

education and training



education and training – winner

Evaluating the Effectiveness of Paediatric Asthma Education

Paediatric Department, Liverpool Health Service
South Western Sydney Area Health Service

Abstract

Asthma remains an increasing problem for children throughout the world. The objective of this project was to enhance the knowledge of parents and staff with regards to asthma management. A multi-disciplinary approach was used through the Paediatric Asthma Interest Group (PAIG) to develop and implement asthma education packages for staff and parents. Eighteen months after implementation there has been an increase in staff and parental knowledge and a reduction in children's length of stay.

Provision of standardised, evidence based asthma education for parents and staff results in significant benefits for children with asthma.

Aim

The aims of this project were:

- to enhance the knowledge of paediatric nursing staff on current childhood management of asthma, in line with current evidence based guidelines on asthma management including spacer use
- to enhance the knowledge of parents with regards to managing their child's asthma at home
- to investigate the impact of staff and parental asthma education on health service utilisation by children with asthma

Background

Asthma remains an increasing problem for children throughout the world. In the Liverpool Health Service, there are 150-200 inpatient admissions per year to the children's ward for asthma and it is one of the top five Diagnostic Related Groups (DRG) in the Paediatric Department (Paediatric Department



Members of Paediatric Asthma Interest Group with asthma education poster

DRG 2001). Partridge & Hill (2000) cited that providing effective continuing education is an important factor in asthma control. Evidence has shown that provision of regular asthma education improves health outcomes for asthma patients (DoH Media Release 2000). PAIG selected the provision of consistent and standardised asthma education as the area of focus (Figure 1).

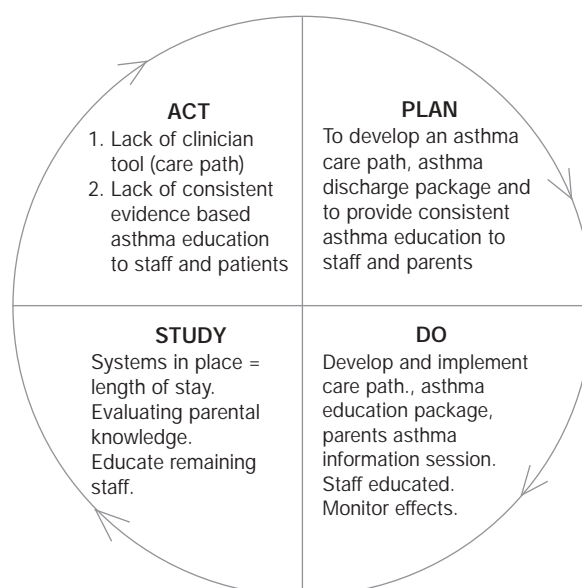


Figure 1. Asthma management improvement process

Methodology

The PAIG formed in 2001. Its members included of medical, nursing and allied health staff:

Department of Paediatrics: staff specialist paediatrician, nursing unit manager, ward physiotherapist, two registered nurses.

When Liverpool Paediatric Ambulatory and Community Service (L-PACS) was established in May 2003 the following joined PAIG: ambulatory/community pediatrician, ambulatory/community physiotherapist, ambulatory/community clinical nurse consultant, multicultural health project officer.

Since September 2000, the Children's Ward has maintained a database of all patients admitted to the paediatric ward at Liverpool Health Service. On reviewing the data, it was noted by PAIG that there was a fluctuation in length of stay for children admitted with asthma. In addition:

- There were no consistent information materials used to educate parents in the ward and in the community. There was a need for a standardised evidence based parental education package.
- There were variations in staff experience with asthma education and a lack of an asthma clinical pathway. As a result, nursing staff often did not perceive that asthma education was part of their role and they delegated this role to the ward physiotherapist. There was a need to develop an asthma clinical pathway, and an asthma education package for the staff.

Planning and implementation

The PAIG met monthly to collaboratively develop a strategy to address the gaps in asthma education and aim to reduce length of stay. This is illustrated in the cause and effect diagram below:

Initiatives identified to be develop and implemented within identified time frames were:

- an asthma clinical pathway
- an asthma education package for parents
- an asthma education package for nursing staff

Clinical pathway

The implementation of the asthma clinical pathway commenced in August 2001. Its utilisation was audited on a monthly basis and the results were fed-back to the PAIG and ward staff on a monthly basis for monitoring and identification of staff members who required further support.

