Virtual clinics: An opportunity for integrated diabetes care

Steve Stanaway

Chronic conditions management, such as that for diabetes, is often shared between primary and secondary care. With increasing demand on services, better and more efficient methods of seamlessly working together and caring for individuals closer to home need to be explored. Education within primary and secondary care is important to keep pace with changing therapies and practice. This article summarises a pilot in which "virtual clinics" were held by a consultant working in a primary care setting, analysing their advantages and disadvantages. Virtual clinics involve a consultant visiting practices, not to actually see patients but to advise on their care from clinical summaries presented to them by primary care practitioners.

Article points

1. Virtual clinics are a new way of working between primary and secondary care for an important chronic disease area.
2. A consultant visits practices, not to see patients, but to advise on their care from clinical summaries presented to them by primary care practitioners.
3. This format allows discussion and decision making for a large number of people quickly, whether they are completely new to the visiting consultant or already known to them.

Key words
- Consultant efficiency
- Integrated care
- Referral avoidance
- Virtual clinics

In line with Welsh Assembly Government (WAG) policy to improve communication and cooperation between primary and secondary care, and to manage chronic medical conditions closer to individual's homes where appropriate (Primary & Community Services Assurance Board, 2009), the South Wrexham Locality (SWL) pilot site was set up in 2007.

One of several projects conceived and explored was that of the virtual clinic (VC), in which a consultant endocrinologist or diabetologist would visit participating practices to discuss their more difficult cases in the hope of improving care for those people and also of avoiding likely referrals to the outpatient clinics at the hospital. The individuals would not be present at the clinics and education would be delivered around the cases discussed.

This article explains the methodology and presents the formal evaluation of the pilot.

The aims of the VC were:

- To break down real and perceived boundaries between primary and secondary care.
- To facilitate discussion about existing secondary care patients in between their appointments.
- To provide educational input to practices.
- To increase secondary care knowledge of the workings and personnel involved in local primary care.
- To facilitate the provision of care to people with diabetes continuing in primary care for as long as it remained practical and safe.
- To rationalise and triage referrals from primary into secondary care.

Methods

Four practices in SWL were recruited to take part. Funding for the consultant's time was provided by Wrexham Local Health Board (WLHB) at a cost of one session per VC and each participating practice received two visits, 4 months apart. Any members of the healthcare team within the practices were invited to attend and to submit cases for discussion. Discussion was on an anonymous basis unless the individual was already known to the consultant. It was anticipated

Steve Stanaway is Consultant Endocrinologist, Wrexham, and Clinical Director of the South Wrexham Locality of the Betsi Cadwaladr University Health Board (Eastern Division).

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1. For governance purposes, responsibility for acting or not acting on the advice given at a virtual clinic (VC) was retained by the GP unless a formal referral to the outpatient clinic ensued. This was agreed at the start of the project.
2. Evaluation of the project was in three parts:
   1. To explore whether the VC would help avoid or create referrals.
   2. To explore the usefulness of the VC as a communication and educational tool to participating professionals.
   3. To explore the time efficiency of VCs.
3. Evaluation forms were formulated and filled in by each healthcare professional attending the meetings.

that the majority of cases discussed would be regarding diabetes management and this proved correct, although endocrine or potential endocrine cases were also welcomed. The consultant could also take along cases that would benefit from discussion between appointments in his clinic but these cases did not appear in the final analysis. Each practice could request a subject update presentation in advance to take place at the end of the VC if they thought it would be of benefit.

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To evaluate how many referrals were created or avoided, the forms contained anonymised data about the advice given for each patient and this was to be filled in by the person responsible for submitting that individual to the VC. Each patient discussed was also "graded" on a scale of 1–5 by the GP for the likelihood that they would have been formally referred to the outpatient clinic had the VC not occurred (1 = referral was extremely unlikely; 5 = referral was otherwise certain).

Data were also collected on whether referral had actually taken place in order that a reasonable assessment could be made on the number of referrals avoided by the VC and also the number created. Individuals scoring 4 or 5 – not subsequently referred as a result of their discussion at the VC – were classed as "referrals avoided". Those scoring 3 or below who were subsequently referred were classed as "referrals created". It was not known at the start of the project if more referrals would be created or avoided.

