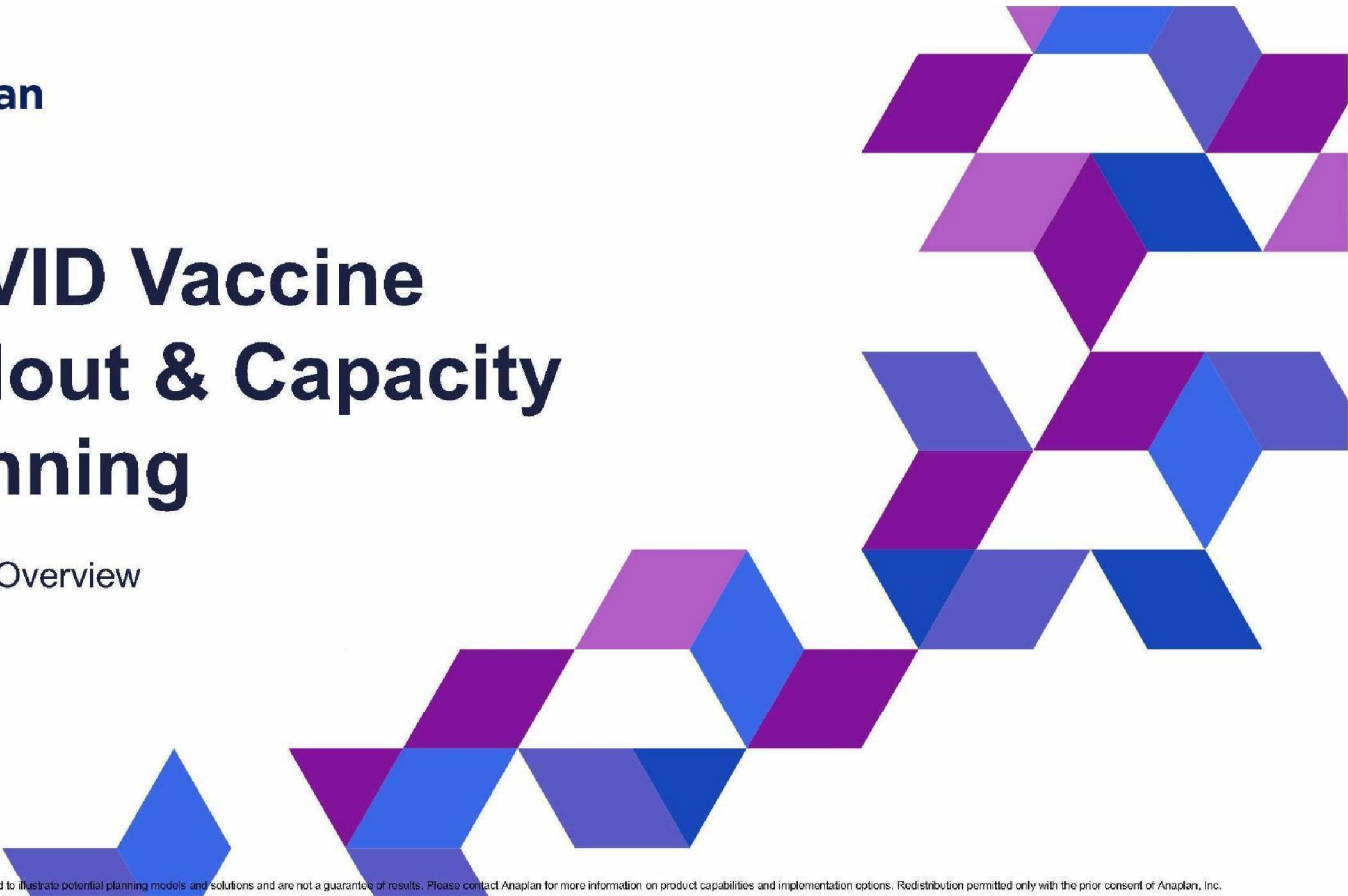




COVID Vaccine Rollout & Capacity Planning

Solution Overview



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Summary

- A cloud-based, highly configurable and rapidly deployable solution developed on the Anaplan platform
- Anaplan has been already been deployed for COVID testing at health care provider networks
- The accelerator has now evolved to encompass vaccine rollout planning and management – capacity and demand planning to inform the allocation process
- Anaplan has ongoing conversations with multiple states and can complement ongoing efforts with states related to vaccine rollout management
- This solution can be easily extended to other stakeholders in the supply chain such as pharmacy chains, distributors, etc.



