

Insulin administration by non-registered practitioners

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The number of older people with diabetes is rising rapidly. This increasing prevalence, coupled with functional impairment associated with the ageing process, will inevitably mean that these people require support from both healthcare and social care practitioners in the area of medicine administration and diabetes management. Many of these individuals already live in residential care homes or are supported to remain in their own homes by domiciliary care staff. Evidence suggests that many of these non-registered practitioners are supporting diabetes care and the administration of medications without adequate levels of diabetes knowledge or the required skills. This article describes a project aimed at increasing diabetes knowledge levels and skills to support insulin administration in non-registered practitioners.

The increasing number of older people with diabetes poses significant challenges to healthcare and social care staff (International Diabetes Federation [IDF], 2013). Although in principle the management of type 2 diabetes in this age group should be the same as in younger people, there are some unique differences to consider. First, the increased prevalence of comorbidities increases the complexity of care (Rizza et al, 2012). The polypharmacy that is required to treat multiple conditions leads to an increased risk of adverse drug reactions (Abbatecola et al, 2008). Age-related changes in drug metabolism increase the risk of hypoglycaemia with certain diabetes medications, and ageing per se may alter the symptoms of and responses to hypoglycaemia (McAulay and Frier, 2009).

Secondly, the presence of age-related cognitive impairment increases vulnerability to hypoglycaemia and medication non-adherence (Sinclair et al, 2008). Other factors that impact diabetes management include the presence of

physical disabilities such as arthritis, impaired sight, peripheral neuropathy and tremor, which may adversely affect self-care abilities (IDF, 2013). Finally, the presence of other age-related problems, such as frailty, malnutrition, pain and depression, may also impact diabetes management and the ability to self-care (Zeyfang and Walston, 2009).

Government ambitions to provide care closer to home have been a key driver of community services since 2009 (Department of Health [DH], 2009), with approximately 100 million contacts with NHS community services taking place each year (Edwards, 2014). These figures relate to NHS staff, yet many older people with diabetes are supported to remain in their own homes by non-NHS domiciliary care staff, and many live in residential care homes provided by the private sector. Evidence suggests that many of the staff working in such environments do not have adequate levels of diabetes knowledge and skills (Graue et al, 2013; Wellard et al, 2013), despite the fact that often they are caring for some of the most vulnerable people in our society.

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Article points

1. A large number of older people with diabetes have concurrent physical disabilities such as arthritis, impaired sight, peripheral neuropathy and tremor, which adversely affect their self-care abilities.
2. Many older people with diabetes rely on community nurses or non-registered practitioners to support the administration of their insulin.
3. Many non-registered practitioners have insufficient diabetes knowledge and skills to support people in their care.
4. With appropriate training, such as the programme outlined in this article, administration of insulin by non-registered practitioners can be done safely in line with national guidance.

Key words

- Insulin administration
- Non-registered practitioners

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1. Insulin administration in the community setting is often undertaken by non-registered practitioners working outside of their scope of practice.
2. This not only puts patient safety at risk but also leaves healthcare providers vulnerable to litigation.
3. A training programme has been developed to improve diabetes knowledge and skills and to support insulin administration by non-registered practitioners.

The rapid expansion in the number of older people in our communities means that many more will go on to develop diabetes or live longer with their existing condition, inevitably requiring more support from community teams (IDF, 2013). In a small study of 607 people requiring home administration of insulin, Livingstone et al (2013) found that just over half of the participants (50.9%) required more than one insulin injection a day.

Community health service provision often cannot meet demand and in some areas the supervision or administration of insulin is undertaken by non-registered practitioners working outside their scope of practice and competence. This not only puts patient safety at risk but also leaves the non-registered practitioner vulnerable to litigation.

The Care Quality Commission (2010) requires effective systems to be in place to protect people from the risks associated with unsafe use and management of medicines. Regulation 18.1(c) of the 2001 Care Homes Regulations requires the registered person to ensure that the people employed to work at the care home receive training appropriate to the work they are to perform. In addition, the Royal College of Nursing (RCN, 2011) offers clear guidance on accountability and delegation to non-registered practitioners.

This article will describe a programme that has been developed to support the quality and safety agenda relating to insulin administration by non-registered practitioners. The project requires a collaborative approach by community nurses, the independent workforce and supporting agencies alike.

Programme development

An audit was initially undertaken to establish diabetes knowledge levels among community nurses in order to ensure that their knowledge and skills were up to date to support non-registered staff. Previous studies have shown that nurses' diabetes knowledge and care are suboptimal (Wellard et al, 2013; Graue et al, 2013). Therefore, it was imperative that before the project began, staff were delivering evidence-based care. The assessment tool used for this purpose was a shortened version of the Audit of Diabetes Knowledge (ADKNowl) questionnaire (Speight and Bradley, 2001).

