# Pilot study of a novel approach to education: the *Diabyte* flyer

Phil Holdich

**ARTICLE POINTS**

1 Lack of appropriate knowledge and skills by general nursing staff may lead to lack of confidence in caring for in-patients with diabetes.

2 The dynamics of a large nursing workforce call for a variety of approaches to diabetes education.

3 Clinical guidelines may not be referred to by busy nursing staff.

4 Senior nurses suggested a flyer or diabetes newsletter as an effective way of updating nurses and patients.

5 Provision of study days and ward-based training sessions was constrained by service demands.

**KEY WORDS**
- **Ward-based nurses**
- **Diabetes education**
- ***Diabyte* flyer**
- **Pilot study**

Phil Holdich is Diabetes Specialist Nurse at Leeds General Infirmary.

## Introduction

**Ward-based nurses need to be regularly updated on basic skills in diabetes care. There are many strategies available to achieve this but not all are feasible in terms of time and available resources. This article describes a pilot study assessing Diabyte, a monthly flyer conceived at a hospital in northern England. The flyer aimed to provide information to busy ward-based nurses and patients in a fun, user friendly and practical way. Returned evaluation forms were positive about Diabyte. Further expansion of the education programme is planned.**

It has been estimated that 6% of hospital inpatients have diabetes, although this may not be the primary reason for admission (BDA, 1996). Within this setting, general nursing staff spend the most time with these patients and may be expected to plan and provide care for them (BDA, 1996). Yet they may not possess the knowledge, skills or confidence to do so (Callaghan and Williams, 1994).

Reporting on the poor quality of diabetes knowledge and the need for more diabetes education within healthcare professions, Heller and MacKinnon (1998) identify nursing as being particularly difficult due to the large workforce and high staff turnover. They describe a number of approaches to nurse education, including:

- Writing guidelines and standard hospital protocols of care for people with diabetes
- Employing a member of the diabetes team specifically for in-service training and development of standards of care in diabetes
- Having a system of 'link nurses' in each clinical area.

The author's experience of clinical guidelines is that, however well written, they may not be referred to. Some of these documents can be rather unwieldy and consequently some important information may not be easily accessible. While guidelines are necessary for supporting clinical practice, perhaps the challenge for specialist nurses is to provide educational material on diabetes for general nursing staff that is readable, relevant and useful in clinical practice.

## Traditional methods

Many traditional methods of nurse education have been used at the author's hospital (a satellite hospital within the trust). However, not all are always feasible for various reasons, e.g. nurse specialists were only able to offer infrequent study days due to understaffing and increasing demands on the service. Short training sessions for nurses on the wards had been tried but had been unsatisfactory as often pre-planned meetings with ward nurses resulted in a nurse specialist arriving to find only one or two ward staff attending due to patient demands. This was clearly not an efficient use of limited resources in diabetes specialist nursing.

Ward staff often do not have access to diabetes literature produced by manufacturers except in specialist areas and most of this is not easily photocopied.

## Adapting programmes to needs

At a meeting of senior nurses at the hospital, a brainstorming session was carried out to determine what methods of disseminating diabetes information would be practical for busy ward staff. Suggestions included:

- Study days
- Small group teaching on the wards
- Lunchtime or evening seminars
- A flyer or newsletter.

The last idea was popular and the group were asked what information they would want to be included on a flyer. This concurred with the information that the nurse specialists were frequently asked about, e.g. blood testing, oral hypoglycaemics agents, insulin treatment and hypoglycaemia.

The idea was that nursing staff, who may be unable to attend study days, could quickly glance at a single sheet displaying information about diabetes while at the nurses' station. It was intended as a supplement to wider teaching programmes, not as a substitute.

### Birth of *Diabyte*

*Diabyte* was conceived as a novel and relatively simple approach to educating and updating nurses in practical elements of diabetes care. As the concept developed, *Diabyte* was subsequently modified to enable it to be used for patient education. Originally, the intention was for the flyer to be distributed by e-mail then printed out but, at the time, many wards did not have printers.

*Diabyte* was produced with all the educational material deliberately kept to one side of an A4 sheet so that it would be more likely to be read by busy nurses.

The name reflects the style of the flyer and is a play on sound bites. Furthermore, the notion was that *Diabyte* was 'easily digestible', i.e. in a non-technical style with the information, as suggested by the logo, 'on a plate'. This was meant to be novel and fun. Although there were some concerns that Diabyte might be perceived as patronising or too simple, this did not appear to be the case on evaluation. Figure 1 shows an example of an issue of Diabyte.

### Specific aims

'What I see I remember, what I hear I forget' is an old adage and one which certainly holds true for printed educational material for supporting and enhancing verbal instructions (Glasper, 1992). With this in mind, *Diabyte* was designed to be used by ward nurses for teaching patients. Therefore the information had to be user-friendly for patients. With regard to the wording, it was a challenge to make *Diabyte* usable for patients, particularly to avoid using the term 'patient' in the third person.

Main references were given on the reverse side of each *Diabyte* to provide:

- Further reading for those nurses who were interested
- An evidence base for the information.

