

A locally developed insulin prescribing support aid for type 2 diabetes

Shelpa Parmar, Helen Noakes

Insulin is used as part of the treatment regimen by many people with type 2 diabetes. Here, the authors report on work conducted in the London Borough of Lewisham to identify important clinical considerations relating to this treatment option and the subsequent production of an insulin prescribing decision aid for use in primary and secondary care.

Insulin is used as part of the treatment regimen by many people with type 2 diabetes and it is important for clinicians involved in the care of these people to be familiar with the range of products offered so that they can be prescribed appropriately and in a cost-effective manner.

In our locality – the London Borough of Lewisham – a need was highlighted by GPs and nurse prescribers for the development of a local guide illustrating the different types of insulin available, their time–action profiles and corresponding pen devices. This article describes the resulting insulin prescribing support aid, which aims to increase familiarity with treatment guidelines for type 2 diabetes among clinicians, as well as aiding their understanding of insulin products.

Lewisham's diabetes profile

Lewisham has a population of 284 000, of which over a third are of African and African-Caribbean origin. The prevalence of diagnosed diabetes among people aged over 17 years in Lewisham is 5.7%, compared with 4.7% in similar inner-city boroughs (NHS Lewisham Clinical Commissioning Group [CCG], 2014).

Lewisham's 44 GP practices spend £3.7 million a year on diabetes treatments and blood glucose monitoring equipment (test strips), and just over a third of this sum is accounted for by the approximately 24 500 insulin prescriptions written annually (based on 2013–14 data from ePACT [accessed through <http://www.nhsbsa.nhs.uk/3230.aspx>]).

A recent analysis of spending on diabetes care and outcomes highlighted that only 56.4%

of adults with diabetes in Lewisham had an HbA_{1c} measurement of 58 mmol/mol (7.5%) or less (National Cardiovascular Intelligence Network, 2014). Tailoring HbA_{1c} targets to individuals' physical and cognitive status is crucial in providing personalised care, and there are circumstances where it may not be considered appropriate to aim for a level below 59 mmol/mol (owing to the increased risk of hypoglycaemia), such as in frail people and those with dementia. Nevertheless, a diabetes costs–outcomes quadrant analysis chart (National Cardiovascular Intelligence Network, 2014) that placed NHS Lewisham CCG within the worst quadrant (i.e. high average cost per prescribed item and poor HbA_{1c} outcomes) led to concern within the CCG that “value for money” was not being achieved from diabetes prescribing.

Trends in insulin prescribing

It is well documented that the prevalence of diabetes in the UK is on the rise (e.g. Diabetes UK, 2014). Since 1996, the number of people who have been diagnosed with diabetes has increased from 1.4 million to 3.2 million, and by 2025 it is estimated that 5 million people will be diagnosed with the condition (Diabetes UK, 2014).

Against this background of rising prevalence, there has also been an increase in expenditure on insulin. For instance, the annual primary care spend on insulins in England has risen by 48.7% over the past 10 years (Health and Social Care Information Centre, 2014). We believe this in part related to NICE guidelines shifting

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Article points

1. The authors were involved in work conducted in the London Borough of Lewisham to identify important clinical considerations relating to the use of insulin as a treatment option in type 2 diabetes.
2. Several key areas have been identified, including potential confusion in determining the type or brand of insulin that is compatible with each delivery device.
3. Further to determining the key areas, Lewisham Clinical Commissioning Group and Lewisham and Greenwich NHS Trust have produced an insulin prescribing decision aid for use in primary and secondary care.

Key words

- Insulins
- Pen devices
- Prescribing aids

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Page points

1. There is an increasing variety of insulins available from a range of manufacturers, with differences in properties such as time–action profiles and in their presentations
2. Within the total costs associated with insulin prescription, local observations have led the authors to the conclusion that insulin wastage is a significant issue, with an important proportion of this probably related to over-prescribing.

to advocate an earlier use of insulin in people with type 2 diabetes (NICE, 2009). And, locally, we are anticipating further increases in the use of insulin for treating people with type 2 diabetes.

There is an increasing variety of insulins available from a range of manufacturers, with differences in properties such as time–action profiles and in their presentations, which include reusable pens with cartridges, prefilled disposable pens and vials for use with syringes.

