carer memoir to direct feedback and had discussion. team feedback, PDSA 2 looking at content PDSA 1 After refinement and reflecting on Format & based on staff style and group size presentations were feedback the

team & tested using friends

designed by

multidisciplinary

a practice session with the team and with paediatric colleagues



content was tested

by non-medical



1. Redesign of referral pathway

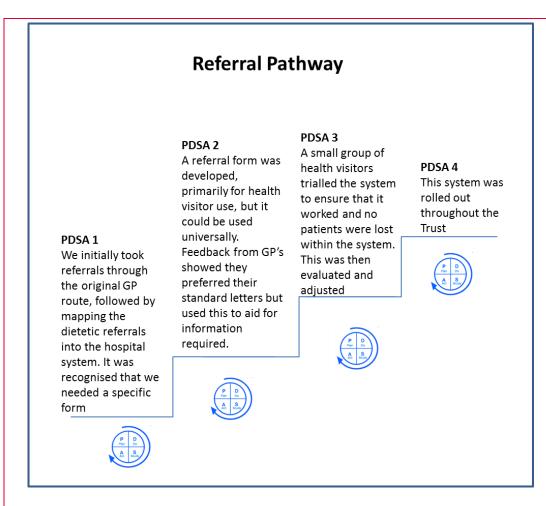
Picture 2: Clinic format and content PDSA cycles

In 2013 a new CMA pathway was introduced in NI leading to increased referrals to dietetic and paediatric allergy services with waiting times deteriorating to 52 and 28 weeks respectively.

Redesigning our pathway improved access to timely advice and assessment as illustrated in Before, During and After diagrams (Appendix 1).

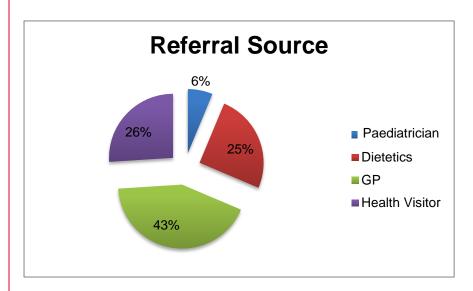
Key changes included:

- Streamlining referrals to one booking system
- Opening direct referrals to Health Visitors often the first person to suspect CMA (Picture 3 change cycle).

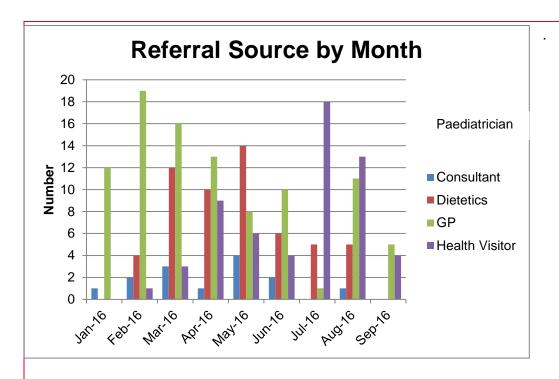


Picture 3: Referral Pathway PDSA cycles

Source of referrals data (Graphs 1 and 2) confirm achievement of good spread of referrals from all sources directly to CMA clinic.