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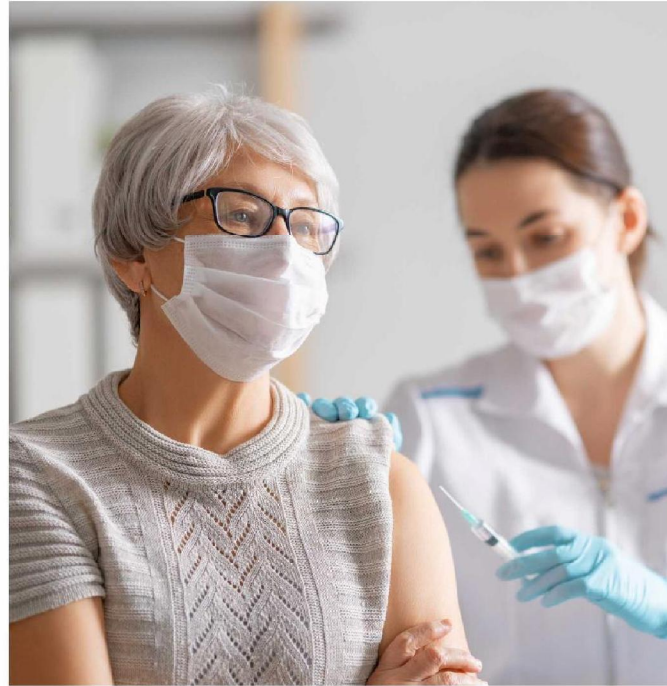
Key issues that states and local authorities are grappling with

- **How to coordinate all of their activities under one roof?** How can the State have consolidated financial reports on a daily, live basis, with accurate and meaningful projections into future weeks?
- How to **avoid inflammatory headlines around planning and decision making** by taking the reins of the testing and vaccination efforts and provide a command center for leaders and a calculation machine for operational employees?
- In addition to reporting actual consumption, but how to know **how many tests and vaccines will be needed next week and next month** in order to supply all the testing and vaccination sites adequately?
- How to precisely estimate of **how many RNs are needed at each vaccination site** in the coming days, weeks and months?
- The current execution model may have information about different types of vaccines and cold chain storage restrictions, spoilage rules and follow up dosage rules, but **how to use these constraints to receive alerts weeks in advance** to course-correct or re-allocate resources across vaccination sites?
- How to know **how many Call Center employees** will be needed based on projected call volumes out into the future? What about IVR ports, or incorporating call center blocking targets or Erlang calculations to plan this?
- How to make reliable **PPE consumption estimates** for each testing and vaccination site in future weeks? For example, we use Anaplan to project the number of Nurses, Intake Coordinators, Administrative Staff, Security Guards and others, and then use granular assumptions: A nurse may use a set of gloves for every single test and vaccination administered, while a security guard uses a single set of gloves per day.
- How to be alerted weeks ahead of time for **need of larger contracts for Nurse Staffing or Face Mask supply?** What about expected Call Center shortages or Financial gaps? How to then receive recommendations and reports on all of these alerts?
- How to use a consistent set of assumptions and drivers to **make informed decisions and optimize spend?**



Key Solution Capabilities

- Logistics and equitable distribution planning based on evolving recipient prioritization guidelines
- Transparency and accountability in allocating supply to specific geographies
- Site-level planning for both vaccines and associated consumables
- Daily and weekly vaccination capacity readouts and alerts by site, rolling from ZIP Codes up to Cities, Counties, and State level
- Resource/inventory depletion rate and cost modeling
- Workforce capacity planning with associated financial reporting



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The genesis: COVID Testing Capacity Planning Model

Covid Test Capacity Planning

Fortune 50 Healthcare Company

How does a national healthcare group track profit by customer when prices, lead times and demand fluctuate each day? How do they track which locations need COVID tests most?

In legacy systems, the process meant manipulating exports in Excel every day.

Benefits



Increased Visibility of Profit by Customer
Knowing what to charge is easy when you know exactly how much things cost



Enhanced Forecasting Controls
The power to alter (or not alter) forecasts at the most (or least) granular level



Precise Headcount Planning Controls
All the internal and external headcount insights needed to know what it will take to meet staffing demand



Source Systems / New Insights



- Will we make money on this contract?
- What is the frequency of glove changes per day?
- When nurses are scarce, how do we meet demand?
- Do we have enough PPE to meet demand?

