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## Introduction

As technologies improve and as our society as a whole becomes more comfortable using computers and other internet devices, there is the increasing potential in healthcare to use online platforms as a means of communicating and following-up with patients.

Such technologies could improve care for individual patients and could help identify treatments and techniques that have fewer long term side effects.

Currently, long term quality-of-life (QOL) related side effects associated with radiation therapy (RT) are consistently less documented than acute side effects, as it can be logistically difficult to continue to extended follow-up.

## Initiative Objectives

1. To develop a secure system to collect patient information online that can be 'pulled' to the secure intranet within the BC Cancer Agency (BCCA) and linked with identifiable information and accessible for study.
2. To assess whether an online questionnaire platform is an effective way to continue to collect QOL outcomes for patients two years beyond completion of treatment.

## The Web Application Flow of Information

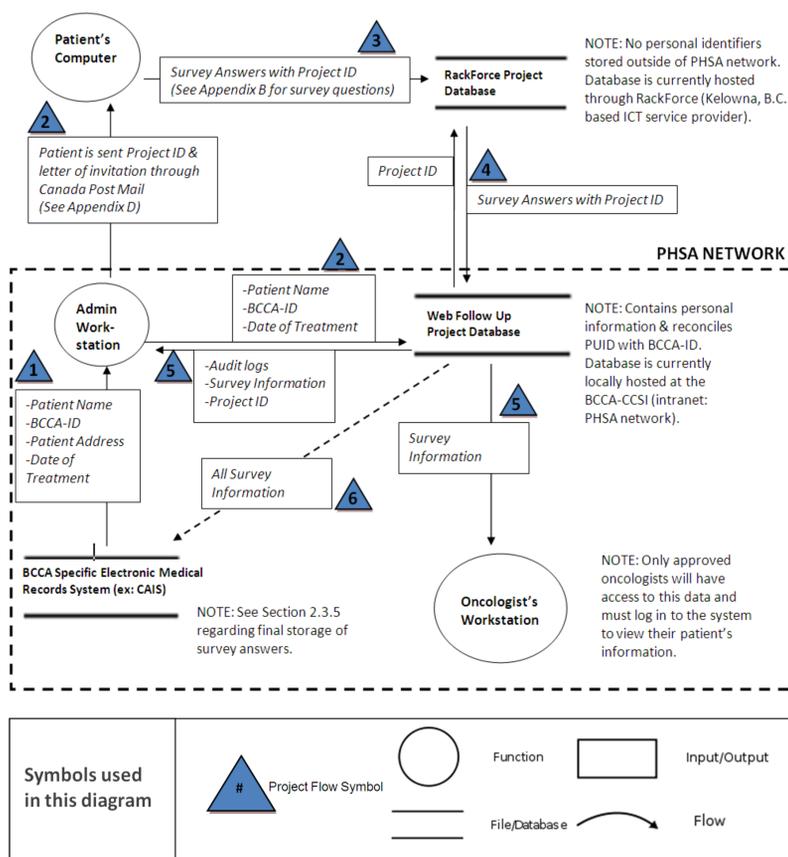


Figure 1: The design of the web follow-up system, which highlights the data flow of information.

## The Webfollowup Interface

### The Patient/Participant Platform:

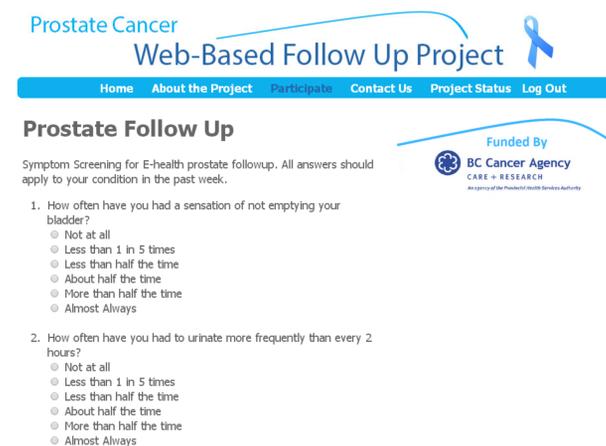


Figure 2: the participant logs into the system and completes the relevant QOL questionnaires.