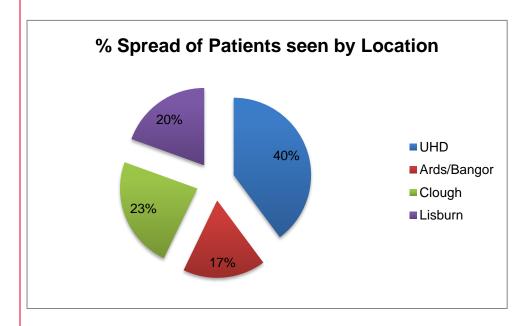


Graph 1: Referral Source to CMA clinic

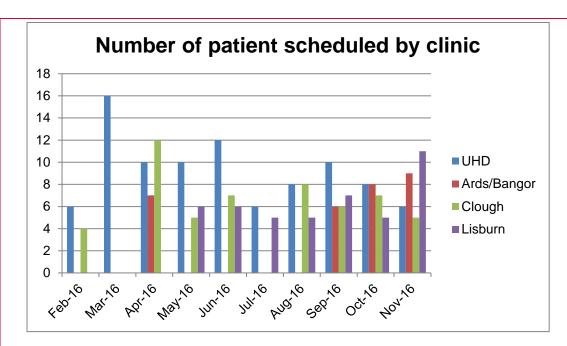


Graph 2: Referral Source by Month

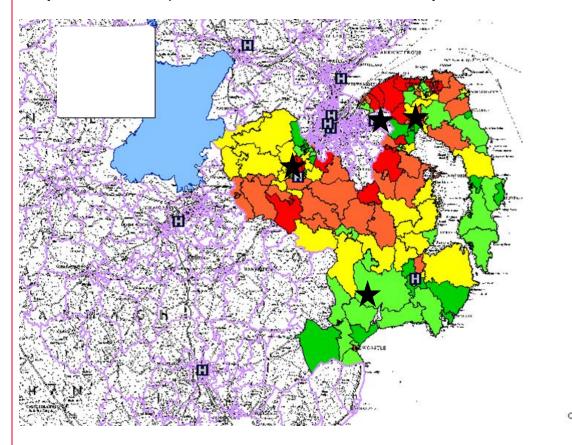
Initial clinics were held within the Ulster Hospital (UHD) site to test the format. We were satisfied that we achieved equity by spreading clinics across 4 trust locations based on demand as the project progressed.



Graph 3: Showing spread of patients seen across locations



Graph 4: Number of patients scheduled at each location by month



Picture 4: Map showing location of clinics – star indicate clinic sites

Assessment and follow-up

Assessment clinic included:

- Group education session
- Individual assessment
- A 6 week telephone call by a nurse
- A 10 week telephone call by dietitian

As the project progressed it became clear that phone calls needed to be tailored to the baby's age and duplication existed between nursing and dietetic calls. As a result we transitioned to dietitians completing all follow up phone calls.

Clinic Follow-up PDSA 4 PDSA 3 Rollout of dietician PDSA 2 Tested deciding 6 week follow-up led follow up timeframes for calls call from nurse. with parents before Tailored support PDSA 1 leaving clinic, from dietician. 6 week follow-up Dietician only This was show to call from nurse. lead to duplication 10 week follow-up of calls and call from dietician. confusion for Once tested it was parents. shown that dietetic calls needed tailored to individual

Picture 5: Clinic follow-up PDSA cycles

Evaluation

Evaluation of the project was quantitative and qualitative incorporating:

- 1. Reduction in waiting time
- 2. CMA diagnosis confirmed via milk challenge
- 3. Clinical outcomes
- 4. User feedback
- 5. Quality of Life

Data was collected prospectively and collated into a database with 3 distinct timeframes namely

- Referral process
- Clinic assessment outcome
- Post clinic follow up and outcomes

Assessment forms (Appendix 2) were completed by the team members at clinics and follow up calls. All parents were invited to complete an evaluation form at the end of the clinic (Appendix 3).

Data analysis was provided by the Trust Quality Improvement Co-ordinator.

1. Reduction in waiting times

As illustrated in Appendix 1, waiting times for assessment and treatment of CMA have significantly reduced from 28/52 weeks. Results during MOO clinic improved with the median wait for an appointment in September 2016 being 11.4 weeks. We are delighted with this achievement and can confirm that waiting times for maintenance Dietitian Led clinics is currently 4 weeks (Feb 17). Only 30% of babies required referral to acute allergy.

2. CMA diagnosis confirmed via milk challenge

90% of parents had completed milk challenge at time of 6 week telephone follow up Reasons for not challenging:

- Ongoing symptoms needing management change
- Previous severe symptoms/ failure to thrive

8% of children had returned to Normal breastfeeding/ standard formulas

3. Clinical Outcomes

Clinical goals were identified using the Model and Process for Dietetic Outcomes (British Dietetic Association) and included:

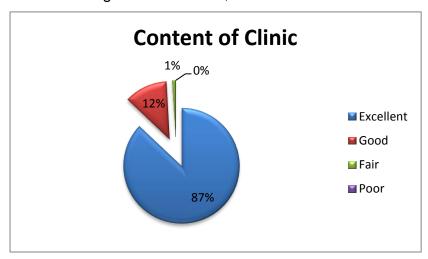
- Appropriate milk free formula used
- Appropriate milk free breastfeeding established

- Appropriate milk free weaning established
- Symptom resolution including:
 - o Pain
 - Wind
 - Bloating
 - Vomiting
 - Mucus/blood
 - o Screaming/back arching
 - o Bristol Stool score improvements

We are very proud to report that 90% of babies achieved 100% of the clinical outcomes set. This was irrespective of whether they were single CMA or multiple allergies.