Usefulness to the participating professionals was assessed by the use of simple analogue scores on level of agreement with certain statements about the project. There was also the opportunity on the evaluation form to write free-text comments.

The consultant kept a careful time log for each VC to evaluate the efficiency of this way of working.

Table 1. Summary of virtual clinic (VC) cases.

Location	Surgery A		Surgery B		Surgery C		Surgery D		Total
	Visit 1	Visit 2	Visit 1	Visit 2	Visit 1	Visit 2	Visit 1	Visit 2	
Duration (mins)	120	165	90	80 (incl. update talk)	135	120	120	80	**910** (1150 incl. travel)
Total number of cases	19	17	11	5	5	11	9	8	**85**
Number of cases already in secondary care	6	3	1	0	0	0	2	1	**13**
Number of new cases discussed	13	14	10	5	5	11	7	7	**72**
Number of new cases scoring 4 or 5 (high risk of referral)	4	4	2	2	1	3	2	2	**20**
Number of new cases scoring 4 or 5 subsequently referred	2	1	1	0	0	2	0	2	**8**
Number of new cases scoring <3 subsequently referred (i.e. "referrals created" by VC)	0	0	0	1	0	0	0	0	**1**
Number of cases scoring 4 or 5 not subsequently referred (i.e. "referrals avoided" by VC)	2	3	1	2	1	1	2	0	**12**

Results

Exploration of whether VCs avoided or created referrals, and their time efficiency, are summarised in *Table 1* and *Box 1*, respectively.

Exploration of usefulness of VCs as a communication and educational forum

For questions 1–3 (below) only the responses of the practice staff have been analysed (1 = complete non-agreement; 5 = total agreement).

- Question 1: This VC has helped me to break down real and perceived barriers between primary and secondary care. Number of people answering this question, 25; mean score, 4.6 (out of 5).
- Question 2: This VC has facilitated better communication between primary and secondary care practitioners. Number answering, 25; mean score, 4.6.
- Question 3: This VC has improved my knowledge of this particular disease area. Number answering, 20; mean score, 4.5.
- Question 4 (visiting consultant only): This VC has improved my knowledge of the management of people within this disease area in primary care. Number of answers, eight (one answer for each VC attended); mean score, 4.5.

Discussion

This small pilot study has demonstrated a number of things. Most easy to conclude is the fact that healthcare professionals enjoy and benefit from close communication across traditional boundaries. The question about "real and perceived" boundaries was carefully worded to allow the participants to put their own subjective boundaries to this test of strength given this new way of working. Also, although not directly measured in this project, it is likely that diabetes care benefits from this enhanced cooperation, at least in the short term.

Education during the VCs was extremely valued. Each case had an educational point which could be expended on at length as appropriate. Typical subjects for discussion were new diabetes therapies, the treatment of obesity, mechanisms of insulin resistance, diagnosis of diabetes and insulin regimens.

Each practice was offered an educational update talk by the consultant at the end of each VC but only one offer was taken up (Surgery B, visit 2) due to the low number of cases identified for discussion. Only a small number of patients were discussed at the first visit to Surgery C, as the practice staff had not fully understood the nature of the visit. Each was discussed at length to form the basis of five impromptu educational sessions on various points regarding diabetes management.

Efficiency is harder to quantify. This format clearly allows discussion and decision-making for a large number of people quickly, whether they are new to the consultant or already known to them. The numbers of people discussed varied widely between practices (which were all of a similar size), largely due to the participating GPs and practice nurses struggling to identify suitable cases ready for the VC. Discussion with the GPs revealed that this was a combination of them initially not fully appreciating what would be a suitable case and, where the remit was appreciated, actually finding suitable cases to be discussed at that time of the clinic. One GP commented that she was effectively "hanging on" to cases ready for the day so there would be a reasonable number to discuss rather than phoning or emailing or writing for advice earlier.

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Box 1. Exploration of the time efficiency of virtual clinics (VCs).

