The COVID-19 Vaccination Reconciliation Automation bot for primary care uses robotic process automation (RPA) to automatically update patient files in primary care electronic medical records (EMRs) based on information from vaccination status reports, increasing efficiency in primary care by reducing repetitive administrative tasks required to update patient charts.

## Background

COVID-19 vaccinations are provided across many clinics in Canada and patients are encouraged to be vaccinated. Being fully vaccinated provides several benefits, such as prevention against the variants of the COVID-19 virus, and prevention against severe illness, hospitalization and death resulting from COVID-19 (1). Within the current process, primary care practices manually update vaccination records based on patient and public health reported information, which is tedious and time-consuming. Updated vaccination records can help identify individuals who are experiencing vaccine hesitancy and can also keep track of any adverse reactions to vaccines, in addition to where and when the vaccine was administered.

To address the need for updating COVID-19 vaccination records in primary care, while reducing administrative burden for clinicians, the eCE Automates team at the eHealth Centre of Excellence has produced an RPA solution. RPA utilizes a combination of workflow, rules, and "presentation layer" integration within the EMR with its own user ID to action requests independently and can be designed to conduct tasks such as updating the EMR, test ordering, repeating prescriptions, check-ins and bookings, telehealth and telemedicine, and much more (2,3). Using RPA capabilities, eCE Automates has created a COVID-19 Vaccination Reconciliation Bot, known as Bernie, that updates primary care patient records based on the COVaxON vaccination database (Figure 1). This case study focuses on the New Vision Family Health Team and their experience with the Bernie COVID-19 bot.

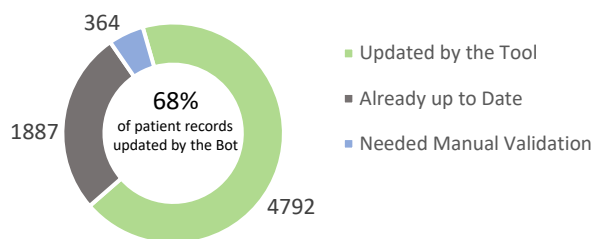**Figure 1: How does the Bernie COVID-19 Bot Work?**
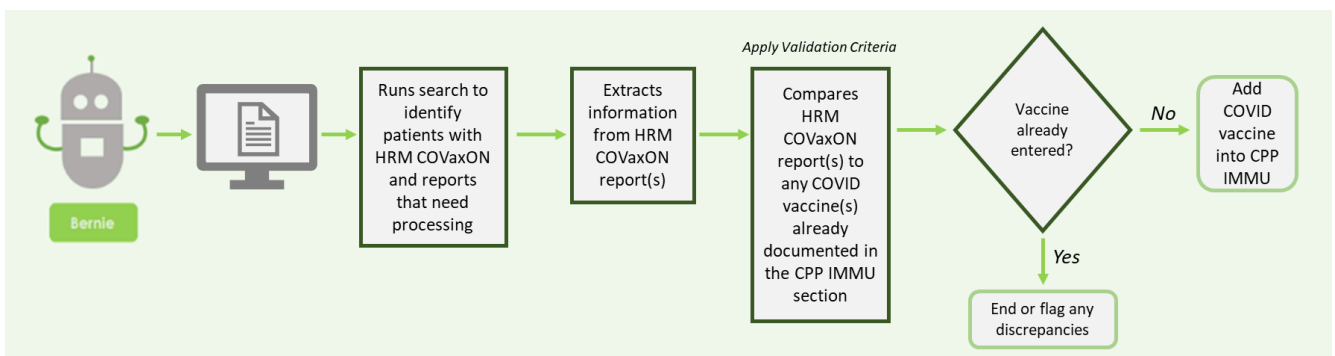


We really found the COVID vaccine bot seamless and helpful. The influx of messages regarding COVID vaccines was overwhelming, and we were trying to input them into our patient profiles manually. We got the bot set up easily and it did the work for us. We have run it a couple of times and didn't notice any issues with it slowing down our server. We are really happy with it.

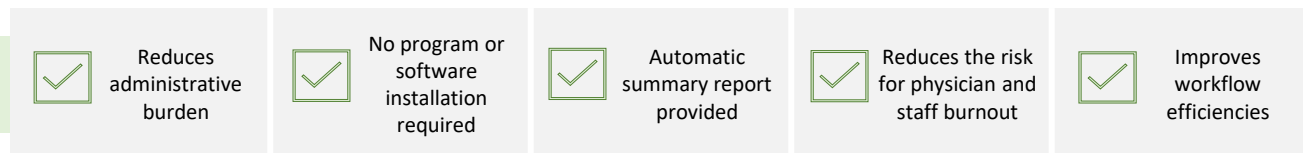Dr. Sarah Gimbel, Family Physician, New Vision Family Health Team

## Impact at New Vision Family Health Team

An analysis of the data from the New Vision Family Health Team, including 13 family physician records, from December 2021 to December 2022, illustrated that 7043 patient records were processed using the COVID-19 Vaccination Reconciliation Bot. This analysis demonstrated that 68% of all patient records were updated with current vaccination status in the EMR, reducing administrative workload for the family health team.

**Figure 2: Patient Records Updated Using the Bernie COVID-19 Bot at NVFHT (N=7043)**

364

68%
of patient records
updated by the Bot

1887

4792

- Updated by the Tool
- Already up to Date
- Needed Manual Validation

**Figure 3: Benefits of the COVID-19 Vaccination Reconciliation Automation Tool**

| ✓ Reduces administrative burden | ✓ No program or software installation required | ✓ Automatic summary report provided | ✓ Reduces the risk for physician and staff burnout | ✓ Improves workflow efficiencies |
|---|---|---|---|---|

## The Impact Across Primary Care Sites

Between the launch of the COVID-19 Vaccination Reconciliation bot in May 2021 and up to December 2022, **400 physicians** had signed up, and **54 sites** were enrolled with **over 200 000 patient records processed**. This bot was offered at no cost to the organizations, with no program or software installation required, and with minimal organizational server impact. The bot worked in the background, with no interference with day-to-day workflow, working efficiently and with a high degree of accuracy. This bot improved clinic workflows by reducing the number of hours spent on administrative tasks by physicians and staff. Additionally, the bot contributed to proactive care by flagging patients without vaccines or who could benefit from an additional assessment or vaccines. This enables staff to place their focus where it needs to be – on delivering high-quality patient care.

Use the QR code (below) to view a demo of our bot in action!

Bernie has also been used within diabetes care, where it can validate and generate a notification that a follow-up patient appointment is due based on the best practices for the management of diabetic patients. Bernie can search within the past 12 months to identify patients that meet the criteria for a diabetes management billing incentive. It will also find patients that have had a diabetic visit, but a diabetic management assessment was not billed. Although Bernie started with the COVID-19 vaccine and diabetes codes, it has the capacity to expand to other conditions.

If you have any questions or would like further information on this case study, contact
**communications@ehealthce.ca**.

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