4. <u>User feedback</u>

Carer feedback was universally positive, with 99% of carers reporting the content of the clinic was good or excellent, and 100% that the clinic was worth attending.



Graph 5: Carer feedback on content of clinic

'One mother reported becoming very emotional when she entered the group session seeing so many other Mums in the same situation. She valued the peer support and sharing personal stories, being listened to and taken seriously.

She gained great confidence from being supported with the milk challenge and weaning without the risk of adverse reactions.

Previously she had multiple trips to the GP and tried many things. All she needed was group education and wished she had been referred sooner.'

There were several key themes that came through in relation to what impressed people most. These were:

- Knowledge of Staff
- Friendliness and helpfulness of staff
- A lot of relevant information given
- Opportunity to meet other parents in the same situation
- Opportunity to speak to health professionals
- Speed of appointment

Key themes in relation to the take home message from the clinic were:

- There is support available
- Cow's milk allergy is manageable
- Reassurance
- Advice regarding weaning and feeding
- Confidence
- Understanding their child may not always have a cow's milk allergy

Below are some quotes from parents who attended the clinic:

'I have been through weaning etc. with my other son about 3 years ago – I wish this clinic had been available then as it is an excellent format and set up. Thank you.

'For anyone who has any worries about their child I would highly recommend they come to this clinic'

See Appendix 4 for full evaluation report.

The evaluations also provided valuable feedback to encourage staff and challenge them to adapt the clinic. Staff feedback demonstrated their learning and experience. They reflected on the difference between what 'they say' and 'carers hear', how to keep the messages simply and that Dads ask different questions! Staff were energised and enthused by seeing the difference doing the right thing made to parents. HVs felt more able to support families in home environment knowing the support of the clinic is behind them.

'This clinic is really helpful, reassuring to know where to signpost parents to access sensible and practical advice. Somewhere that doesn't over medicalise the family by having to go to hospital.'

5. Quality of life It proved difficult to find a validated tool to measure accurately quality of life in this patient group. On reflection this was not the most time efficient way to gather information and it would have absorbed significant clinical capacity. However we feel Carer feedback gave adequate insight in the absence of the quality of life measures.

'HV direct access and ability to refer families to clinic without having to wait for a GP

appointment to make referral greatly reduces anxiety and speeds up process'.

Part 3: Cost impact

Our key cost measures for this project included:

- Staffing for clinic time
- Travel to clinic sites & room bookings
- Statistical support
- Data collection
- Fliers and booklets

Based on cost modelling for current service compared with implementation model with 14 patients per MD clinic we had anticipated a reduced cost per patient. We underestimated the cost of travelling to three community localities. In one location we were unable to secure Trust facilities. A GP practice agreed for us to use their premises at a cost which had not been anticipated.

To compensate for this the we secured alternative funding for booklets from the Public Health Agency as part of their commissioned plan for early intervention and appropriate weaning for optimum growth of children. This ensured that the additional accommodation costs did not impact on our budget.

Pre Project Model Costings

The pre project service supported 480 patients per year with costs as outlined:

If referred to allergy service:	
Multi-disciplinary clinic visits with Nurse and Doctor (minimum 4 visits)	£23,900
Telephone advice (2hrs/week)	£2,400
Dietetic referral (2 visits)	£8,400
Total	£34,700

If referred to Specialist Community dietician:	
Dietetic Clinic Visits (3 visits)	£12,600

TOTAL = £47,300 per annum 480 patients per year = £98.54 per patient per year Estimated Implementation Cost of CMA Clinic Model We estimated 560 patients could be seen per year based on 14 patients per clinic with predicted costings for the new model being:

CMA Clinic Model	
1x 4 hour session per week (nurse/doctor) and 1 day(dietician) per week to include: • 30-45 minutes hour educational slot • 20 min/child for assessment • 1 telephone review per patient	£26,900
One dietician review	£18,250
Total	£45,150

IMPLEMENTATION TOTAL = £45,150 per annum 560 patients per year = £80.62 per patient per year

Limitations of our predicted costings

Limitations of both cost models for the clinics include costings for 42 weeks of the year as opposed to 52 weeks, which led to a reduction in activity during the summer months with the need to allocate additional staffing of 0.1wte dietician for 3 months. Costing was also based on direct clinical time in each model, as opposed to overall staffing level required for maintenance, including non-face to face capacity.