Staff education

Staff education commenced in March 2002. As part of the Physiotherapist Paediatric Asthma Project, the ward physiotherapist provided an in-service to nursing staff that covered basic information on asthma and the current evidence based management in childhood asthma.

Parent education

A consumer survey was conducted from February to April to ascertain baseline knowledge. The information gathered from the survey was

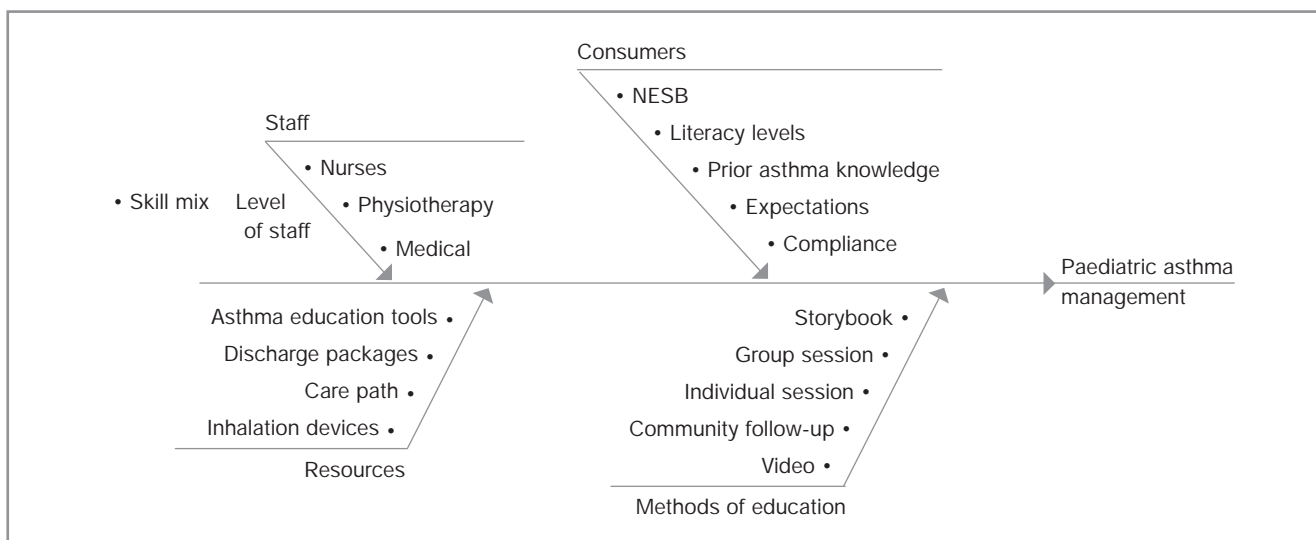


Figure 2. Cause and effect in asthma management

utilised to develop the discharge information package. The Newcastle Asthma Knowledge Questionnaire was used to evaluate parental knowledge pre and post education.

Outcomes and evaluation

The project had been operating for 18 months. In the planning process, the following outcomes of the project were set by PAIG:

Primary Outcomes

- One hundred percent utilization of the asthma clinical pathway. A 100 percent utilisation of the asthma clinical pathway was achieved within three months of introduction.
- To educate 100 percent of Liverpool Hospital Children's Ward staff on current childhood management of asthma. By August 2003 85 percent of staff had received asthma education.
- To educate and evaluate 50 parents on asthma management. To date, there have been 36 parents who have completed the education package and have been evaluated. The mean questionnaire result (out of 31) pre education was 14.4 and post education was 22.0. Utilising independent t-test these results were significantly different ($p < .0001$).