### The Physician/Researcher Dashboard



Figure 3: A component of the researcher's dashboard. Within the secure BCCA intranet, the participant response data is automatically linked with identifiable and treatment-related information and accessible for study-approved personnel to view in a dashboard and analyze. The researcher can log on and view study summary results or individual participant results and data can also be extracted for integration into medical records or for further analysis.



## The pilot project assessing the Webfollowup system's potential in a radiation oncology setting

### Methods:

In January 2014, following approval from the institutional ethics board and a privacy impact and security assessment, all living individuals treated with RT for prostate cancer between 2007-2011 at the BCCA Centre for the Southern Interior, were invited by mail to participate.

They were provided with a study code that enabled them to log into the secure online platform which allows them to complete an IPSS (international prostate symptom score), SHIM (sexual health inventory for men) and EPIC Bowel questionnaire.

Preliminary participation results for the first four weeks of the study were extracted from the study dashboard and analyzed on February 19th, 2014.

**Preliminary Results:** 1052 individuals met the inclusion criteria and were invited to participate in the study.

The number of unique visitors viewing the site and a distribution of their demographic makeup and the survey completion response rate is displayed below.

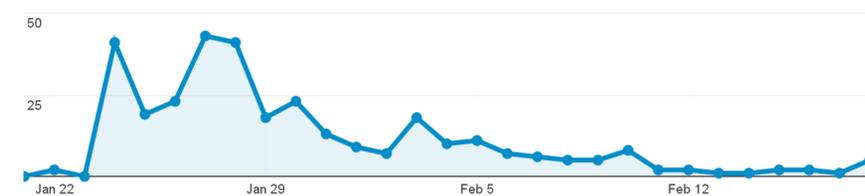


Figure 4: The number of unique visitors viewing the site by date since the mailing of letters.

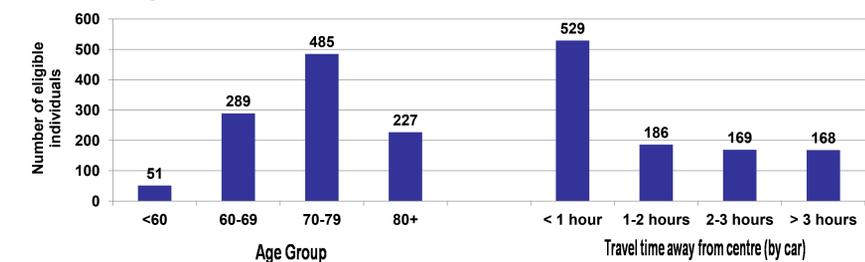


Figure 5: Age distribution and distribution of individuals invited to participate based on distance from centre.

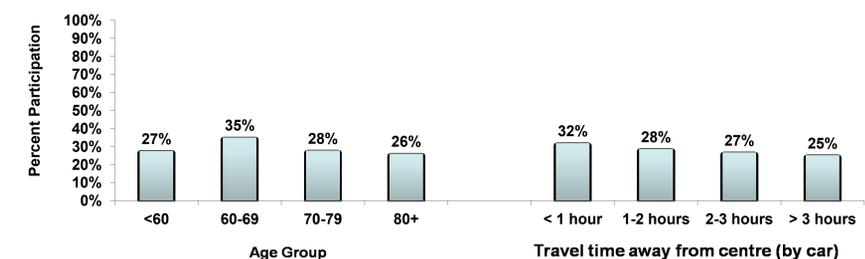


Figure 6: Response rate as of February 19th, stratified by age group and by distance from centre.

## Conclusion

We have developed and are currently piloting a secure platform for continued monitoring of health following treatment for cancer. Online follow-up systems like these have potential beyond monitoring quality of life for radiation oncology patients and could be integrated into other areas of health services provision.