## Digitally enabled patient-reported outcome measures in cancer care

Lauren Heathcote and colleagues[1] suggest that follow-up cancer care should go beyond clinical recurrence indicators by considering patients' symptoms. This can be done efficiently through the use of patient-reported outcome measures. They increase quality of life and survival[2] because clinicians address patients' needs in a tailored manner.

In patients with aggressive lymphoma, more relapses were detected from patient symptoms than by physical and biomedical examinations.[3] The low yield of clinical examinations in asymptomatic patients was also shown in germ-cell tumours.[4]

Digitally enabled patient-reported outcome measures can facilitate identification of relapse and provision of psychosocial care for the growing number of patients requiring follow-up. Patients with germ-cell tumours in our service wanted care that detected recurrence early, holistic monitoring, and management of treatment effects, with flexibility in timing.

After treatment, patients enter standard follow-up, which involves intensive surveillance that reduces treatment intensity and toxicity while ensuring quick access to curative treatment when necessary. For patients with germ-cell tumours, clinical investigations (ie, blood markers, X-rays) and symptom assessments are done during outpatient appointments. Our service caters for an average of 1250 appointments per year, which have a scheduled frequency that is based on risk-stratified algorithms.[5]

Building upon our centre's expertise in integrating patient-reported outcome measures[2] in clinical practice, we implemented a shared community follow-up model. Face-to-face appointments are replaced by scheduled, online patient-reported outcome measures, which are fed securely into the patient's hospital record. Patients monitor symptoms, and the oncology team monitors their status and acts or reassures as needed. When due, patients are reminded to report symptoms online and to organise blood and radiological work within a 2-week window at any competent provider (ie, primary health-care provider). Patient-reported outcome measures and clinical results are interpreted by the patient's oncology team.

Between 2015 and 2017, we implemented community follow-up alongside standard follow-up in our centre. We assessed uptake, safety, and satisfaction in consecutive patients using these services. Uptake of community follow-up doubled from 10% to 21%, online patient-reported outcome measures replaced three appointments per patient, non-attendance decreased, and more investigations were on time. During our service evaluation, we identified two people who had a relapse, one in each service. In community follow-up, the relapse was identified through tumour markers, and in standard follow-up it was identified through self-examination. Treatment commenced within a week for both patients. Patients who chose community follow-up were better educated, employed, and lived farther from the hospital than did patients who chose standard follow-up. Patients were equally satisfied with their follow-up choices.

Heathcote and colleagues recognise the challenges of interpreting patient-reported symptoms, advocating for patient education. Digitally-enabled patient-reported outcome measures guide this, informing educational needs for specific populations.

However, novel follow-up models warrant testing. Clinical trials and implementation research can describe where face-to-face follow-up remains necessary across clinical and geographical settings.

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