Features



Workforce Planning
HC allocations by site by role by regulatory requirements

Supply Planning
On hand PPE and testing inventory

Demand Planning
Forecasting expected testing volume and related capacity by site

Call Center Planning
Daily forecasts for call center demand

Key Metrics



7
Weeks



30
Users



4
Use Cases



The genesis: COVID Testing Capacity Planning Model

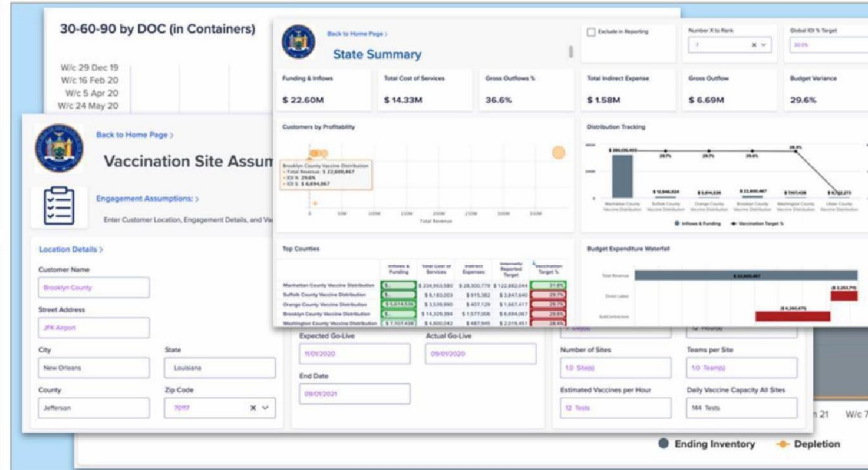
Extend Testing Model to Vaccine Planning

90+% of features still apply, plus new vaccine-specific features described below.

New Benefits



- Flexible Distribution Prioritization Engine**
The power to alter (or not alter) recipient prioritization plans (front-line, at risk, etc)
- Ramping Vaccination Rates per Day**
Quickly allocate resources to increase/decrease daily vaccination rates at sites by need
- End to End Supply Chain Planning**
Cold storage, truck, & storage facility capacity driving personnel, time, and delivery needs



New Vaccine Distribution Insights



- Which demographics receive the vaccine first?
- How do we track dosages for different vaccines?
- Can we maintain visibility into cold storage capacity?

New Vaccine-Specific Features

Distribution Prioritization Plans
Dist. by zip code by recipient types i.e. front-line workers, elderly, minorities, etc

Vaccine Brand
Brand driving shelf life and dosage cadence



Cold Chain Logistics
Spoilage, storage space and temperature requirements by vaccine type

Follow Up Dosing
Tracking of latest dosing guidelines, with violation flagging

New Metrics



4 Weeks



Collaboration



6 Use Cases



Key Solution Components

80+ configurable dashboards covering:

- Reporting
- Vaccine Rollout Planning
- County and Vaccination Site Modeling
- Consumables Modeling
- Technology Resources
- Staffing and HR Mgmt.
- Resource Training
- Inventory and Facilities Mgmt.
- Finance and Accounting Mgmt.
- Lab Capacity Mgmt.
- Call Center Modeling

The screenshot displays the Anaplan Vaccine Capacity Planning Tool interface. At the top, a navigation bar shows 'App' and 'Vaccine Planning'. Below this, a header section includes the 'NEW YORK STATE' logo and the title 'Vaccine Capacity Planning Tool'. A status message indicates 'Model and app are in development stage.' The main dashboard is divided into several key sections:

- Planning & Reports:** This section contains nine dashboard tiles:
 - Summary of Counties: Review State Regions
 - County Details: Review Performance over Time
 - New York Demographics Data: View Demographic breakdown by ZIP code, showing industries, Age Bands, House Brands and More.
 - Consumable Inventory: Review Inventory by Week
 - County Assumptions by Week: Overview of all assumption details by week in worksheet view
 - Distribution Plans: Use this page to setup different vaccination prioritization plans and view results
 - Cold Storage Levels: Review Cold Storage Capacity and Alerts
 - Vaccine Setup and Modeling: Review Vaccine orders and see alerts about shortages
 - Staffing & HR Management: An overview of first and second staffing requests to meet demand
- Modeling:** This section is further divided into:
 - Counties & Vaccination Sites:** Includes tiles for Distribution Area Defaults, County Modeling, Vaccination Site Modeling, and Site Assumptions by Week.
 - Finance Modeling:** Includes tiles for County Financials and Overhead Rates.
 - Consumables:** Includes a tile for Consumable Modeling.
 - Distribution Center Management:** Includes a tile for Distribution Center Modeling.
 - Lab Capacity Planning:** Includes tiles for Setup: Laboratory Management and Vaccination Capacity.
- Staffing and HR Management:** Includes tiles for Training Modeling and Staffing Modeling.