The ADKNowl seeks to identify knowledge levels

in many areas of diabetes care. A total of 76 band 5 community nurses completed the questionnaire and the results were collated and analysed. In particular, knowledge deficits relating to insulin therapy, illness management, nutritional management and foot care were identified.

A modular training programme was subsequently developed to be used by both registered and non-registered practitioners to address the deficits identified. Each module's learning objectives are supported by DH Knowledge and Skills Framework dimensions (DH, 2004) and the Diabetes National Workforce Competence Framework (available at: www.skillsforhealth.org.uk). Regarding the registered nurses involved in the programme, each community nursing team nominated staff to become diabetes mentors, who undertook the same training programme in the first instance as the non-registered practitioners, in order to ensure their knowledge and skills were up to date.

The programme consisted of three modules. Whilst initially developed specifically for non-registered practitioners, it has subsequently been accessed by registered nurses wishing to update their diabetes knowledge levels. Module 1 was developed as a "diabetes awareness" module. Module 2 was designed to expand knowledge levels further, and module 3 was developed to support insulin administration by non-registered practitioners. The topics covered within each module are listed in *Box 1* (overleaf).

At the end of module 2, those non-registered practitioners wanting to take module 3 are first required to complete a short multiple-choice test to assess knowledge levels. A 75% pass rate is required. In addition, a registered nurse must have identified the practitioner as being suitable for the delegation of insulin administration in line with Nursing and Midwifery Council and RCN guidance. A written agreement supporting this delegation is also required from a community nurse who is a recognised diabetes mentor. Finally, the non-registered practitioner's employer also has to agree, in writing, to support the delegation of insulin administration and to have vicarious liability insurance.

Since the programme's development, the Cavendish Review (Cavendish, 2013), which relates to the learning, development and support

for healthcare assistants, has been published and has subsequently led to the introduction of the Care Certificate. This aims to ensure that healthcare support workers have the required values, behaviours, competencies and skills to provide high-quality, compassionate care. The format of this diabetes programme lends itself to meeting the standards identified in the Care Certificate framework.

Cost

Modules 1 and 2 are full-day teaching courses, and places are currently charged at £50.00 per person. Module 3 is a half-day teaching session and costs £30.00 per person. The funding covers training venue hire, DSN time, administrative time, refreshments and training materials. Modules 1 and 2 are usually delivered with a maximum capacity of 25 places, and there are only 10 places for module 3.

Documentation

In addition to the classroom-based teaching of the three modules, written and oral competency assessments for blood glucose monitoring, hypoglycaemia management and insulin administration were developed and supported by an NHS Trust policy. The competency documents were developed using Skills for Health diabetes competencies and were initially piloted on healthcare assistants employed by the primary care trust working within community nursing teams.

Following attendance of all three modules, competency assessments are completed by the non-registered practitioners and their diabetes mentor on a named patient basis for each delegation. These competencies are revalidated annually or if a period of more than 3 months has elapsed since the non-registered practitioner last administered insulin. Diabetes care plans and the continued suitability of the delegation are reviewed monthly by the community nurse.

The above programme and supporting guidance has been written into a Trust policy for insulin administration by non-registered practitioners, and it references other key policies relating to infection prevention, the prevention of needlestick injuries, mental capacity and record keeping, along with national guidelines on delegation of

Box 1. Learning objectives of the three modules of the training programme for non-registered practitioners.

Module 1

- To define the term diabetes.
- To identify the main types of diabetes.
- To list the signs and symptoms of diabetes.
- To state the diagnostic blood glucose levels and targets.
- To understand the nutritional and lifestyle management of diabetes.
- To have an appreciation of the medication used to manage diabetes.
- To have an appreciation of the aims of treatment.
- To identify screening opportunities for diagnosis of diabetes.
- To briefly discuss the potential short-term and long-term complications of diabetes.

Module 2

- To define the term diabetes and name the different types.
- To state normal blood glucose levels and targets for diabetes management.
- To understand the role of carbohydrates in the nutritional and lifestyle management of diabetes.
- To understand how oral blood glucose-lowering agents are used to manage diabetes.
- To understand the role of insulin and insulin regimens in the management of type 1 and type 2 diabetes.
- To have an awareness of the insulin pens and devices used.
- To understand the role of blood glucose monitoring and how to perform this task.
- To understand how to prevent and treat hypoglycaemia.
- To understand how to prevent and treat hyperglycaemia.
- To have an awareness of illness management for people with type 1 diabetes.

