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## Purpose

- GetCheckedOnline (GCO) is a virtual testing platform that allows users to test for sexually transmitted infections (STIs, including Chlamydia, Gonorrhoea, HIV, Syphilis and HCV) by creating their own lab requisition online, delivering specimens directly to a lab and retrieving results online.
- GCO's implementation has progressed in four phases: 1) planning and consultation (01/2010-12/2011); 2) development (01/2012-08/2014); 3) pilot implementation (09/2014-12/2014); and 4) expansion (01/2015-03/2020) to selected British Columbia (BC) communities and regional health authorities.
- The objective of this study was to estimate the costs of GCO implementation and the cost per STI test executed via GCO.

## Methods

- Micro-costing analysis was conducted from a health care system perspective.
- We estimated resource use in four categories for each fiscal year (FY):
  - Labour inputs (salaries plus benefits for medical and non-medical personnel)
  - Web services (software development, business analysis/user experience design, security and privacy assessments, hardware, laboratory costs)
  - Training and capacity building (training lab personnel, travel costs)
  - Promotion (campaign development, marketing, social media, advertisements, merchandise)
- Costs were annualized for equipment, services or other investments with a useful life longer than one year. All costs were presented in 2022 Canadian dollars.
- We calculated cost per STI test by:
  - Dividing costs in the four phases by total number of tests
  - Dividing costs in Phase 3 and 4 by total number of tests
  - Dividing costs in each FY in the last five FYs by their corresponding number of tests

There were no conflicts of interest.

## Results

**Table 1. Total costs (%) by category and phase**

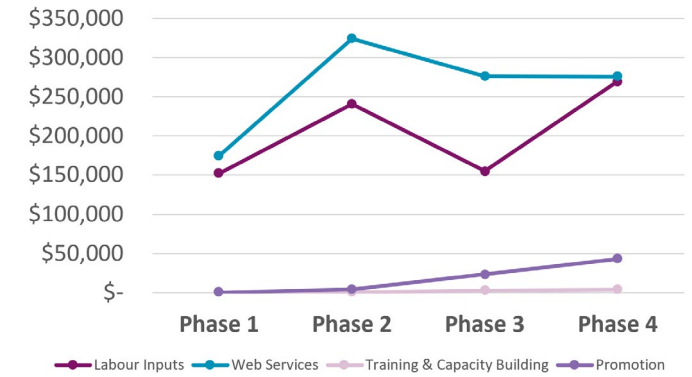
| Cost Category                | Phase 1 (Planning & Consultation) | Phase 2 (Development) | Phase 3 (Pilot Implementation) | Phase 4 (Expansion)  | Total Cost Per Category |
|------------------------------|-----------------------------------|-----------------------|--------------------------------|----------------------|-------------------------|
| Labour Inputs                | \$341,828.80 (47%)                | \$580,984.37 (42%)    | \$51,623.62 (34%)              | \$1,415,492.19 (46%) | \$2,389,928.98 (45%)    |
| Web Services                 | \$391,747.94 (53%)                | \$783,899.39 (57%)    | \$92,046.29 (60%)              | \$1,448,264.53 (47%) | \$2,715,958.16 (51%)    |
| Training & Capacity Building | \$0 (0%)                          | \$1,006.06 (0%)       | \$804.85 (1%)                  | \$19,750.59 (1%)     | \$21,561.49 (0%)        |
| Promotion                    | \$0 (0%)                          | \$9,787.73 (1%)       | \$7,830.19 (5%)                | \$225,227.53 (7%)    | \$242,845.45 (5%)       |
| <b>Total</b>                 | <b>\$733,576.74</b>               | <b>\$1,375,677.54</b> | <b>\$152,304.95</b>            | <b>3,108,734.84</b>  | <b>5,370,294.07</b>     |

**Table 2. Number of tests conducted via GCO**

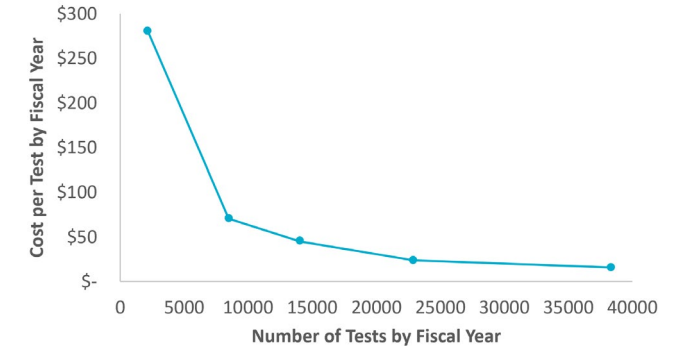
|                                      | Sep 2014 - Mar 2015 | FY2016          | FY2017         | FY2018         | FY2019         | FY2020         |
|--------------------------------------|---------------------|-----------------|----------------|----------------|----------------|----------------|
| Chlamydia (CT)/Gonorrhoea (GC) urine | 37                  | 648             | 2,313          | 3,877          | 6,439          | 10,211         |
| CT/GC rectal swab                    | 0                   | 49              | 507            | 864            | 1,277          | 1,949          |
| CT/GC throat swab                    | 0                   | 54              | 662            | 1,075          | 1,816          | 5,171          |
| Hepatitis C                          | 9                   | 175             | 564            | 853            | 1,250          | 1,852          |
| HIV                                  | 34                  | 619             | 2,209          | 3,668          | 5,990          | 9,484          |
| Syphilis                             | 34                  | 618             | 2,222          | 3,707          | 6,118          | 9,657          |
| <b>Total number of tests</b>         | <b>114</b>          | <b>2,163</b>    | <b>8,477</b>   | <b>14,044</b>  | <b>22,890</b>  | <b>38,324</b>  |
| <b>Cost per test</b>                 | <b>-</b>            | <b>\$279.74</b> | <b>\$70.53</b> | <b>\$45.04</b> | <b>\$23.85</b> | <b>\$16.00</b> |

- A total of 86,012 STI tests were completed during Phases 3 and 4 (Table 2).
- The cost per STI test was:
  - \$62.44** (Phase 1-4 costs/total number of tests)
  - \$37.91** (Phase 3 & 4 costs/total number of tests)
  - \$16.00** (FY2020 costs/number of tests in FY2020): The cost per test decreased as the number of tests increased over time in the last five FYs (Table 2 and Figure 2).

**Figure 1. Average yearly cost by category and phase**



**Figure 2. Cost per test vs. the number of tests (FY2016-FY2020)**



## Conclusions

- Feasibility in financing and implementing a web-based STI testing program**
- Providing individuals with a convenient and discrete option to access STI testing**
- Substantial economies of scope and scale**
- Informing further studies in the incremental value and sustainability of the GCO program and its implementation in other settings**