- Total time spent consulting: 910 mins (15 hours 10 mins).
- Mean duration of VC: 113 mins.
- Mean travel time (there and back) for each clinic: 30 mins.
- Total time spent travelling during pilot to eight VCs: 240 mins.
- Total consultant time involved in VC pilot: 910 + 240 mins = 1150 mins.
- 85 cases discussed in a total of 1150 mins. Majority of cases new (72/85; 84%).
- Eight new cases clearly needed referral, taking a total of 20 mins to discuss (max), leaving 1130 mins to discuss the remaining 77 cases = 14.7 minutes each.
- 11 cases discussed avoided referral, saving a net of (50*–14.7) × 11 = 388 mins; *50 mins = approximate time for a consultant to process, see and organise paperwork on each new referral coming into the oupatient department).
- Net use of time for remaining 66 cases: 1130–388 mins = 742 mins.
- Net mean time per case discussed: 742/66 = 11.2 mins.
- Approximate cost of 50 minutes of Welsh consultant time (time to see new referral): £39.00 compared with the approximate cost of 11 minutes of Welsh consultant time (time to discuss the same patient in VC): £8.50. Please note these figures are based on sessional rate of £175 and no account is made here for GP time or clinic staff/secretarial time in the outpatient department.

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2. Selection of specialty for this kind of pilot is also key. Diabetes and endocrinology lends itself well to work performed in the absence of the individual with the condition.
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and it is notable that this pilot was carried out in a small rural area with the maximum distance between the local acute trust and the practice being 13 miles. Travel time could be widely different for other practices particularly on this patch of North Wales where some practices are up to 90 minutes from the consultant's base.

This project does not evaluate the time efficiency of the project from the point of view of the GP. There is a time commitment in organising the cases for the clinic and then in going back and instigating any advice that is forthcoming. The practices held these clinics in their own administrative or educational time and there was no payment for this as the visit of the consultant was deemed as a free, temporary service to them. It was considered whether practices could amalgamate for the purposes of a VC, with each bringing their own cases, but this would prove difficult as the ongoing use of the in-house IT systems to look up old results and communications was essential to the running of the VCs.

Selection of specialty for this kind of pilot is also key. Diabetes and endocrinology lends itself well to work performed in the absence of the individual with the condition. Many clinical decisions are based essentially on the results of blood and urine tests rather than actual symptoms and physical signs. For this subject, the time efficiency calculations would appear to show that this is potentially a very efficient way for a consultant to operate alongside his or her usual work. Run over a bigger area it may have become possible to measure a significant dip in referral numbers sufficient enough to start thinking about freeing up consultant resource to develop other services. As this pilot did not perform long-term evaluations it is not possible to state whether or not referrals were actually avoided completely or just delayed.

Other medical specialties would not be as appropriate as diabetes and endocrinology for obvious reasons. The pilot was originally designed to also run with a respiratory consultant visiting the same practices on different days but this collapsed due to unanticipated staff changes within the respiratory department. Initial comments from the three respiratory VCs that were held were that this specialty appeared more difficult to slot into the VC format.

Clinical governance and accountability is essential in any project such as this. In this project the consultant relied on the GP taking appropriate note of the advice being offered. Also, as always, advice was completely dependent on the information given initially about a case being accurate and complete. This is no different than the situation arising when a consultant gives advice over the telephone to a GP colleague, and the VC does at least allow for the consultant to make his or her own record of the discussion. Trust between healthcare professionals is thus very important in these scenarios.

Conclusion

A new way of working between primary and secondary care for an important chronic disease area has been explored and evaluated. There are clearly pros and cons to this methodology but it is also clear that, done properly, this offers a potential way forward as an assist to diabetes management in particular. It is also a "real world" educational tool based on true-life clinical scenarios. The scenarios can be noted down and then used as "grey cases" to both trainee specialists and generalists to see how their answers compare with those of the consultant.

The offer of an educational update was not taken on most occasions as discussions of the cases, however few, were so extensive. In future, time allocation could be improved to always leave a gap for a formal lecture at the end of the clinic on a pre-agreed subject and this may enhance the educational experience further. Time spent in a VC can easily be counted towards GP appraisal and revalidation. Working across primary and secondary care boundaries also provides increased numbers and diversity of 360 degree appraisers for all parties involved.

Ways would need to be found to incorporate a service such as VCs, however infrequent, into consultant job plans, although GPs could use this approach as part of their formal protected educational time. ■

Primary & Community Services Assurance Board (2009) *Setting the Direction: Primary and Community Services Strategic Delivery Programme.* Welsh Assembly Government, Cardiff