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Set up custom roll-out plan with assumptions and drivers

Incorporate demographics data in order to rank each ZIP code across metrics like age, income, race and industry makeup.

The screenshot shows the 'Demographics Data Hub' interface. It features several data tables with columns for ZIP codes and various demographic metrics. The tables are organized into sections like 'Demographic Data by ZIP Code' and 'Population and Race by ZIP Code'. The data is presented in a grid format with some rows highlighted in red.

Create top-level assumptions like staff makeup, opening and closing times, etc., at the County level that cascade down to individual vaccination sites, or override assumptions at the granular site level (next slide).

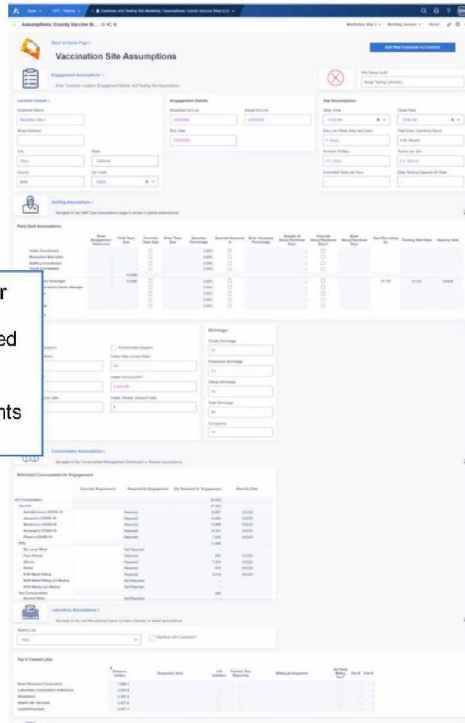
The screenshot shows the 'State and County Assumptions' interface. It includes sections for 'Engagement Assumptions' and 'Staffing Assumptions'. The 'Staffing Assumptions' section contains a table with columns for 'Staff Type', 'Staff Count', 'Staffing Percentage', and 'Staffing Hours'. Below this, there are 'Scheduling Assumptions' and 'Staffing Lead Times' sections, each with their respective configuration options and tables.



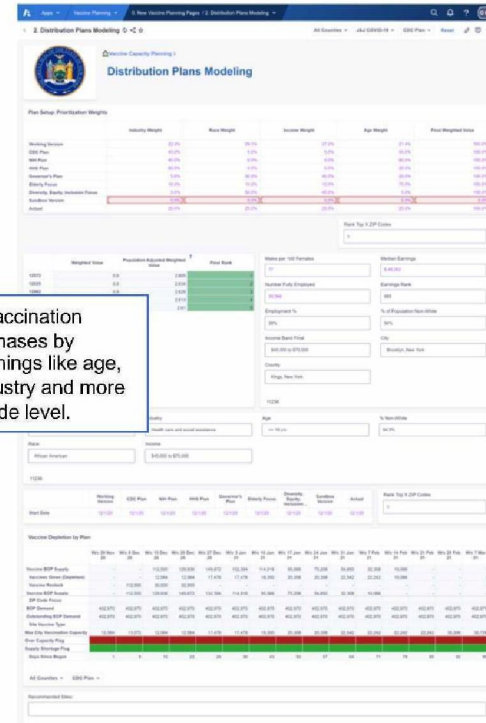
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Set up granular drivers and models down to the site level with reliable data

Set up granular assumptions for each individual site so that vaccination sites can be modeled out over time before they are even created, generating meaningful capacity requirements across all areas.