We also underestimated the administration time and the requirement to use formal Trust appointment systems.

The implementation model was based on up to 14 patients attending the MD clinic whereas the average maximum that could be accommodated was 6-8. This was due to the range of locations and accommodation size as well as ensuring effective group dynamics.

Our aspiration was to assess all babies in 4 weeks from referral. Whilst we have greatly improved waiting times from 28/52 weeks, the average waiting time has increased during the course of the project. This could be attributed to its success and/or the ongoing demand which is higher than the 20/month in the original costings.

In addition some patients required more than one dietitian follow up call.

Implementation costs

Beyond the set up phase we costed for face to face clinical time and evaluation in the clinic modelling. The aim had been to accommodate training and change management activities within the project costing time allocations. However this was not always possible and additional in kind hours were delivered impacting on core services. Although we do recognise the value to the project and core services of this additional learning and experience for future quality improvement work.

It was anticipated that implementation clinics would be more cost effective which is unlikely to be the case moving forward due to demand and clinic size. However the maintenance Dietitian Led clinics are already demonstrating greater efficiency and productivity with increasing demand.

We have not had the opportunity to explore GP and HV visit costs but plan to do this comparing project and non-project patients in a locality.

We monitored infant formula type and changes pre and post clinic assessment to assure GPs that requests for more costly products are based on confirmed diagnosis and symptom management. However we have not explored the cost differential between different infant formula brands in each category. We plan to explore this further to help influence commissioners for recurrent funding.

How we hope to move forward with this

Health care commissioning in Northern Ireland is currently in a state of transition. The Health and Social Care Board is being decommissioned and services will be commissioned by the Department of Health via Trusts (see Sustainability and Spread section).

We have secured non recurrent waiting list funding initially until the end of March 17 which has allowed the maintenance of the Dietitian Led service to continue to accept referrals beyond project patients from 1st October 2016. A briefing paper has been presented to the two Directors of Acute and Primary Care services. Both have indicated their support for the service to continue beyond the pilot.

Part 4: Learning from your project

We are delighted to say that we successfully achieved the following in the project:

Transformation of the pathway for management of CMA	V
Reduction in overall waiting times	
Direct referrals to MOO clinics from GPs and HVs	
Clinics delivered in 4 community localities across the Trust	
Confirmed diagnosis of CMA via milk challenge in 90% of babies	
100% clinical outcomes achieved for 90% of babies	$\sqrt{}$
Reduced carer anxiety of CMA through early intervention	
Excellent service user feedback	
Staff satisfaction from a job well done	

Enablers for this project:

Team Approach

This project was developed inclusively and staff engagement was positive from the start. The project developed through discussion and frustration of our inability to manage increasing patient demand within our current capacity.

Organisational Culture

The SEHSCT has a strong quality improvement ethos and there was incredibly supportive for our project from the beginning of the application process; from encouragement to apply in the first place, to practical help in responding to operational aspects of the application, to Mr McCaughey, Chief Executive, personally attending the formal interview. This level of support gave the team validity and the confidence to really make the project thrive, particularly when the inevitable bumps on the road appeared.

The Quality Improvement Team supported our quality improvement journey. In particular Brenda Carson, Nicola Gullen and Catherine Tumelty mentored us in the quality improvement approach to service development and enabled the team to distance ourselves from our rigid research backgrounds that were hindering us in our planning. We were stuck on developing the perfect protocol, rather than making continuous small steps of change towards our ultimate goal. Without the initial steer we may not have been as successful as we were. Nicola and Catherine provided the structure for organised steering group meetings and ensured we kept to our reporting targets, along with the data analysis and project evaluation tools.

Challenges

Quality of Life Measurement

We are disappointed that the Quality of life (QoL) measurements were not achieved during the time frame. On reflection we were over ambitious and sourcing a tool to measure QoL in this time was more difficult than anticipated. We do have baseline

data that we will evaluate and use to inform our learning.

