

# VACCINE SITE PLANNING

## A Checklist for Developing and Using Customized Resource Calculation Tools

**Audience:** Public Health & Community Leaders

**Intended use:** To plan, establish, and operate vaccination sites

Simple tools developed on readily available software (e.g., Microsoft Excel, Google Sheets) can help to coordinate community stakeholders to establish and operate vaccination sites, and accurately allocate resources to meet vaccination coverage goals and community demand for vaccination. This is one tool to support the operational/logistical aspects of vaccination campaigns; in parallel, program implementers should work closely with the community to share information on vaccine safety and access in order to support community members in making an informed decision to be vaccinated.

The following guidance includes a list of key questions for planners and stakeholders to consider in order to collate and organize critical information and assumptions about the community where a vaccination program is to be launched. It also includes an example planning tool developed using hypothetical, but realistic responses to those key questions. We walk through the questions and their answers, to demonstrate how information from each stage of the process can be applied to create a customized, flexible tool that is responsive to the local community needs, resource constraints, and operational challenges. The example spreadsheet highlighted in this guidance is provided as a modifiable template, and can be used with other site operations guidance like the [Community-based COVID-19 Vaccination Manual](#).

The questions and tool highlighted here can be used to estimate/determine:

- Community vaccination goals and time to achievement
- Vaccination site selection
- Physical infrastructure capacity
- Staffing levels and compensation needed to meet community demand

This guidance is intended to be used by small and medium size vaccine operations that can be established in partnership with communities and businesses particularly vulnerable to COVID-19.

Answer the following questions with community stakeholders to clarify your assumptions in vaccine planning and to identify priority use/s for the planning tool.

## 1. Address critical assumptions by analyzing the local context. Determine needs and resource availability.

### Mapping stakeholders and resources

- What local stakeholders should be included in the planning process to ensure alignment of roles and expectations? Mapping all relevant entities can help ensure smooth coordination and mitigate the risk of duplicative efforts.

After answering the above question, generate a list of local actors based on the likelihood and relevance of their role in local vaccine operations. Stakeholders might include: local health department, county health department, retail pharmacy sites, the mayor's office/other city-level coordinating office, long-term care providers, community-based organizations, faith-based organizations, and technology and operations organizations.

- Of the identified organizations, which ones are currently involved in providing vaccinations in your area, and to what extent?
  - What types and sizes of vaccination sites are being set up and run by others?
  - What coordinating functions are in place between stakeholders to plan coverage, inform progress? To what extent is data shared between stakeholders?
  - Where are vaccination sites located or planned?
  - What is the vaccination capacity and daily throughput of the current and planned sites?

### Develop vaccine coverage goals

- What is the total, eligible catchment population within your locality?
- What percent coverage level are you aiming to achieve at the local population level? (i.e., # number needing vaccination/total eligible population)
- How soon do you hope to achieve desired coverage?
  - Do you have different % and timeline goals for different sub-groups?
- What groups in your community are currently eligible for vaccination?
  - Who has already been vaccinated?
  - Are there dedicated efforts, separate or adjacent to your operations, to specifically address the vaccination of certain sub-groups? Is another organization or coalition responsible for vaccinating certain sub-groups? (e.g., Local health department is solely responsible for homebound individuals)
  - Approximately how many people are ineligible to receive vaccine? (# under 16 for Pfizer, # under 18 for Moderna and Johnson & Johnson)
- What vaccine types will your site receive?
  - How does dose number, timing and vaccine efficacy affect site throughput and planning?
  - Are there plans for a different composition of vaccine types in the near future? If so, how will that affect your site planning?

On the tab labeled *1. Calculator* in the spreadsheet enter the information gathered from the above questions as inputs in cells C13:C115 to determine approximate vaccination needs—shown in cells C18:C20 (**Figure 1**). In this example, after mapping stakeholders and determining their involvement in vaccine efforts, it is discovered that retail pharmacy is responsible for vaccinating community members residing in long-term care facilities (~5,000 individuals). Approximately 30,000 of the total population are under the age of 16 and not yet eligible to be vaccinated. These two numbers are subtracted from the total population, and based on 2-dose vaccine usage a number of doses was determined to achieve 100% and 85% coverage. Be sure to adjust the coverage percentage (cells C19 and D19) depending on stakeholder feedback. Population immunity estimates can range from 70% upwards.