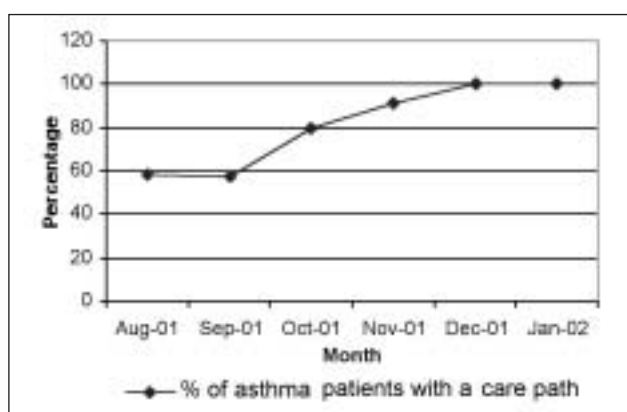


Figure 3. Utilisation of asthma care path

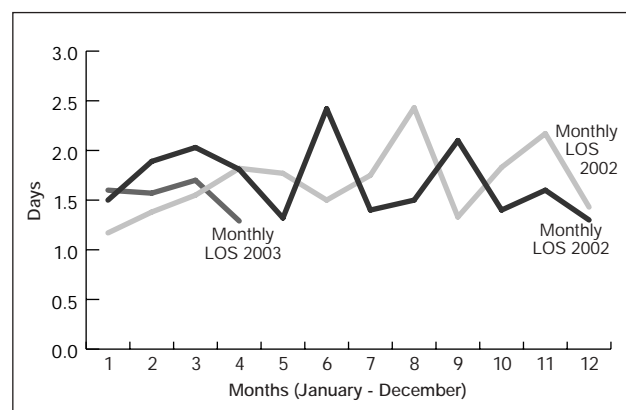


Figure 4. Asthma monthly length of stay (LOS)

Secondary outcomes

- Reduction and/or maintenance of average length of stay for children with asthma at Liverpool Hospital. The length of stay in 2002 was slightly reduced (mean 1.68 days) compared to 2001 (mean 1.71 days). The average length of stay (LOS) for children with asthma has decreased as shown in Figure 4.

Future scope

The provision of asthma education to staff and parents and an asthma clinical pathway has proven beneficial for children with asthma in that it has resulted in greater staff and parent knowledge and a decreased LOS. The nursing staff now have a greater sense of ownership and are starting to deliver asthma education to parents with confidence. In addition, the materials for asthma education have been used by staff from L- PACS in school settings and for raising asthma awareness in the Vietnamese and Chinese communities. There is ongoing involvement by PAIG to ensure that the program is sustained.

References

- NSW Department of Health (2000). New evidence to support asthma management plan. NSW Health Media Release
- Paediatric Database (2001). *Paediatric Database report*, Paediatric Department. Liverpool Hospital
- Partridge, M.R. & Hill, S.R. (2000). Enhancing care for people with asthma: the role of communication, education, training and self-management. *European Respiratory Journal*. 16;333-348.

education and training – finalist

Flexible Training Program

Learning and Development Service
Central Coast Area Health Service



'Flexible Training Program' project team members

Abstract

The purpose of this project, funded by the Department of Education and Training, was to develop and pilot a multimedia approach to self paced learning in medical terminology for clerical staff working in a health environment and to provide the flexibility for educators to offer a blended approach to learning both in and out of the workplace.

The materials were developed and piloted across four Area Health Services. Results showed that time taken to complete the course was reduced by 50-70 percent. The program provided consistent content and removed the requirements for specialist educators to be involved in the program. The program was well received by participants.

Aim

- Produce a self paced multimedia package for units BSBMED201A and BSBMED301A from the Cert III in Business.
- Pilot this material across health.
- Enable staff to access training in medical terminology at times suitable to their workplace.

- Provide consistent content across Health for medical terminology.
- Reduce the time taken in releasing staff from work to complete a Medical Terminology course

Background

Medical terminology is a high demand course which, in face to face mode is very time consuming for both trainers (many of whom are clinical subject matter experts) and participants who have challenges in gaining release from the workplace for three hours per week over a 16-week period to attend the course. It is also a very demanding course with complex content and, given the target group, requires much revision and innovative approaches to maintain interest. Often the subject matter experts do not possess the breadth of training skills necessary to provide the optimal learning environment.

Many clerical staff in NSW Health require this qualification in order to understand the clinical components with which they deal on a day to day basis. For the most part, these are staff with no formal qualifications. Because of the increasingly busy nature of the work environment in the health industry it is becoming increasingly difficult for staff to participate in face to face training in scheduled timeslots. It is also becoming increasingly difficult for specialist clinical staff to be released to conduct training in this field. With the move to a more flexible approach to delivering learning within health it is clear that this subject matter and these particular competencies lend themselves to this approach.

