Fighting the Flu
VCH Staff Influenza Vaccination

Presented to: Vancouver Coastal Health
Presented by: ABC-R Consulting
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Vancouver
CoastalHealth

Executive Summary

Objective	How can VCH leverage RPA technology to make the employee vaccination process more efficient?		
Key issues/ considerations	**Repetitiveness** and requires vast amounts of **manual labour**	**Over-reliance** on self reporting	**Inefficient data system** with multiple potential error areas
Recommendations	**Using RPA to make employee vaccinations a streamlined process**		
	RPA system that **eliminates repetitive tasks** and requires **minimal** manual labour	**Automatic** data entry, storage, and analysis	**Confidential, accurate, and efficient** system that addresses concerns of all stakeholders
Impact	Increase data accuracy, provides quantifiable data, such as error rates and vaccination rates, etc.	Highly efficient process, easier for vaccination staff and employees	Reduction of manual/repetitive tasks, integration is simple and long-lasting

Introduction   Analysis   Recommendation   Implementation   Impact

Key Issues

Reliance on self-reporting
inaccurate information inputted into VCH database

1

Extensive manual labour to input data multiple times
High risk for human error and overworked staff

2

COVID-19 program assistants working outside their original functionality
Misallocation of resources and system inefficiency

3

Introduction   **Analysis**   Recommendation   Implementation   Impact

Decision Matrix

	Long-term sustainability	Assistance to staff	Alignment with values	Accuracy with information
Current process				
Full automation				
Partial automation				
Paper scanning				
Voice-text feature				

Introduction **Analysis** Recommendation Implementation Impact

Our solution

A full digitization of the VCH employee vaccination process

Our Strategy:

SEA

Safe

Our system will **ensure data confidentiality** and **security** due to the highly sensitive content of the form
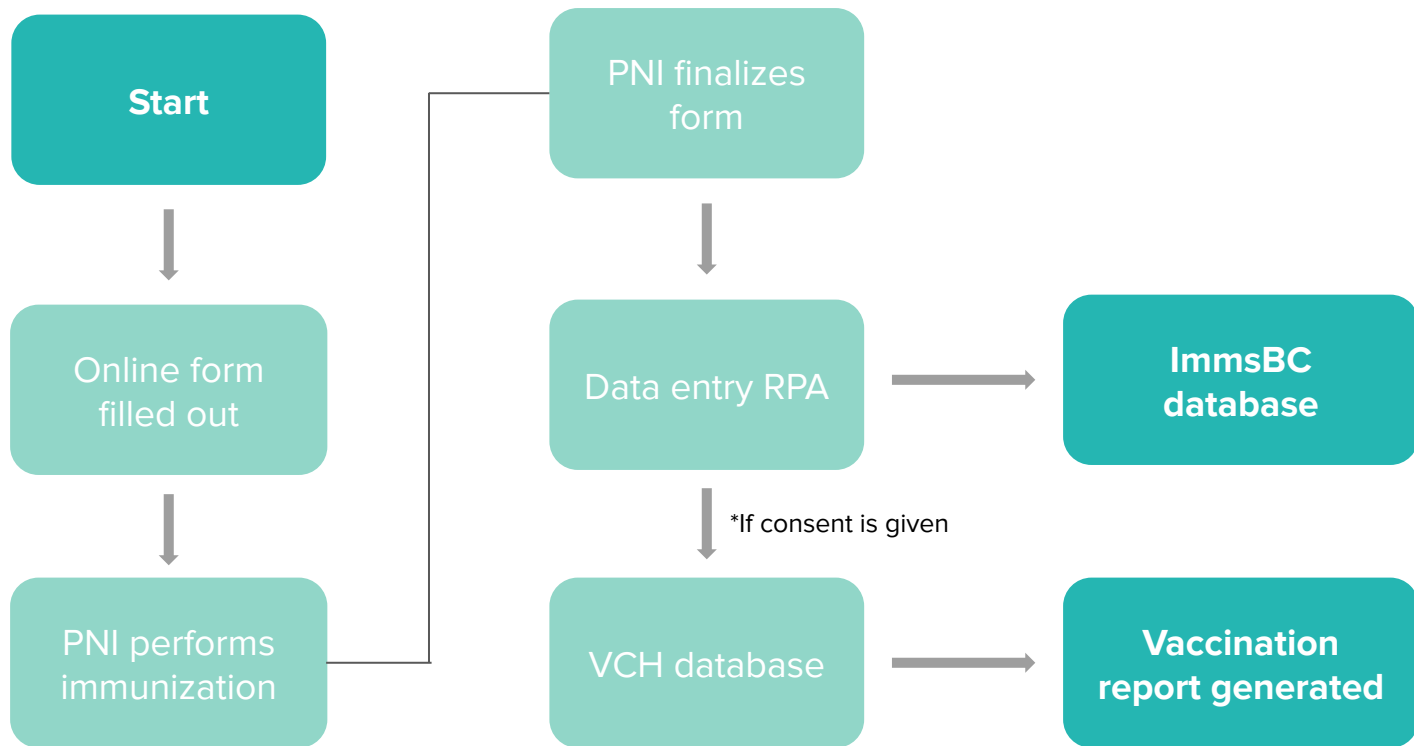
Efficient