Insulin wastage: A key issue

Within the total costs associated with insulin prescription, local observations have led us to the conclusion that insulin wastage is a significant issue, with an important proportion of this probably related to over-prescribing. This is, in turn, probably at least in part attributable to an insufficient awareness of the various insulin product presentations, pen devices and pack sizes. Insulins are compatible for the most part with the devices supplied by the manufacturer. Matching insulins with an appropriate pen device is one area of potential confusion.

Anecdotally, with input from patient medication reviews by Lewisham medication review pharmacists, we have made the following additional observations in recent years:

- Repeat insulin prescriptions written in both hospital and the community are often fulfilled as multiple boxes of full packs, often without consideration of the quantity of insulin required in line with the dose for the individual. This appears to be a significant contributor to excessive prescribing.
- People with diabetes who are housebound are often receiving monthly repeat prescriptions of full boxes of prefilled pens that are substantially in excess of their need.
- Examination of fridges and medicines cabinets has revealed as many as 30 unused pens stored in a warm cupboard.

Over-prescribing is of course not the only possible cause of such wastage. Poor medication

concordance may also play a role. However, we felt that it was an issue that needed to be explored further.

Further motivation for a prescribing aid

NICE (2009) recommends human isophane (NPH) insulin as a first-line treatment when insulin is indicated for people with type 2 diabetes. Long-acting insulin analogues and mixed insulins can be used as an alternative in specific circumstances detailed in the NICE guideline.

In an audit looking at the choice of insulin selected at initiation in general practice in Lewisham (Morgan, 2013), 87 people with type 2 diabetes were sampled across three Lewisham practices. Only 38% of individuals were found to have had insulin initiated in line with the NICE (2009) guideline. This suggests that there was generally poor knowledge of treatment guidelines in those GP practices, although it is also important to take into account that there may have been circumstances, including the ability to use a particular pen device correctly, which might affect the choice of insulin.

Development of the prescribing aid

While charts and other resources on the properties of insulins and the associated devices have been produced by the different manufacturers, as well as more comprehensively at both a local (e.g. University Hospitals of Leicester NHS Trust, 2014) and national level (Diabetes UK, 2011), we wished to create something that was all-encompassing, as up to date as possible and relevant to our local needs. We thus collaborated to produce an “Insulin Prescribing Support Aid in Type 2 Diabetes” as an educational tool designed to meet the needs of both primary and secondary care clinicians in our locality. Specifically, the aims were to:

- Provide advice on first-line insulin choice in type 2 diabetes and clarify when alternatives should be considered.
- Raise awareness of the comparative costs of NPH insulin and long-acting insulin analogues.

- Consider recommendations relating to the continuation of oral antidiabetes drugs.
- Clarify the pen needles that are suitable for different pen devices.
- Highlight the pen devices that are compatible with each insulin.
- Illustrate graphically the time–action profiles of different insulins.
- Illustrate visually the different pen devices available.
- Provide the correct insulin passport to people new on insulin and when the type of insulin is changed.

Consultation and governance process: the Lewisham Diabetes Service Redesign group

The prescribing aid was developed under the governance of the Lewisham Diabetes Service Redesign group (formed of representatives from primary care, secondary care, and commissioning, as well as a lay spokesperson). The remit of this group is to develop an integrated diabetes model of care in Lewisham through redesign of diabetes services in line with local and national requirements. *Figure 1* summarises the process that led to an approved prescribing aid for use across primary and secondary care.

Uptake of the prescribing aid

The insulin prescribing support aid is currently being used by 44 GP practices within Lewisham CCG and also by the integrated diabetes team based at University Hospital Lewisham. Informal feedback indicates that it has been widely welcomed both by clinical and non-clinical staff supporting insulin-treated people with type 2 diabetes and we feel that it has met a long-standing need for such an educational tool. With the regular introduction of new insulin products and devices, the prescribing aid will be revised and re-issued annually.

Other training in place

In our locality, accredited training on insulin initiation and management has been delivered by the diabetes team to GPs and practice nurses through the MERIT (Meeting Educational Requirements, Improving Treatment) course.