	B	C	D	E
11	<b>User notes</b>	<b>Population to be vaccinated</b>		
12	<b>Formula</b>	<b>Number</b>	<b>Type</b>	<b>Notes</b>
13	Input	100,000	Local residents	
14	Input	30,000	Local residents under 16 or 18	Unable to vaccinate based on eligibility
15	Input	5000	Local residents in nursing homes	Coverage provided by retail pharmacy partners
16				
17	=c13-c14-c15	65,000	Total people to be vaccinated in next 6 months	Exclude minors & nursing homes
18	=c17*2	130,000	Total vaccines to be delivered in next 6 months for 100% coverage	Assume 2 dose until J&J received
19	=c17*.85*2	110,500	Total vaccines to be delivered in next 6 months for 85% coverage	Assume 2 dose until J&J approved

Figure 1

Through stakeholder mapping, and subsequent inputs to the tool (**Figure 2**) it is determined that a Hospital will be standing up a vaccine operation projected to vaccinate 3,000 individuals per week. Two Federally Qualified Health Center (FQHC) locations together project to vaccinate 1,500 individuals per week. In **Figure 3**, these operations show that the current plans alone will be able to achieve a total of 4,500 vaccinations per week. At this rate it will take over 6 months or over 24 weeks to vaccinate enough of your community to provide 85% coverage. The goal based on stakeholder agreement is to achieve at least 85% coverage in under 24 weeks, which would mean vaccinating approximately 785 people per day.

	A	B	C	D
22			<b>Site types: Throughput and Staffing</b>	
23	<b>User notes</b>	<b>Site type 1 - Large hospital (assume scale up to gen pop after phase 1a)</b>		
24		Throughput	1000	Daily throughput
25		Weekly Staffing	3000	Weekly throughput
26		Weekly Staffing	0	All staffing to be provided by hospital
27				
28	<b>User notes</b>	<b>Site type 2 - Small (FQHC size)</b>		
29		Throughput	based on 8-seat model, 3 clients per chair per hour	
30		Daily throughput	133	
31		Weekly Staffing	750	Weekly throughput
32				
33		Weekly Staffing	5	Nurses
34			2	Pharmacists
35			3	Admin - registration
36			5	Admin - data entry/QA
37			2	Site coordinator
38			2	Nursing Supervisor
39			2	Safety officers (EMT)
40			4	External safety - patrol & security
41				
42				
43				

Figure 2

	H	I	J	K
5	<b>Site modelling outputs</b>			<b>User Notes</b>
6	<b>Type</b>	<b>Number of sites</b>	<b>Weekly capacity for locality</b>	<b>Formula</b>
7	Site type 1 Hospital	1	3000	=c26
8	Site type 2 (small, DOH/FQHC)	2	1500	=c33*18
9	NEW SITE TYPE	1	1843	=C48*19
10	<b>Total weekly vaccinations for locality</b>			=sum(k8:k10)
11				
12			weeks	
13	<b>Time to vaccinate 100%</b>		20.5	=c19/k11
14	<b>Time to vaccinate 85%</b>		17.4	=c20/k11
15			Target <24 weeks	

Figure 3

## 2. Determine which groups or segments of the community you will focus on vaccinating, and identify viable sites to host vaccinations. [Mapping tools](#) can support stakeholder decision-making.

- Are there areas where health care infrastructure is lacking and demand for vaccination is high? Are there areas within walking distance for community members, or where transportation options to and from a site exist?
- Are there existing community-centers/public buildings (schools)/testing sites that can be leveraged to serve as COVID vaccination sites? Depending on your region and its weather considerations, are there parking lots or similar structures?
- Review available demographic data and disease burden (COVID-19 cases). How do these profiles align with existing and planned sites? Are sites located in or accessible to communities bearing disproportionate burden?

Through stakeholder mapping and information sharing, a community auditorium is identified as a vaccination site in an area currently underserved by health infrastructure and at-risk of COVID-19 based on [demographic profiles and pre-existing disease burden](#).



#### 4. Determine how you will set up, staff, and continuously operate vaccination.

- What are the critical staffing considerations?  
Basic structure for staffing within site includes: vaccine administration, clinical lead, registration, pharmacists, safety officer, data entry, queue management, traffic direction
- What cadre of staff can do each of these tasks in your jurisdiction? I.e., which roles require specific skillsets or authorizations?
  - Who in your state can serve as vaccinators?
  - Consider maximizing efficiency and controlling costs. Consider liaising with local officials, community-based organizations, and medical providers to understand existing staff who may be repurposed for site tasks. Consider including care resource coordination services during registration or observation period [link to CRC operations]
- What are financial costs for staff? Financial limitations to staffing? What is compensation for each cadre based on local pay scale and contracting fees?