The competencies from the Certificate III in Business, in particular the medical terminology competencies are ones which assist non clinical staff within the health environment to increase their skills and to further positions within health. They are crucial competencies for all clerical staff and interpreters working in a clinical environment.

Methodology

NSW Health is an RTO with 20 sites across the state. Twelve of these sites offer a medical terminology course. There was a great disparity in the courses offered. With the advent of the medical terminology competencies in the Business Services Training Package, we set about the process of examining the diverse range of course materials utilised across the state and mapping them to the competencies from the training package.

The project was funded by Department of Education and Training (DET) through the Enterprise Funding Program. A steering committee was formed comprising learning and development managers from five Area Health Services, a project coordinator, a representative from the funding body, a representative from the industry training advisory body and a representative from clinical information. two industry reference groups were formed comprising industry specialists, one group of educators and one group of clinicians.

Three external consultants were employed in the areas of instructional design, multimedia, graphic art and in communications. They worked with the project coordinator and the learning media consultant in the Learning and Development Service at CCH to develop the materials with continual input from the industry reference groups and the steering committee.

Pilots of the hard copy version of the material were conducted in four AHS's with pilots of the interactive version being conducted in two AHSs.

Planning and implementation

The project management committee in the Learning and Development Service at CCH worked with two external consultants to:

- map existing materials against the nationally recognised competencies
- develop one hard copy Participants Manual and Facilitators Manual
- develop three assessment pathways and assessment materials
- develop an interactive CD as a self-paced version of the materials

- develop an audio CD for word pronunciation and spelling
- develop a guide to setting up an online forum and chat room for course participants
- pilot and evaluate the materials across five AHSs.

The materials were developed in such a way as to enable AHSs to use either version or a blended approach of both versions. The improvements enabled:

- consistency of content across NSW Health
- access to nationally recognised qualifications for staff
- reduction in release time for staff to attend the program.

Outcomes and evaluation

The outcomes of the project were:

- the reduction in time taken to complete the medical terminology course by 50-70% percent – resulting in less time away from the workplace (in addition many staff completed sections in out of work time)
- the reduction in the staffing of the course from 12 to one, resulting in fewer staff being released from the workplace
- the awarding of nationally recognised qualifications to staff completing the course
- improvement in participant skills in medical terminology, positive participant comments and positive supervisor feedback.

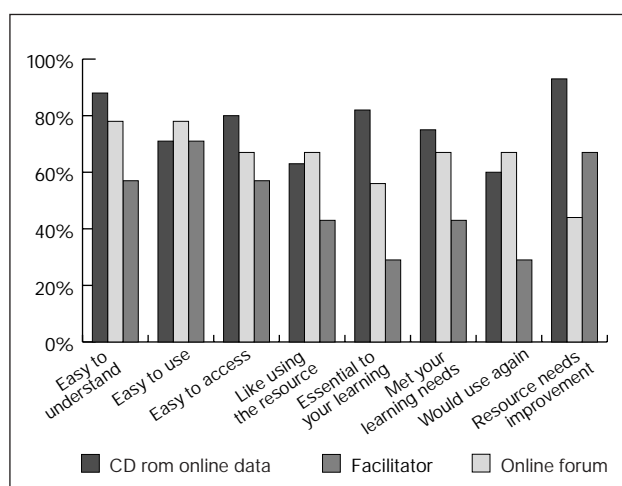


Figure 1. CCH learning outcomes/achievements

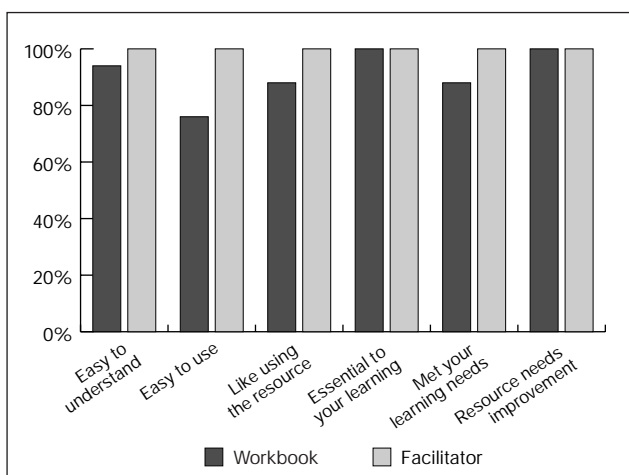


Figure 2. NSAHS resource evaluation

Additional feedback from supervisors

- CD method is more time efficient and more environmentally friendly.
- Face to face offers the option for better clarification.