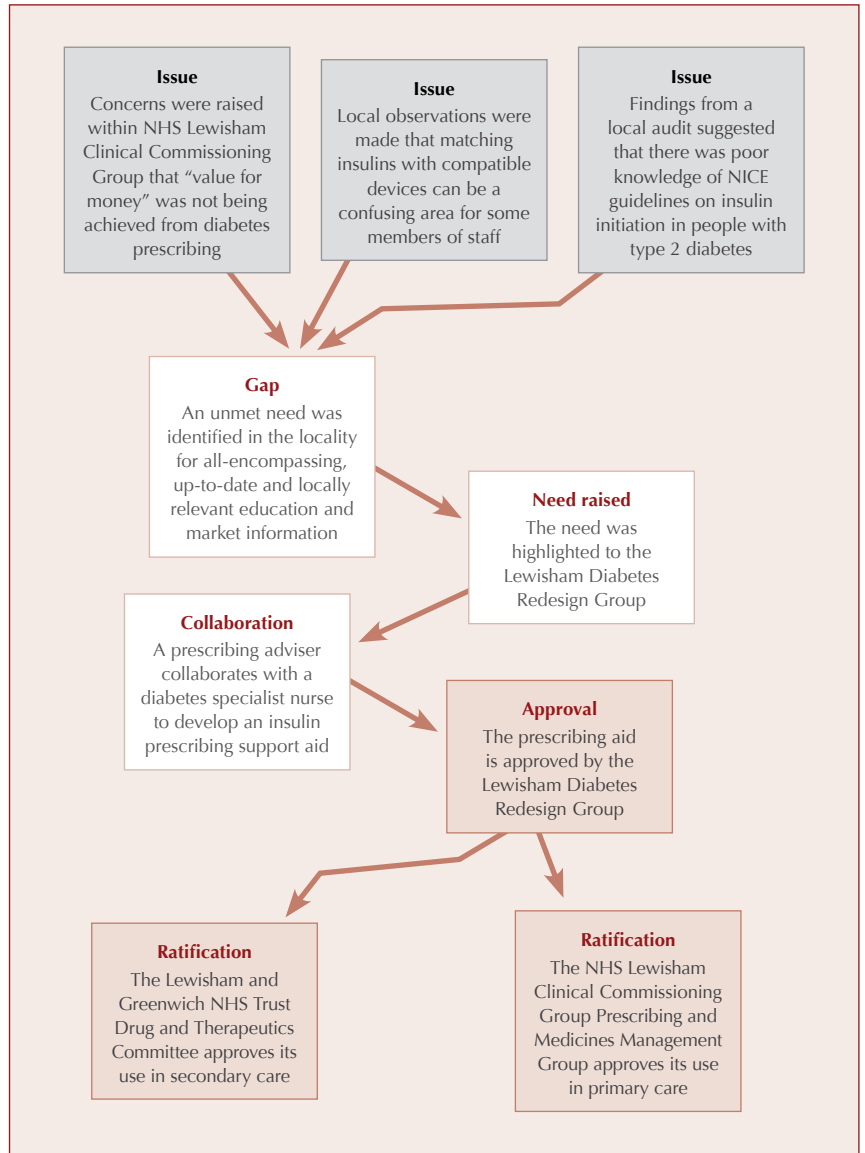


Figure 1. A summary of the process that led to an approved insulin prescribing support aid in type 2 diabetes for use across primary and secondary care in Lewisham.

The Lewisham community diabetes specialist nurses offer ongoing facilitative support and mentorship to participants following the course. Competency assessment (in line with the Knowledge and Skills Framework and the Skills for Health framework [HD3]) is also completed by participants.

In addition, following a recent local training review, the diabetes team now runs the TOPICAL (Treatment of Patients, Individualised Care Locally) course with mandatory pre- and post-competency assessments.

Finally, training sessions have been provided in primary care by community diabetes specialist nurses in the safe use of insulin and on insulin passports. This has also been incorporated into the insulin initiation course.

Related guidelines across a wider area

A diabetes working group with primary and secondary care representatives are working collectively to update insulin initiation guidelines in people with type 2 diabetes for use across three neighbouring boroughs in south-east London: Lewisham, Greenwich and Bexley. The aim is to ensure consistency in practice across hospital trusts and general practice. This work is particularly important as Lewisham & Greenwich NHS Trust offers and provides a service to all three boroughs.

Conclusion

Here we have reported on the development of a local insulin prescribing support aid created to address several issues, including the highlighting of NICE recommendations for choice of insulin in people with type 2 diabetes and the clarification of key properties of available insulin products and associated devices. Based on our experiences we recommend that people facing similar challenges in other localities work to incorporate an insulin prescribing aid into accredited training programmes so that clinicians have the necessary competencies to initiate insulin safely and appropriately in line with local protocols and NICE guidance. ■

If you are interested in finding out more, the latest version of the support aid is available on request from the lead author. She can be contacted by emailing:
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