Figure 6

	B	C	D	E	F	G	H	I	J	K	L	M	
3				#	hrs/day	hrs/wk	hrs needed	hrs total	hrs remain	FTE+	Total	Weekly Total	
4	Total Staff Per Shift for 16 seat clinic	Command Staff	Clinic Manager (Site Coordinator)	1	8	40	48	40	8	0.2	1.2	2	
5			Nurse Supervisor (Clinical Branch lead)	1	8	40	48	40	8	0.2	1.2	2	
6			Safety Officer (EMT)	1	8	40	48	40	8	0.2	1.2	2	
7		Clinical Branch	Nurses	8	8	40	384	320	64	1.6	9.6	10	
8			Pharmacist*	1	8	40	48	40	8	0.2	1.2	2	
9		Administrative Branch	Registration staff	4	8	40	192	160	32	0.8	4.8	5	
10			Data Entry	3	8	40	144	120	24	0.6	3.6	4	
11			Q management	2	8	40	96	80	16	0.4	2.4	3	
12				* or additional nurse									
13													
14		External Staff	Public Safety patrol	1	12	60	72	60	12	0.3	1.3	2	
15			Security guard	1	12	60	72	60	12	0.3	1.3	2	
16													
17		Total Daily Staff for 16 seat clinic (not incl schedulers)			23			Total Weekly Staff for 16 seat clinic					34

	B	C	D	E
57	DO NOT MOVE/EDIT BELOW			
58	Salary info			
59	Hourly rate	Cadre		
60	40	LPN		
61	45	RN		
62	18	CMA		
63		Nurse/health pay		
64		Pharmacists		
65		Site coordinator		
66		Nursing Supervisor		
67		Admin - registration		
68		Admin - data entry/QA		
69		Dept PS		
70		School Guards		
71				
72	DPS	Public safety costs		
73		Safety officers (EMT) N/A		
74		External safety - security - N/A		
75				
76	Crossing	Public safety costs		
77		Safety officers (EMT) N/A		
78		External safety - security - N/A		
79				

Figure 7

	H	I	J	K	L	M	N
20	Staffing needs for new site						
21	Cadre	Weekly # needed	Weekly compensation				
22	Nurses	10	\$ 18,000				
23	Pharmacists	2	\$ 4,400				
24	Admin - registration	5	\$ 3,200				
25	Admin - data entry/QA	7	\$ 4,200				
26	Site coordinator	2	\$ 5,200				
27	Nursing Supervisor	2	\$ 5,200				
28	Safety officers (EMT)	2	\$ 3,600				
29	External safety - patrol & security	4	\$ 7,200				
30							
31	Total weekly costs for model		34	\$ 51,000			

**User Notes**

Type of nurse:  <select one

Source of safety staff:  <select one

Figure 8

Figure 6 (located on 2. Staffing estimates tab) provides the minimum number of staff, including clinical, administrative, safety, and management roles, that are determined necessary to operate the new site that can achieve a daily throughput of approximately 307 patients per day, or 1,843 patients per 6-day week. Figure 7 from the same tab provides local hourly rates for each staff type. Weekly staff compensation is calculated (Figure 8, 1. Calculator tab) to help plan and monitor budgets for vaccine operations.

Revisiting **Figure 2** after including all inputs from stakeholder information gathering and site planning, the resulting calculation shows that standing up one additional vaccination site as planned aids existing community partner vaccination operations in exceeding the 24-week goal to vaccinate 85% of the eligible population.

	H	I	J	K
5	Site modelling outputs			User Notes
6	Type	Number of sites	Weekly capacity for locality	Formula
7	Site type 1 Hospital	1	3000	=c26
8	Site type 2 (small, DOH/FQHC)	2	1500	=c33*I8
9	NEW SITE TYPE	1	1843	=C48*I9
10	Total weekly vaccinations for locality		6,343	=sum(k8:k10)
11				
12			weeks	
13	Time to vaccinate 100%		20.5	=c19/k11
14	Time to vaccinate 85%		17.4	=c20/k11
15			Target <24 weeks	

Figure 2

While the above process and associated spreadsheet tool are intended to aid planners and implementers with establishing efficient vaccine site operations, with an aim towards contributing to improving vaccine delivery, it should be noted that a desire for "efficiency" and meeting population coverage percentage goals must be balanced with equity, including attention to establishing and operating vaccine sites with patient experience in mind. Each community will have different needs, constraints, and opportunities for establishing vaccine operations, and users of this guide will necessarily have to modify the spreadsheet to enhance its utility as a planning tool. Vaccine sites for which this guidance is designed, are one of many approaches, including employer-based and home-based, that must be leveraged to reach all community members, including those most vulnerable to COVID-19.

*The ideas presented in this document reflect the latest public health thinking and scientific evidence as of April 2021. You are advised that the COVID-19 vaccine landscape remains highly fluid, and it is your responsibility to ensure that decisions are made based on the most up-to-date information available. Partners In Health does not provide medical advice, diagnosis, or treatment in the United States. Always seek the advice of a physician or other qualified healthcare provider with any questions regarding a medical condition. The information, including but not limited to text, graphics, images, and other material contained in this document, are intended for informational purposes only.*