Our system will **reduce human error** and **eliminate multiple data entry** points, streamlining the vaccination process

Accurate

Our system will be able to quickly **quantify impact** and be well integrated

Flow Chart

Start

Online form filled out

PNI performs immunization

PNI finalizes form

Data entry RPA → ImmsBC database

*If consent is given

VCH database → Vaccination report generated

Introduction   Analysis   Recommendation   **Implementation**   Impact

Prototype Demonstration

Automated Data Analytics Mockup

Percentage of VCH staff vaccinated
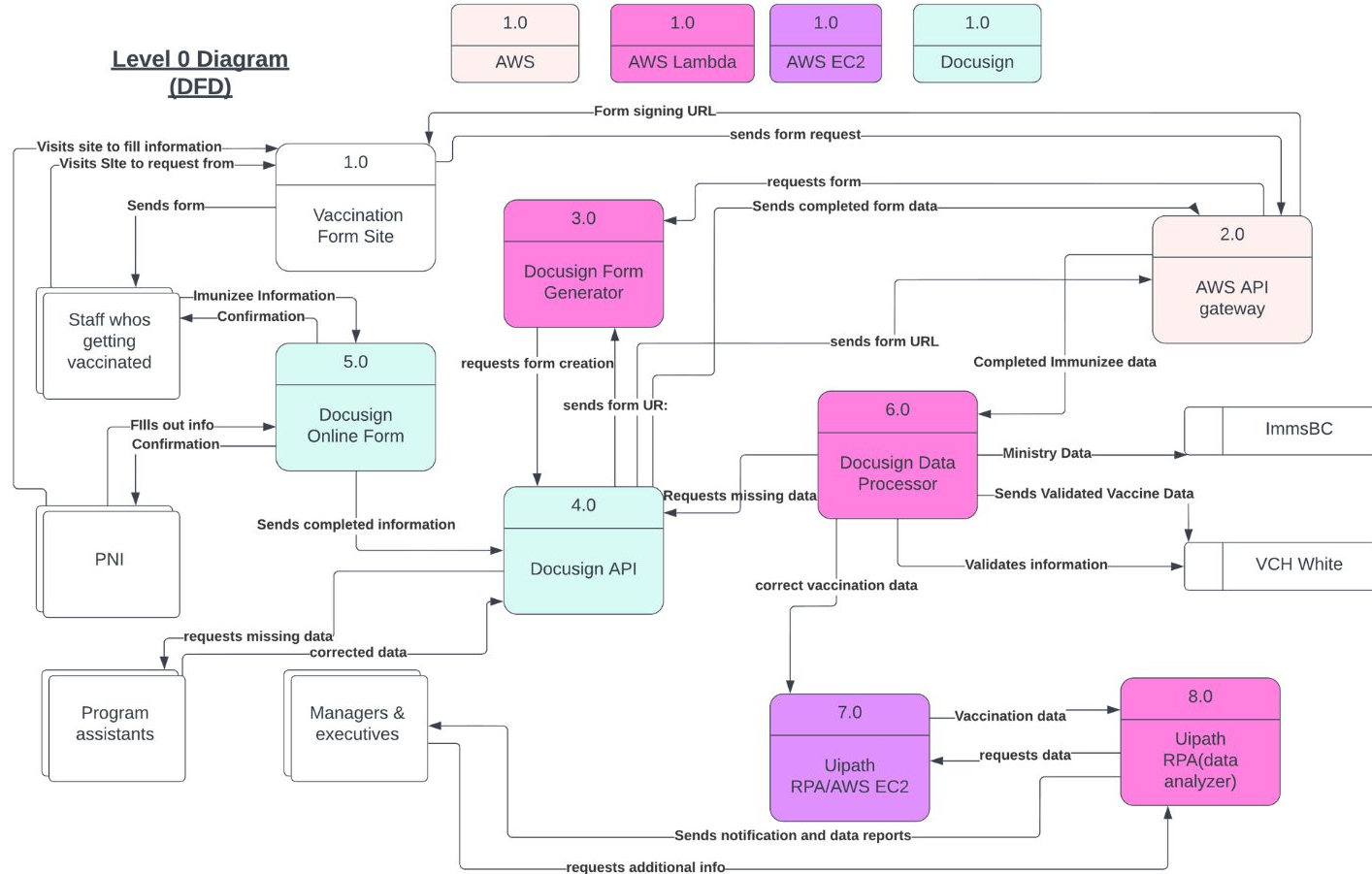
Peak flu season in Vancouver

Level 0 Diagram (DFD)

1.0	1.0	1.0	1.0
AWS	AWS Lambda	AWS EC2	Docusign

Form signing URL
sends form request

Visits site to fill information
Visits SIte to request from

1.0 Vaccination Form Site

Sends form

requests form
Sends completed form data

3.0 Docusign Form Generator

2.0 AWS API gateway

Imunizee Information
Confirmation

5.0 Docusign Online Form

sends form URL

Completed Immunizee data

requests form creation

sends form UR:

6.0 Docusign Data Processor

ImmsBC

FIlls out info
Confirmation

4.0 Docusign API

Requests missing data

Ministry Data

Sends Validated Vaccine Data

Sends completed information

correct vaccination data

Validates information

VCH White

PNI

requests missing data
corrected data

Program assistants

Managers & executives

7.0 Uipath RPA/AWS EC2

Vaccination data

requests data

8.0 Uipath RPA(data analyzer)

Sends notification and data reports

requests additional info

Technical Flow Chart: *Data Flow Diagram*

Introduction   Analysis   Recommendation   **Implementation**   Impact

Technology: System Architecture

(1)   **(2)**   **(3)**

AWS

- Notifies when forms are completed
- Create forms with DocuSign's API
- Fetch and analyze vaccination data hosted by UIPath RPA

DocuSign

- Provides vaccination form user interface
- Notify AWS system when forms completed
- Provide form information API

UIPath RPA

- Write data to the ImmsBC database
- Read and write data for the VCH WHITE database

Technical Advantages

① ② ③

Safe

- Use of software to ensure security
- Encapsulation principle
- DocuSign e-signature safety techniques
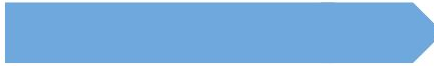- AWS safety features

Accurate

- No handwritten text recognition required
- Automated information validation
- Nearly all vaccinations will produce recorded data

Efficient

- Simple and clear structure
- Automated processes streamline data flow
- Capacity for high throughput

Introduction   Analysis   Recommendation   **Implementation**   Impact

Project Timeline

	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Mar 2023	Apr 2023	May 2023	Jun 2023
Finish system design			system approval ◆					
UI/UX for forms/reports								
Build UIPath RPA system								
Testing/Quality assurance								
Train system coordinator								
Train People Safety Team							◆ system rollout	
Monitoring and reviewing								

Introduction   Analysis   Recommendation   **Implementation**   Impact

Cost-benefit Analysis

Benefits	Hours Saved	Year 1	Year 2
Decrease in manual labour	1,333	$ 35,533.33	$ 37,310.00
Time saved for staff reporting	1,067	$ 28,426.67	$ 29,848.00
Estimated Benefits	2,400	$ 63,960.00	$ 67,158.00
Costs			
AWS Scheduled Cron Job		$ 50.00	$ 50.00
DocuSign		$ 840.00	$ 840.00
AWS Lambda		$ 50.00	$ 50.00
AWS API Gateway		$ 50.00	$ 50.00
AWS EC2		$ 8,400.00	$ 8,400.00
UIPath		$ 6,000.00	$ 6,000.00
System Development		$ 80,000.00	$ -
System Overseer		$ 10,000.00	$ 10,000.00
Estimated System Costs		$ 105,390.00	$ 25,390.00
Net Savings		**$ (41,430.00)**	**$ 41,768.00**

- Assume **5% increase** in vaccinations
- **Break even** in the **second year**

Intangible benefits:

More time spent on high-value work, faster results, quantifiable results with opportunity for analysis

Introduction   Analysis   Recommendation   **Implementation**   Impact

Risks and Mitigations
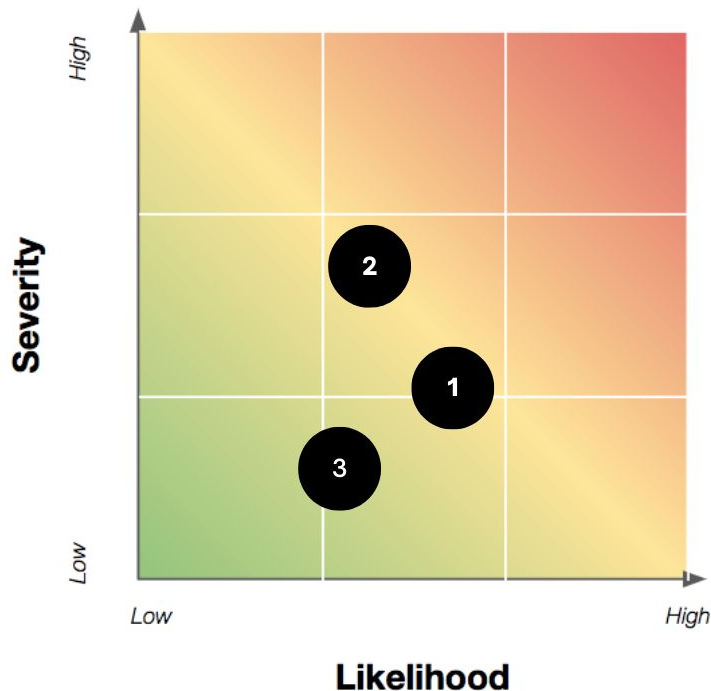
	Risks	Mitigation
1	VCH staff having trouble with technology	Work with PS and DS to help staff
2	Confidential passkey getting leaked	Constantly changing the passkey at specific time intervals
3	Ministry requirements changed	Dynamic interface that can be altered easily

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