Organisational

Whilst the allergy team is multi-professional with doctors, nurses and dietitian that work closely on a daily basis, operationally the dietitian's work within a separate directorate management system. During the application phase and through set-up phase there were at times professional differences between the aims held by the clinical lead and the dietetic lead. We held shared objectives of reducing overall waiting times, however how we achieved this and ensured our own clinical and dietetic care was not compromised by the new pathway, and how we were able to evaluate robustly enough to prove the concept was viable to each other, was very important. This barrier was overcome as we learnt to navigate and learn each other's secondary objectives and we were supported to embrace the QI approach of small changes and evaluation along the way as we started our personal QI journeys. The Health Foundation Innovation award was key to the success of the project with additional funding to release staff allowing the team to step outside the normal hospital service restrictions and road test a pathway without Hospital agendas.

Staffing

As a small team we were vulnerable to staffing crisis and unfortunately had a few during the course of the year.

Initially our staffing challenge related to accessing back fill for the project Dietitian. This was resolved via flexibility within the core adult community dietetic service supporting acute paediatric dietetics. During the summer months staff annual leave impacted on clinic frequency. We introduced an additional 0.1 wte Dietitian to cover for leave of the Doctor, Nurse and project Dietitian as required. It was however a particularly difficult time for the project and did impact on our outcomes particularly in July when clinics were suspended due to lack of appropriate cover.

Around September sickness in the core service meant paediatric nursing could no longer support the project. By then we were discussing post project maintenance and took the opportunity to transition to road testing the Dietitian Led model with ongoing consultant support. This worked well and supported smooth progression to the Dietitian Led service post project for all referrals from 1st October 2016.

It must be acknowledged, particularly during the second half of the project that our paediatric dietetic colleagues were tremendously supportive as they backfilled and supported the clinics very successfully and sometimes at short notice.

Administration

We underestimated the support required in the administration of the clinic particularly the processes involved in generating hospital numbers, tracking patient charts and clinic booking systems.

We had not identified funding nor had time available to utilise the hospital partial booking team. This did impact negatively on the project in relation to smooth management of appointment scheduling.

We were very fortunate that our paediatric operational manager, Tracey Erskine, and Wendy Stephenson, Health Care Assistant, personally supported the clinic administration. We are very grateful for their support as without them there would have been no attendees at clinic.

Specific learning

A number of specific learning points are of note:

- Having a team goal that everyone is passionate about but accepting neither they nor the system they work in are ready to move at the same speed as you wish.
- We were very anxious to scale up numbers quickly but are glad that we went through in smaller, more achievable steps that allowed proper evaluation and embedding along the way.

If we were doing it all again we certainly would ask more detailed questions about the administrative processes. Without the administration management we can't get our patients where they need to be for us to actually do our job.

We certainly would be more confident in encouraging the more sceptical of colleagues to make small changes and evaluate rather than make no change at all.

Temptation is also to say include all costs, plan to implement more slowly and anticipate challenges in advance. The reality is we did not know these things when we began and when you are innovating there is something about jumping off the cliff and taking a risk. We have been able to do this due to our Trust culture and support throughout. We would apply the obvious learning but accept that in any project/innovation there will always be challenges that have not been anticipated – that's life!

This new approach of group education and diagnosis/assessment in one session for children with CMA has the potential to be replicated in other Trusts across NI and beyond. We have shared this project as a successful example of transition from Acute Consultant Led to Dietitian Led Primary Care service with commissioners who are leading on the implementation of Health and Wellbeing 2026, Delivering Together, the DOH 10 year vision for NI.

It must be acknowledged, particularly during the second half of the project that our paediatric dietetic colleagues were tremendously supportive as they backfilled and supported the clinics very successfully and sometimes at short notice.