Module 3

- To understand the role of insulin therapy in the management of type 1 and type 2 diabetes.
- To be familiar with the equipment used to administer insulin.
- To receive training on the safe administration of insulin (includes practical training on administering insulin via a disposable pen device using a safety needle, in line with European Union guidance).
- To be able to define hypoglycaemia and its treatment.
- To understand the role of blood glucose monitoring and how to perform this task in relation to insulin administration.
- To understand how to prevent and treat hypoglycaemia.
- To be aware of the Care Quality Commission requirements and legal responsibilities associated with the administration of insulin by unregistered staff.
- To be aware of the roles and responsibilities pertaining to insulin administration.
- To be familiar with the diabetes competency frameworks used in the summative assessments of blood glucose monitoring and insulin administration.
- To be aware of patient consent documentation and care plans.

care to non-registered staff. A registered nurse has to assess both the person with diabetes and the non-registered practitioner for the appropriateness of any delegation of insulin administration, and

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1. Since 2009, 565 non-registered practitioners have attended at least one module of the programme, and questionnaire-based assessments show that the training is effective in increasing diabetes knowledge.
2. The programme has the potential both to improve community-based care and support cost-effectiveness initiatives.

they must review the individual's care plan monthly to continue with that delegation. Again, this is all written within the Trust's policy, along with details of how to act should blood glucose levels not be within the individual's target range. The glycaemic targets are set initially at 7–9 mmol/L, in line with Diabetes UK's suggested levels for older people, and they are modified by a GP or DSN if not appropriate.

The administration associated with the programme and its associated recall system for revalidation is operated in collaboration with Shropshire Partners in Care (SPIC), a not-for-profit organisation representing over 200 independent nursing, residential and domiciliary care companies in Shropshire.

Results

Since 2009, 565 non-registered practitioners have attended module 1, 490 have attended module 2 and 342 have attended module 3.

The delivery of each module is evaluated continuously and feedback has been very positive. More recently, the diabetes knowledge levels of non-registered practitioners have been assessed at entry to the programme, using a brief multiple-choice questionnaire covering diabetes and its types, treatment options, hypoglycaemia and its treatment, and potential long-term complications of the condition. This assessment is then taken again on completion of module 2 to evaluate the programme's effectiveness in increasing knowledge levels and skills. In addition, these data are used to support further development of the programme.

Results over the last 12 months show a 41% improvement in knowledge following completion of modules 1 and 2. In addition, at the end of each of the modules, a standard Trust delegate satisfaction survey is completed, which encompasses a review of personal expectations, satisfaction with the training delivered and the application of learning in the workplace. Feedback is reviewed and modifications are made to the programme based on this continual feedback mechanism to ensure that the learning outcomes are achieved.

QIPP (Quality, Innovation, Productivity and Prevention) potential

The development of this programme has the

potential, first, to improve the quality of care for people with diabetes who are being supported by non-registered practitioners. It also facilitates continuity of care by carers familiar with the individual. Furthermore, it allows for meal times and insulin administration to coincide, whereas all too often there is a mismatch between the time the community nurses arrive and the time the person has their meal, owing to carers' availability or care home meal times. This can be particularly problematic in the author's area of practice, a large rural county where some community nursing teams have up to 30 insulin injections to administer each day.

The programme facilitates the release of community nurses from blood glucose monitoring and insulin administration to support other patient groups, potentially freeing capacity to support earlier discharge initiatives from the acute hospital Trusts, in line with commissioning intentions and Government agendas. In addition, this initiative provides scope to support cost-effectiveness initiatives, given that a registered community nurse at the top of band 5 costs £17.48 per hour, including on-costs, while a non-registered practitioner working in the NHS at the top of band 3 costs only £10.45 per hour with on-costs. This represents a difference of £7.03 per hour, potentially contributing to any cost-saving programme within the NHS alone.

Whilst some may argue that the use of non-registered practitioners to administer insulin is a cost-cutting exercise or an erosion of the district nursing role, the fact of the matter is that the latter's role is changing. The change is being driven by the demographics of our population, the complexity of their healthcare and social care needs, and Government health policies. A pragmatic approach must be taken if community or district nursing is going to meet those demands. Innovative approaches and new ways of working are required to ensure that high-quality care can be delivered within our communities, responsive to people's needs yet sustainable within the ever-challenging financial climate.

This diabetes programme offers one way to support complex care and caseload management by providing skill and competency development supported by robust governance infrastructure,

which allows non-registered practitioners to administer care while still under the supervision of a community nurse, ensuring patient safety and quality of care.

Conclusion

The number of older people with diabetes developing functional impairment is increasing and many more will inevitably require assistance to manage their condition. The challenge is to support these individuals to live safely in the community within the current economic constraints. Many of these people receive care from non-registered practitioners, either domiciliary or based in care homes. Given the logistics of matching certain insulin regimens with food consumption, involving this workforce in supporting diabetes management is a holistic and logical approach. This initiative demonstrates that through a robust training programme and collaboration with older individuals with diabetes, their families, and registered and non-registered practitioners alike, insulin administration can be undertaken safely within regulatory parameters. In addition, the format of this programme potentially lends itself to other injectable therapies used in diabetes management. ■

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