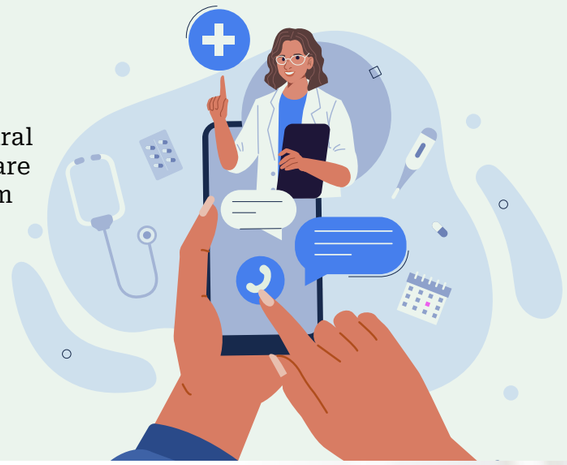
Back to work

A solution to the shortfall in diabetes care in the USA

- In the United States there is a shortage of endocrinologists to treat and advise patients with diabetes mellitus.
- Additionally, many patients with diabetes live in rural communities with little or no access to the healthcare they need to avoid the complications that arise from poorly managed diabetes.
- Richard Santen, MD, of the University of Virginia believes he may have a solution to this problem: telemedicine.
- Santen proposes getting retired endocrinologists back to work, but this time with telemedicine and over the phone.



The widely reported obesity epidemic in the USA is paralleled by increasing rates of obesity-related diseases such as diabetes mellitus type 2. The treatment and management of diabetes is led by endocrinologists, who specialise in the role of insulin in the body, but the country is now facing a shortfall in the number of these specialists compared with the number of patients in need. In this interview we learn more about a solution for this shortfall suggested by Richard Santen, MD, at the University of Virginia School of Medicine, USA. Santen has suggested that retired endocrinologist colleagues are perfectly placed to provide telemedicine support to patients with diabetes. This flexible approach which would not only suit retired doctors (who would prefer less hours) but could also reach lower income, rural communities who currently have difficulties accessing this care.

Hi Richard. Please could you tell us a bit more about the origins of the 'reboot' project and why you think retired endocrinologists can help?
It occurred to me when I was preparing for my own retirement half a decade ago. Diabetes is an ever-increasing burden on the healthcare system in the United States, with rates of the disease increasing year on year. There is a particular gap in the care for people in financially challenged rural areas as well; places that are massively underserved in terms of healthcare. I wondered if it might be possible for me, and others like me, to provide care and education on self-management for patients in this situation in some way. It seemed like a win-win; patients would have a better quality of life, with reduced risk of diabetic complications, and there would be a lessened need for input from the patient's primary care provider (PCP).

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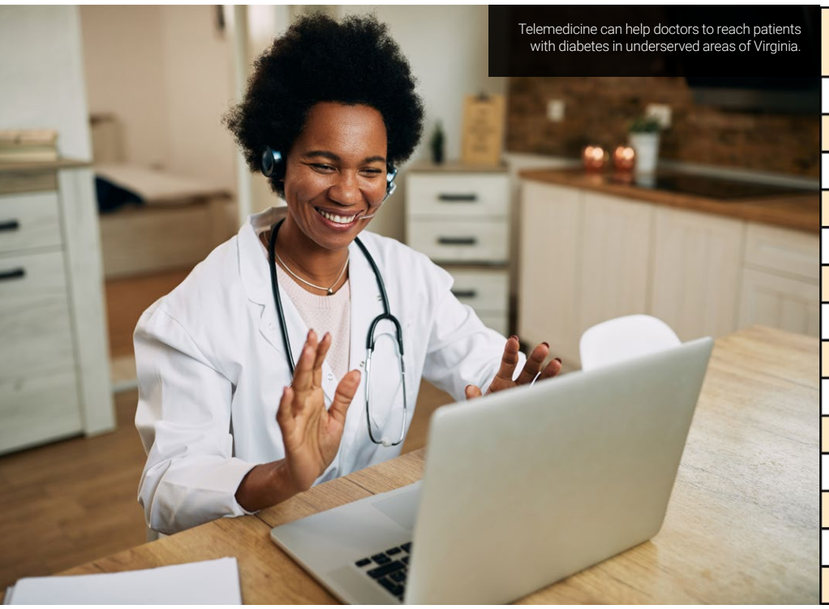
The key to the project is the opportunity presented by the advent of telemedicine (a phenomenon which already existed, but which has boomed globally since the COVID-19 pandemic). By phone and online, we had the potential to reach these 'hard to reach' patients, while also retaining autonomy and flexibility ourselves. It would, I thought, be possible to assess patients over the phone, and then educate them on ways of managing their glucose levels in this way as well. I wouldn't need to give more than a few hours a week, but that time might have a real and positive impact. I would still be able to carry out my retirement plans to travel, nationally and internationally, because my patients could be reached remotely as long as I had an internet connection. And because retired doctors such as myself already have a pension, fees are not so much of a motivator, meaning we really can help those in financial need.

Do you believe telemedicine can replace face-to-face contact in this field?
I do! First of all, the reality is that in some of these rural areas where unemployment is high, a lack of transport and distance to medical centers means that patients aren't seeing healthcare providers face-to-face anyway. I believed it would be possible to deliver an intensive education in glucose management strategies (such as additional glucose lowering agents, frequent glucose testing, nutrition and programs for weight reduction) over the phone. In most cases, the patient records kept by PCPs (including history, imagery, and physical examination)



Telemedicine can help doctors to reach patients with diabetes in underserved areas of Virginia.

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are sufficient enough that I did not need to make a physical exam myself in order to proceed.