Additional feedback from participants

- The books provided and the audio CD are both excellent and very thorough.
- Overall I would recommend the course for its thoroughness.
- Overall I am enjoying the course.
- The layout of the workbook is very good learning each section at a time, also the actual spelling out of the written word is helpful.
- I have found the course to be very good, simple and clear explanations of meanings etc.
- The books are well set out and easy to read.
- References are easy to find in the appendices.
- I am finding the course both interesting and challenging and I have made considerations and questions I want to ask in point form, for feedback.
- I really enjoy the spelling CD each week – the person speaks very clearly and distinctly – making me feel like I am not alone and that I could be in a ‘classroom situation’.

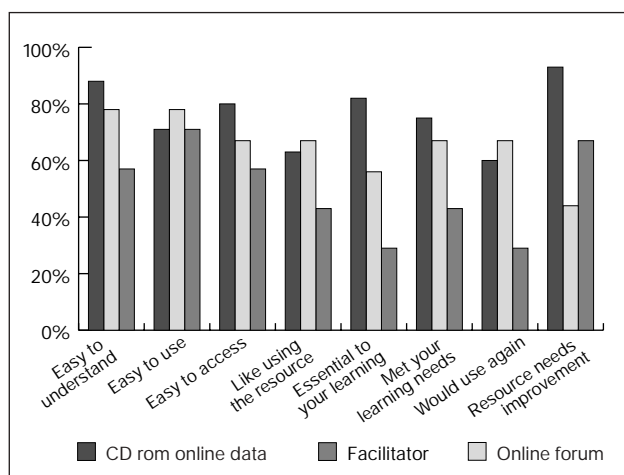


Figure 3. CCH resource evaluation

Future scope

Materials developed through the project will be made available free of charge to all Area Health Services through the learning and development managers. They will be available for download of hard copy materials on the DOH LDMF website and the interactive version will be accessible on the website and also available for use on Area intranet sites and on CD. Materials will also be available to external parties through the Department of Education and Training which owns copyright on this material.

The distribution across NSW Health will enable all Area Health Services to access the materials and to share in the savings which the materials can provide.

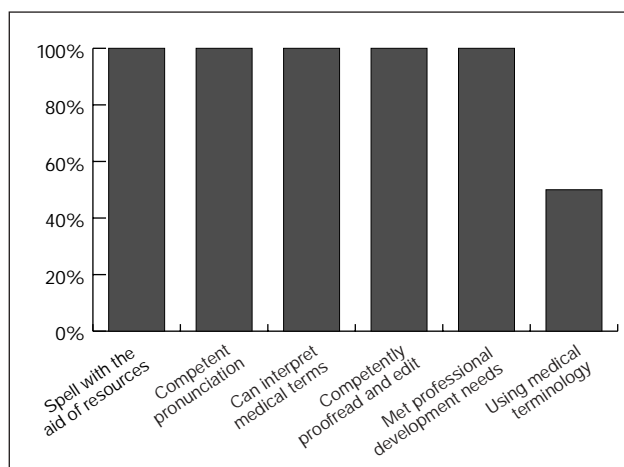


Figure 4. NSAHS learning outcomes/achievements

education and training – finalist

'OutaSite' – Transition to High School Interactive CD-rom

Central Coast Area Health Service

Abstract

Research and local focus group results indicate that transition from Primary to High School is problematic for many young people in terms of mental health, attachment to school and educational outcomes. Schools vary considerably in how well they prepare students for high school, many lacking classroom resources for students. Teachers are often unaware of programs being successfully run in other schools. As a result of student consultation, an interactive educational CD-rom resource, 'OutaSite' was developed aimed at improving students readiness for high school, ability to get help and their confidence in transport, getting organised for school, managing difficult situations and making friends. The resource was trialed in two schools with 115 students. Results indicated a statistically significant improvement pre-post test for students averaged across three different ways of using the resource in class. Girls improved most when they had their own copies of the resource. 'OutaSite' has been distributed statewide.

Aim

- To develop an engaging and fun educational resource that provides information and practice in help seeking and problem solving for students around issues identified in focus groups as problematic in going to high school.
- To promote educational programs to teachers that assist students cope with anxieties about transition.