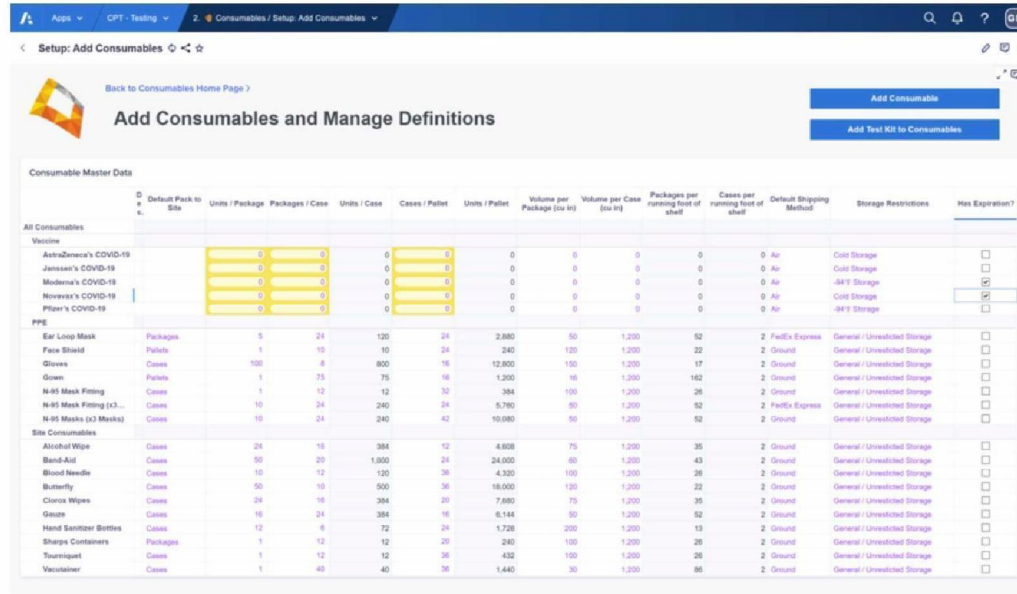


Create top-down vaccination demand plans or phases by weighting various things like age, demographics, industry and more down to the ZIP-code level.



Connect vaccine depletion to demand for consumables using rule based drivers

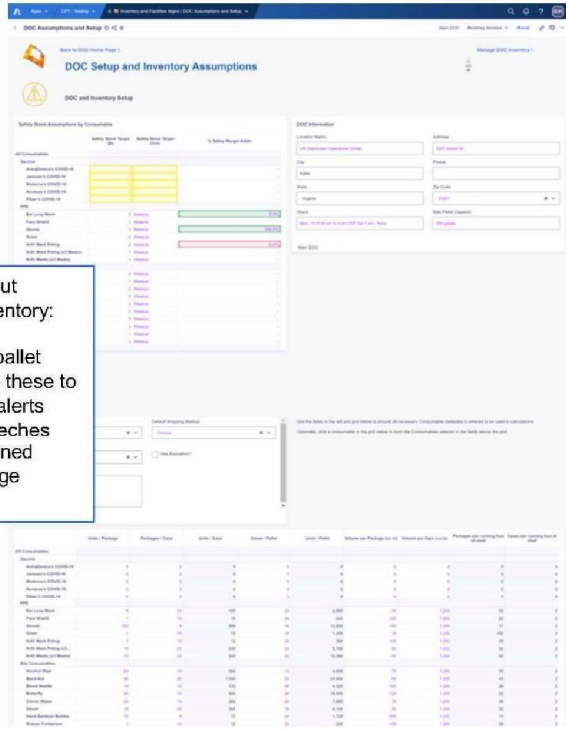
Set rules based on past performance or future expectations that drive depletion and capacity expectations; for example, a nurse using 1 pair of gloves per vaccination while a security guard uses 1 pair of gloves per day. These granular constraints roll up into final large capacity plan and allow the system to send alerts when a plan breaches capacity in future weeks.



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Model capacity constraints and inventory rules by category / item

Set up rules about consumable inventory: Storage space, units/packages/pallet information. Use these to trigger capacity alerts when a plan breeches available or planned resources, storage space, etc.



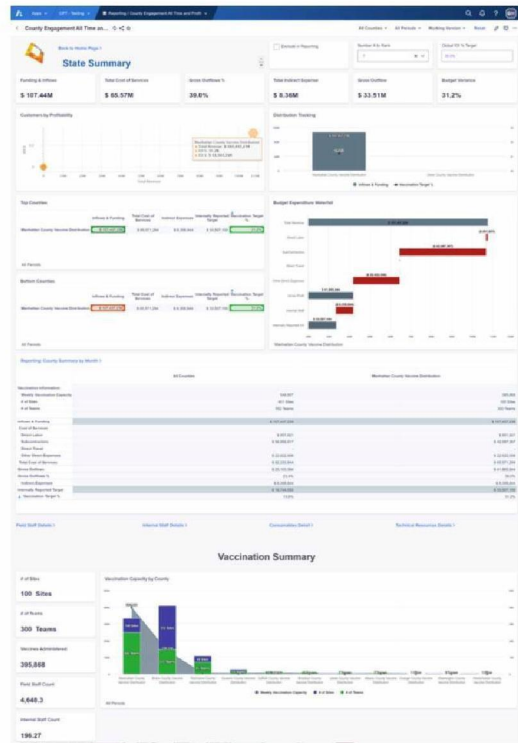
Monitor inventory and 30-60-90 day plans across dozens of types of consumables ranging from vaccines to face masks to headsets and computers.



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Model capacity constraints and inventory rules by category / item

Roll up all the information in the tool to create real-time high level, role based executive dashboards with data and KPIs about current efforts and forecast expectations.



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Thank you!



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