Quite apart from being possible, conducting appointments over the phone like this allows for more regular contact with patients, the opportunity to work with a greater number of patients, and it costs less.

How did the program you set up actually run day to day in Virginia?
I initially proposed a six-month trial to six clinics in rural Virginia; five signed up to the program. The average income in the chosen areas was lower than the state average, and all of the clinics were funded by the federal government.

The patient process was as follows. The PCP would refer patients with uncontrolled diabetes to the endocrinologist (myself) for evaluation, providing us with the patient's medical records as well. I would then spend around 45 minutes with the patient via telemedicine making sure I had a detailed enough history and checking through the physical exam, imagery, and lab data. Patients were asked to take their blood glucose levels four times a day, and I would arrange to have them call me once a week at a specific time. A detailed record of this was then prepared and sent back to the clinic. Once treatment recommendations have been made, the clinic nurse specialists can discuss this with the PCPs and arrangements for any new/different medication can be made.

> **I genuinely believe that this presents a rewarding opportunity for retired endocrinologists like myself.**

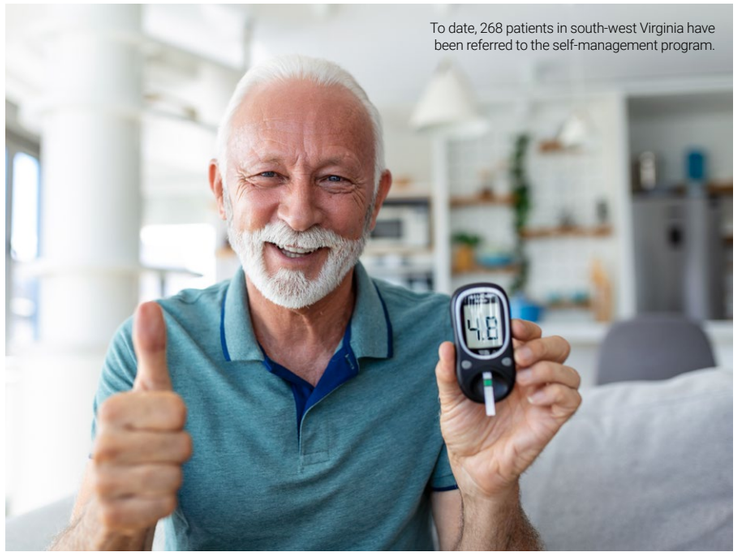
The weekly calls typically lasted around ten minutes, and allowed us to make quick alterations to medication in response to changing blood sugar levels, improving management of the condition. It is brilliant to hear patients appreciating their blood sugar levels improving as they get their diabetes under control.

How successful do you think the project has been? What lessons did you learn?
Following on from the initial six-month trial, we have now been facilitating this program for over five years. In that time, we have had 268 referrals, with 50 patients currently enrolled, and 139 who completed it with a reduction in glycated haemoglobin (an indicator of blood sugar levels). Follow-up of these patients found that in the six to 18 months after the program, most maintained their blood sugar levels. While we did see further improvement in some patients (and a slight deterioration in others) no patients regressed to their baseline levels. I would call this a success! Most importantly, I think we have established a workflow that is efficient and easily replicated elsewhere. Armed with this template, I hope we will be able to tempt more endocrinologists out of retirement!

The last five years have taught us some valuable lessons, one of the key ones being that management of diabetes is a team effort. A program like this needs to be cross-disciplinary and supported by the clinic staff, PCPs, and many more people in order to work. The complexity of the communication systems and data sharing between all parties should not be underestimated. There is some key equipment necessary to make the program possible, including a dictation system to allow the endocrinologist to prepare patient notes promptly and easily.

We did also encounter issues that needed solving along the way. Initially we were frustrated by patients who missed repeated phone calls by their endocrinologist; our solution was to give them a specific appointment time and to ask them to ring us. Patients were told that if they missed three calls we would assume they were no longer interested in taking part, and would be removed from the program. We also struggled in some cases to get patients to meet weight loss targets set at initial consultation. To resolve this, we are now utilising meal replacements in selected patients.

What are your future plans for the program?
I think we have a template now that can realistically be rolled out to other rural, underserved areas, and on a bigger scale. I genuinely believe that this presents a rewarding opportunity for retired endocrinologists like myself. I have already recruited two experienced colleagues who are willing to work on similar projects, and my aim is ultimately to bring more doctors to the program so that more patients can benefit from the expertise we have amassed over our careers!



To date, 268 patients in south-west Virginia have been referred to the self-management program.

The program involves intensive glucose management strategies.

Details

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Bio

Dr Richard Santen is professor emeritus in the Division of Endocrinology, University of Virginia School of Medicine. He is a past president of the Endocrine Society and has received the Koch award of that society in recognition of lifetime achievement. On his partial retirement five years ago, he began the diabetes self-management program.

Funding

- Main Street Program, University of Virginia
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Collaborators

- Ms Cindy Cunningham, CDCES
- Ms Carla Horton, CDCES
- Dr Ralph Nass

Further reading

Santen, RJ, et al (2023) Intensive, telemedicine-based, self-management program for rural, underserved patients with diabetes mellitus: Re-entry of retired endocrinologists into practice. *Journal of Telemedicine and Telecare*. 29(2):153–161.

Santen, R, (2022) Re-entry of retired endocrinologists into practice: Role of telemedicine for patients with diabetes mellitus in rural, financially challenged, underserved areas. *Trends Telemed E-Health,* 3(2).

Santen, RJ, (2022) Need for navigators for care of patients with diabetes in rural, underserved areas. *Trends Telemed E-Health*, 3(3). 000563.