Background

School-Link is a project aimed at promoting emotional wellbeing in schools. The Central Coast community consultation on the National Action Plan for Promotion, Prevention and Early Intervention for Mental Health identified transition to high school as a priority strategic area of intervention.



'Out-a-site' Project Team.

Research indicates that transition is associated with academic decline, lowering of self esteem and satisfaction with school and the early onset of substance abuse. The project conjointly with health and education staff, developed a resource to assist students with the range of issues that would promote their confidence in and attachment to their new school environment.

Methodology

The School-Link co-ordinator conducted structured focus group interviews with three Year 6 and Year 7 classes in Term 4, 2002 to identify issues of concern for students transitioning from primary to high School. Focus group results indicated a number of key areas including:

- readiness for high school
- knowing where to get help
- confidence with:
 - getting ready for school
 - transport
 - managing difficult situations
 - making friends.

The School-link worker liaised with Education Department colleagues in School-Linkages and Technology in Learning and Teaching (TILT)

Treatment	Sex	Pre Scores			Post Scores		
		Mean	St. Dev.	N	Mean	St. Dev.	N
Total averaged treatments	Male	8.46	1.17	55	9.00	1.02	52
	Female	8.12	1.38	60	8.89	1.03	67
	Total	8.28 Σ	1.29	115	8.94 S	1.02	119

Σ signif. $P < 0.05$

Table 1. Descriptive statistics according to sex and treatment condition

to develop an interactive CD-ROM that could be used as a classroom resource. It is also a platform for informing teachers of transition initiatives that have been developed locally. A primary and high school teacher were recruited to design lesson materials to accompany the games, activities and quizzes that were on the CD-ROM. A multimedia company was commissioned with a design brief to match activities with the identified concerns in an engaging space theme format that paralleled the transition to high school with an intergalactic journey. All materials, contents, formats and themes were 'road tested' with transition aged students for appeal, relevance, and difficulty.

Planning and implementation

The project was evaluated by two schools in five classes in total (n=115) in the final three weeks of Term 4 in four, 40-minute classroom periods. There was a pre-post test quantitative evaluation using a 10 point Likert Scale evaluating focus concerns (0 low, 10 high). Qualitative results included: 'three things learnt', 'what was most helpful?' and 'general comments'. Classes were split into three experimental conditions in one school and two in the other according to the school size.

There were three experimental conditions:

- 1 Each student had their own copy of the CD-ROM for use in and out of class
- 2 One CD-ROM per class networked, with approximately 2-3 students sharing a computer
- 3 No direct access to the CD-ROM, student booklet activities relating to the topic areas from the CD-ROM only.

All students received their own copy of the CD-ROM after the pilot program. School #1 had three Year 6 classes. One completed each of the experimental conditions. School #2 had two classes, one of which completed the CD-ROM per student condition and the other no CD-ROM exposure condition. The

Pilot was conducted as a supplementary activity to orientation programs already being run by the schools.

Outcomes and evaluation

The quantitative results were evaluated by a multivariate analysis. There was a statistically significant difference $p < 0.05$ in scores for all conditions averaged together pre-post test (see Table 1).

This indicates that even when students have initially high levels of knowledge and confidence about going to high school this improves significantly when all groups exposed to CD-ROM related activities are averaged together. The most substantial improvement in any one group occurred where girls had their own copies of the CD-ROM.

They appeared to benefit from greater access and self paced learning. Qualitative results indicated that students found 'OutaSite' to be 'fun learning', 'helpful' increased their knowledge and made them feel more confident. Teachers indicated it was an engaging activity for students and especially helpful to focus students at the end of the school year. Increased knowledge and confidence enables students to better manage the challenges of a new school environment.

Future scope

Three thousand copies of 'OutaSite' were printed and were distributed to all primary and high schools on the Central Coast in Term 4, 2002 and to Health School-Link Co-ordinators, and Education School-Linkages, Student Welfare and TILT Consultants statewide. 'OutaSite' is being placed on the local mental health website where it will be downloaded free by student, teachers and schools. 'OutaSite' is a classroom resource that can be used to complement existing orientation programs like school visits and presentations. The program is being presented in conferences and workshops and a draft journal article has been written for publication in education and adolescent mental health journals.