Part 5: Sustainability and spread

Sustaining the innovation

We have identified staffing costs for sustaining this new pathway and group clinic to include:

- 1.0 wte Band 7 Clinical Specialist Paediatric Dietitian
- 0.5 Band 6 Specialist Paediatric dietitian
- 1.0 Band 3 Dietetic Assistant
- Accommodation in all 4 localities

We are delighted that we have secured agreement for this innovation to be sustained as a Dietitian Led primary care Cow's Milk Allergy Service as follows:

- We took the opportunity to bid for, and secured, end of year non-recurrent
 waiting list funding from the commissioner in the first instance to maintain the
 1.0 wte dietitian to support the service until end of March 2017. This allowed
 us to continue to accept referrals beyond 1st October 2016 when project
 recruitment finished.
- The Trust Lead Dietitian and Assistant Director for Allied Health Professions have identified internal resources of 1.0 wte Band 3 Dietetic Assistant recurrently to support the clinics.
- South Eastern Trust is very committed to innovation and quality improvement and so we had Executive Management and Chief Executive support from the outset. We have submitted a briefing paper to the Directors of Acute and Primary Care Services. We are delighted that both have indicated their support to continue the service beyond the end of March 17 at risk to the Trust while pursuing recurrent funding.

Throughout the project we provided regular updates to Directors and senior managers and shared the excellent carer feedback, evidence of clinical outcomes achieved and reduction in waiting times. Basically the results spoke for themselves and so gaining support for maintenance of the service proved easier than we had anticipated. However, there is still more work to be done.

The biggest risk that had not been anticipated is securing recurrent funding in the current NI political climate with no agreed budget for Government.

We have not had the opportunity to explore GP and HV visit costs but plan to bid for resources to do this comparing project and non-project patients in a locality. We are confident based on published literature that this will demonstrate cost savings for Primary Care further enhancing the health economic benefits of this service.

As mentioned under cost impact we have not explored the cost differential between different infant formula brands in each category. We plan to explore this further to

help influence Medicines Management commissioners for recurrent funding.

Embedding the Innovation

This new primary care pathway for CMA has been embedded within the Dietetic Service. We are also refining our internal processes for appropriate identification and referral of babies to the acute paediatric allergy service as appropriate with seamless transition between dietitians while awaiting Consultant assessment. A future challenge will be training new dietitians. With the assessment forms and processes developed thought this innovation and with the ongoing support and supervision of the Consultant Paediatrician we are confident that this challenge can be overcome.

The plan for the CMA service is Dietitian Led with Health Visitor support. We are planning meetings with the new Assistant Director for Children's Health to explore HV involvement in each locality. We believe the clinics will be seen as an excellent training experience to enhance the skills of HVs in the management of CMA.

We have identified new locations that are more sustainable in two locations, one at no cost in Trust premises and one at a reduced cost in a community enterprise.

Spreading the Innovation

We plan to influence stakeholders across NI and beyond by sharing this innovation and outcomes in different areas e.g.:

Trust – we have already promoted the innovation at Quality Improvement workshops, Senior Staff Briefings and Dietetic Practice Sharing days

Regionally – We have identified stakeholders to influence in relation to spread across NI including:

- Dietetic Managers Forum
- NI Paediatric Respiratory and Allergy Network
- NI Patient Safety Forum Paediatric Collaborative
- Local and regional Commissioners
- Medicines Management Pharmacists
- NI Regional Conference for Faculty of Medical Leadership and Management,
 March 17 abstract submitted

Nationally -

- We have secured a presentation at the British Dietetic Association's (BDA) Vision conference in March 17.
- We have been approached to share the clinical outcome learning at the

annual Food Allergy and Intolerance (BDA) Group Study Day, June 17.

- An abstract has been submitted to the Royal College of Paediatrics and Child Health Annual Conference, April 17, Quality Improvement section.
- We plan to submit an abstract to the British Society of Allergy and Clinical Immunology Conference, Autumn 17.
- We plan to submit this innovation to
 - o Trust Chairman's Awards, August 17 and
 - The Allied Health Professions, Advancing Healthcare Awards NI in September 17.

As mentioned above we plan to bid for resources to gather Health Economic data to strengthen the quantitative benefits of this new pathway. We believe though this process we can engage with Community Pharmacists and GPs to demonstrate how this solution meets their strategic agendas. We will then empower them as champions to spread the value of this innovation with their peers to create momentum for spread across NI.

Appendix 1: Resources and appendices



CMA Pathways Before During and Af



MOO clinic assessment sheet BO



Cow's Milk Allergy Evaluation Form Appe Clinic Evaluation Repo



Cows Milk Allergy