Where possible, the references were generally available, although there were some texts that are specifically produced for those working in diabetes. Staff have always been encouraged to use the diabetes centre and our books and journals as a resource — a reminder of this was included on each *Diabyte*.

### Ensuring readability

Each *Diabyte* was proofread and peer-reviewed by a colleague to ensure that the style and content were accurate. While *Diabyte* looks simple, each one took 3–4 hours to produce as each flyer was carefully designed so that a maximum of 10 'bytes' would fit the A4 format and be readable by both nurses and patients.

Different font styles and sizes were chosen to enhance the appearance and readability of the sheet.

The Gunning Fog Index (Gunning, 1968) was used to achieve ease of reading. The index can be used to give a grade which reflects sentence length and frequency of words containing more than three syllables (three 100-word samples from the beginning, middle and end of articles are used for this purpose). In order to provide easy reading for patients, a grade of 6–10 was aimed for — this equates to *Readers' Digest* or consumer magazines (for comparison, a grade of ≤13 related to undergraduate level). *Diabyte* scored mostly 10 or 11.

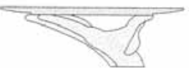
Deciding to produce material for both patients and staff meant there had to be some compromises. These were mainly in details such as drug actions and dosages and the use of terminology which may be familiar to nurses but not to patients. However, when I started my post I had found much of the patient literature a good place to start learning more about diabetes before moving onto more academic writings.

Each *Diabyte* was produced in a clear plastic wallet because single sheets can go missing or become tatty.

**PAGE POINTS**

1. *Diabyte* was conceived as a novel and simple format to update nurses on different aspects of diabetes care and treatment.
2. Nursing staff were encouraged to incorporate *Diabyte* when teaching patients.
3. Chosen topics were based on patient demand and references were supplied for further reading.
4. *Diabyte* was piloted in six clinical areas of a hospital.
5. The evaluation found the flyer to be quick to read and useful.

diabyte **easily digestible diabetes**



## Number 4. Hypoglycaemia

Hypoglycaemia or a 'hypo' is the name given to a fall in blood glucose below normal. Usually this occurs below 4 mmol/l although where the blood sugar has been high for some time, symptoms may occur at a higher level, e.g. 5 or 6 mmol/l.

There is a potential risk of hypo for anyone taking insulin or sulphonylureas (such as Glibenclamide or Gliclazide). Alcohol may enhance the risk, particularly on an empty stomach and should be taken with or after food.

Typical symptoms may be any of the following: trembling, sweating ('cold sweat'), pallor, tingling lips, pounding heart, headache, irritability and lack of concentration. These are caused by the body releasing hormones such as adrenalin and a lack of glucose supply to the brain.

If these symptoms are ignored or not recognised loss of consciousness may occur.

**Treat immediately: the first line for a conscious person is a sugary drink such as Lucozade or milk with 2 spoons of sugar. Glucose sweets (e.g. Dextrasol) are useful as these can be carried in a pocket — take 3 of these. Chocolate or any sweets are okay to use. Repeat after 15 minutes if there is no improvement or the blood sugar is below 4 mmol/l.**

Always follow this with a starchy snack (biscuit, fruit, bread) once the symptoms subside and blood glucose is back to normal, this will help prevent recurrence.

Where a person cannot take fluids, or is uncooperative, use HYPOSTOP (available on prescription). This is a sugary gel which should be squirted between the cheek and the gum and gently massaged around the cheek. Follow this with a sugary drink and a snack as above.

The unconscious person should be injected with GLUCAGON (prescribable as Glugagen Kit 1mg) and placed in the recovery position. Glucagon is a hormone which releases the body's stores of glucose from the liver.

*If Glucagon is not available dial 999 for an ambulance — paramedics will give glucagon or intravenous dextrose. Once recovered, have a sweet drink and then a snack - be aware that severe hypo may cause nausea. Check the blood level is normal - note that later on there may be a surge of glucose from the liver (rebound hyperglycaemia) and this should not be treated with an increase in tablets or insulin.*

**Try to establish why the hypo may have occurred — it is usually due to a late or missed meal, too little food and/or increased activity (uses up more blood glucose and can occur several hours after exercise) or taking too high a dose of insulin or tablets.**

### References and further reading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Interested in diabetes, completing course work or a project?

We are gradually acquiring a range of journals and texts which you can access at the diabetes centre for photocopying or short-term loan. Contact Phil on extension 22954, Bernie on 26565 or Bev on 23599 or the Diabetes Centre on 22972.

Nursing staff please note, *Diabyte* is a quick reference guide and does not replace existing guidelines or protocols. You should refer to these for further information.

***Figure 1. An example of an issue of* Diabyte *(actual format was one A4-sized sheet ).***

## Piloting the project

*Diabyte* was piloted at a satellite hospital within the trust where the original idea was conceived. The clinical areas used were six wards chosen from elderly daycare and continuing care, and the rheumatology unit. Approval was gained from the nurse manager for each unit before a covering letter explaining the project was sent out with the first of five monthly *Diabytes*. The topics covered by each issue were those for which information was requested most frequently from nursing staff. They were:

- Blood glucose monitoring
- Insulin therapy
- Administration of insulin
- Oral medication
- Hypoglycaemia.

