Enhancing service quality for stable HIV patients through nurse-led, technology-enabled annual review clinics

Findings from a quality improvement initiative

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This project was undertaken as a Joint Working Agreement between ViiV Healthcare and Chelsea and Westminster Hospital NHS Foundation Trust

Background

Situation

- HIV management has advanced significantly in recent years (1)
- Stable patient cohort now represents a significant proportion of the total patient population for many HIV centres (2)
- Centres may need to transform from places providing acute care to services managing people living with long-term conditions
- Kobler clinic, Chelsea and Westminster Hospital NHS Foundation Trust (CWFT), cares for an estimated 6,000 patients considered "stable" (3). See box one for stable patient definition
- Kobler clinic team partnered with ViiV Healthcare's innovation unit, 'the hive', to design a solution that aimed to transform the stable HIV positive patient outpatient pathway by:
    - Improving quality health outcomes
    - Enhancing patient interactive experience
    - Providing a sustainable and cost efficient care model that ensures patients are seen by the right person at the right time, according to their complexity
- Solution was designed with significant stakeholder involvement (staff and patients)
- Table one represents features of the outpatient pathway before and after solution implementation
- Solution was piloted with 92 patients over an eight-month period in 2018 and evaluated for outcome signals

Features of previous outpatient pathway for stable patients	Features of service solution
Consultant-led care	Band six nurse-led delivery of care, supported by Consultant
Multiple IT systems	Single web-based platform to: carry out/capture comprehensive consultation; provide summary of care; communicate with GP
Designated call centre for patients to make appointments	Patient smart phone application containing online booking and appointment rescheduling functionality
Two visits per patient review: blood test followed by consultation two weeks later	Single patient visit with combined blood test and consultation appointment ("annual review")
Patient attendance at clinic for blood results	Remote SMS results notification

Table one. "Before and after" features of stable patient care at Kobler clinic

Evaluation design

Audit data, survey data and thematically analysed qualitative data were used to explore the objectives outlined in table two. Patient sampling approach for pilot participation is described in box one.

Area of enquiry	Objective
Patient-related	Understand patient satisfaction with the pilot service
	Identify factors that impact patient willingness to continue receiving care through the pilot service
Service-related	Understand how application of solution principles within a coherent service may affect service outcomes

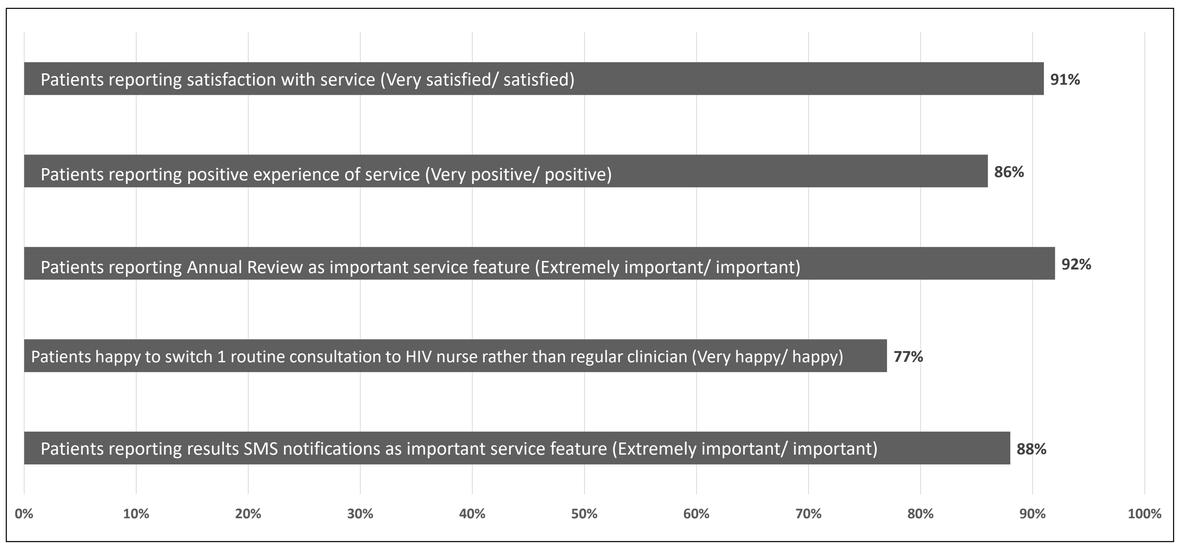
Table two. Areas of enquiry and objectives associated to service evaluation

- Stable patient lists at Kobler clinic were reviewed to identify clinically appropriate patients for the pilot service and screened according to HARS/WHO criteria, which includes virally suppressed patients who are adherent to ART with no active significant co-morbidities (4)
- Eligible patients were approached by telephone to discuss participation and therefore sampling was convenient in nature
- 218 patients answered recruitment calls and 149 expressed interest in the pilot service
- Patients consenting to proceed were registered for the stable patient service and provided with information to download the mobile application, book and proceed to their appointment. 92 patients completed these steps
- Pilot participants were 98% male, 2% female; mean age = 50 years
- All patients were sent an evaluation survey when they completed the pilot pathway. The survey was optional to complete (43/92 response rate)
- Patient survey was supplemented with 30 minute interviews that patients opted in to (data saturation reached at 13 interviews)