## Evaluation

The final Diabyte included an evaluation form (Figure 2) to be completed by nursing staff within 10 days (later extended by 10 days). The forms were collected in person from each ward area, as this method appeared to be the most effective guarantee of ensuring evaluations were actually completed on time.

In five out of six clinical areas, *Diabyte* was on prominent display at the nurses' station. Nursing staff were asked if they knew what *Diabyte* was and it was evident that most were aware of the contents of at least one issue.

Nine evaluations were received (out of a possible twenty-four). Barker (1991) reports a low response rate for questionnaires and the difficulty in making valid generalisations from what may not be a representative sample. This is acknowledged as a limitation of the study and may indicate that only those nurses who had read and used *Diabyte* may have responded. However, within the time frame and resources available, it would have been impractical to use another method, e.g. a structured interview.

All nurses evaluated *Diabyte* as easy to read and useful, covering some of the basic

**PAGE POINTS**

1. The *Diabyte* flyer was piloted in six wards within a satellite hospital of the trust.
2. Topics covered in *Diabyte* were those most often requested by nursing staff.
3. An evaluation form was used to discover how *Diabyte* had been received by ward staff.
4. In five out of the six clinical areas piloted, *Diabyte* was on prominent display at the nurses' station.

*Diabyte* **easily digestible diabetes**

PLEASE CIRCLE YOUR ANSWER

| | | | |
|---|---|---|---|
| Have you read *Diabyte*? | All | Some | None |
| *Diabyte* is a quick reference guide. Do you think that one side of A4 is… | Adequate | Too little | |
| Did you find it easy to read? If No, please state why: | Yes | No | |
| Was the information on *Diabyte* too basic? Anything in particular? (please comment): | Yes | No | Sometimes |
| Was the information useful? | Yes | No | |
| Did you use any information for patients? | Yes | No | |
| Did you photocopy any of *Diabyte*? | Yes | No | |
| Have your students read *Diabyte*? | Yes | No | |
| Have you used the references for further reading? | Yes | No | |
| Does *Diabyte* cover essential areas of diabetes? | Yes | No | Some |

Anything you would like to see covered/have omitted?:

How would you rate *Diabyte* overall?

| Good | | | | | | Poor |
|---|---|---|---|---|---|---|

*Figure 2. The evaluation form handed out with the last issue of* **Diabyte** *in the pilot study.*

**PAGE POINTS**

1 All nurses evaluated *Diabyte* as easy to read and useful.

2 Some respondents suggested other topics to cover in future issues.

3 *Diabyte* represents a pragmatic approach to diabetes education at a time when there are limited resources for more formal teaching with ward staff.

4 Diabyte is not intended to replace other, more traditional, methods of delivering diabetes education.

5 There are plans to extend the circulation of *Diabyte* across the trust and into the community.

essential information that staff required. Five respondents made suggestions for areas that could be covered; including hyperglycaemia, management of illness and diabetic foot care. Of the nine respondents, eight indicated that students had read *Diabyte* and most areas had photocopied the information for patients and students. It was encouraging that some nurses had read more widely from the references.

## Our verdict

Overall, the response to *Diabyte* was favourable. Diabetes information for staff in non-specialist areas should be easily obtainable. Many of them will probably not always have the time or inclination to seek out such information during work time.

*Diabyte* represents a pragmatic approach to diabetes education at a time when there have been limited resources to pursue more formal teaching with ward staff. *Diabyte* is not intended, and never has been intended, to replace more formal teaching strategies and methods of delivering diabetes education. It is merely one way of quickly providing 'at a glance' information and perhaps stimulating nursing staff to read further around a subject.

## Future plans

We intend to revise *Diabyte* to include specific instruction on the use of insulin analogues, new insulin delivery devices and evidence supporting changes in diabetes care. The number of subjects covered will be increased and *Diabyte* will be reissued more widely across the hospital trust and also into the community.

Since more clinical areas are using information technology, it should be possible to produce *Diabyte* as an e-mail attachment that can be downloaded and a hard copy printed off. Ultimately, it should be possible for the diabetes centre to produce its own webpage which would be accessible by any trust staff on the intranet and which contains more diverse information, e.g. electronic journals or instructions on how to use equipment such as blood glucose meters and insulin pens.

## Conclusion

General nurses need skills and knowledge in diabetes care so that they may provide competent care for patients with diabetes. Educating nursing staff is an essential component of the role of the diabetes nurse specialist yet clinical commitments for both ward staff and the nurse specialist may limit the provision of formal training and there is need to use a variety of educational methods.

The development of a novel and quick reference guide to the areas of diabetes care most commonly identified by both nurses and patients was an attempt to disseminate information efficiently and effectively. Although a small pilot project, *Diabyte* been positively evaluated as a resource for nursing staff and students and used as a supplement to patient teaching.

There is now scope to expand the format of *Diabyte* to make use of information technology, particularly by sending it as an email attachment, and to circulate this more widely. ■

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