Box one. Patient data collection approach

Results: patient-related

Patient satisfaction



Graph one. Patient satisfaction data from patient survey (n=43)

Patient willingness to continue with the service

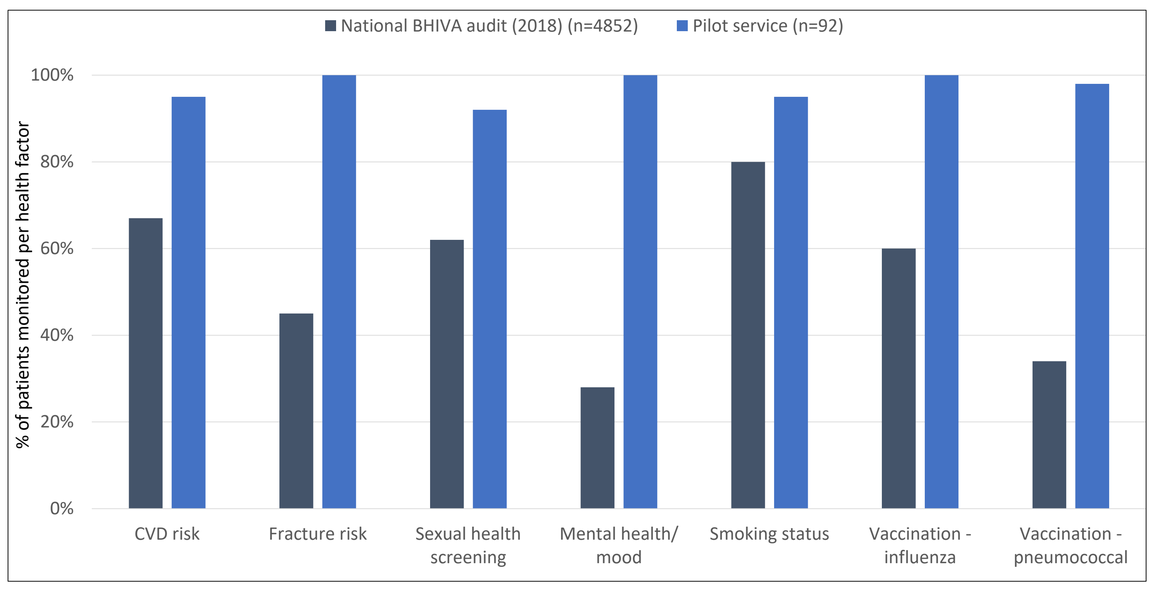
84% of patients expressed intention to opt-in to a service similar to the pilot (definitely / likely).

Key issues mediating patient acceptance of the service were:

- User-experience of the technology
- Expectations towards technology functionality
- Concerns regarding data privacy
- Concerns regarding future access to regular clinician
- Perceived effort required to develop a relationship with a new clinician

Data suggest that information-provision may need to be enhanced for patients to support implementation beyond pilot period. Information should focus on three key time points: onboarding to the new service; deciding to "stick with" the new service; maintaining service use.

Results: service-related



Graph two. BHIVA monitoring audit data for broader health factors versus national audit

A BHIVA monitoring audit was conducted using the Annual Review patient records (n=92) to assess quality care indicators. Monitoring of broader health factors compared favourably to national BHIVA monitoring audit data (5). Examples are shown in graph two. Kobler monitoring performance was significantly improved with 55% aggregate improvement versus previous CWFT audit.

Efficiency and other service outcomes

The impact of the pilot service on a range of additional service outcomes (as defined by the AHQR domains of healthcare quality) (6) was also assessed. Example data are provided in table three.

"It was great to have a bit more time to talk generally about health and life. It also feels good knowing I've potentially released a slot with a Consultant for a patient with more complex needs as I'm stable on medication with low lifestyle complexity."

Patient quote

Efficiency	Cost	Patient-centredness
84%	**32%**	**96%**
Reduction in 'Did Not Attend' (DNA) rates versus general Kobler clinic rates in the same period (3% DNA in pilot service vs. 14% at Kobler clinic overall for April-October 2018 n=99/n=16815 respectively)	Cost reductions versus a consultant-led model of care (based on modelling data. Contains assumptions)	Patients reporting that their needs were fully or mostly met as assessed against five patient-centred outcome measures (7)

Table three. Service outcome data

Conclusions

1. Solution for stable patient management identified in this project translated to a service that effectively delivered high quality care and high levels of patient satisfaction
2. Technology-enabled clinical pathways can support the delivery, recording and demonstration of quality care
3. A nurse-led annual review for stable patients is acceptable to patients, supports the delivery of high quality care and has the potential to reduce costs for centres
4. New mechanisms that optimise interactions between patient and clinic are viewed positively by patients and have the potential to improve service efficiency
5. Stable patients are happy to receive nurse-led, technology-enabled care but have information needs regarding the service. These needs vary throughout their service experience

- Total number of patients participating in the pilot was relatively small and only 2% of participants were female: caution should be applied with generalisation
- Further work is needed to understand the suitability of this solution for managing a demographically diverse patient cohort
- Changes to outcome signals reported here are expected as the stable patient solution continues its implementation journey

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