Completion or Task-based Engagement incentives for Well-child Visits

First Version: April 29, 2024

1. **What is the main question being asked or hypothesis being tested?**

Can financial incentives improve completion of Well-Child Visits among young adults ages 18 to 20 years old? Are completion rates the same for young adults offered a completion incentive of $75 after a Well Child visit versus those offered $25, incremental incentives for completing each 3 steps in the Well Child visit completion process – electronic health record sign-up, appointment setting, and appointment completion.

2. **Describe the key dependent variable(s) specifying how they will be measured.**

- Rate of Well-Child Visit completion within 6 months of letter shipments

3. **How many and which conditions will participants be assigned to?**

There will be three arms: 1) a completion incentive arm where patients are sent a letter explaining the three-step process for completing a Well-child visit and are offered a $75 incentive for completing a Well-child visit, 2) a task-based incentive arm where patients are sent the same basic letter but are offered $25 each for sign-up, appointment setting, and completion of a Well Child visit and 3) a usual care arm that receives only the letter explaining the three-step process for completing a Well-child visit.

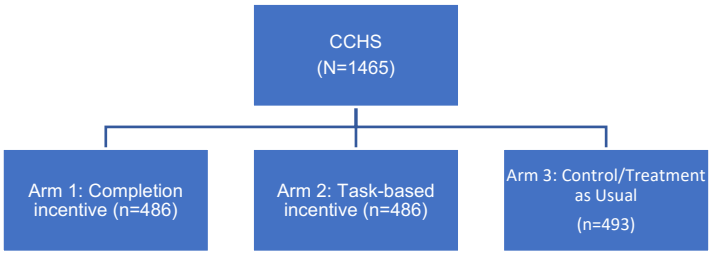
The study sample includes all patients at Contra Costa Health Services who meet the following conditions:

1. Ages: 18 to 20 years old
2. Empaneled patients with assigned primary care providers (PCP)
3. Have not set up a MyChart (electronic medical record) account since they turned 18.
4. Have not completed a Well-Child Visit

The number of patients who meet this requirement is 1,465.

Simple randomization will be used.

Figure. Randomization Design



4. **What are your main analyses?**

Our main analysis will use deidentified data provided by CCHS to estimate the following equation:

$$(1) \qquad Vist_i = \alpha + \beta_1 Completion_i + \beta_2 Task_i + \delta X_i + \gamma Z_i + \varepsilon_i$$

where Visit is an indicator for whether a respondent completed a Well Child visit within 6 months of letters being sent out, $Completion_{i_i}$ is an indicator for whether the individual was sent a letter with a $75 completion incentive and $Task_i$ is an indicator for whether the individual a letter with the offer of up to three $25 incentives for completing each of the tasks required to have a Well Child Visit. To raise statistical power, we will include X_i, a vector of predetermined characteristics such as age, race, gender and so on.

Our main hypotheses are that a letter with any incentive (completion or task) will increase completion rates relative to control, $\beta_1 > 0$. We further hypothesize that the completion incentive will have the same impact on visit rates as the task-based incentives, $\beta_1 = \beta_2$.

5. Any secondary analysis?

We will also study heterogeneous treatment effects by race/ethnicity, gender, and age.

6. **Sample size and power**

The table below shows the minimum detectable effects (MDE) for an arm vs. arm comparison (i.e., completion incentive vs. control and task incentive vs. control) based on assumptions of 80% power and 2.5% alpha. We use 2.5% alpha to adjust for the two comparisons from our main hypotheses. We show the MDE for the unadjusted mean comparisons assuming a control group completion rate of 0.5%, 1% and 2%.

Power Calculation: Visit Completion rate			
Intervention	N: treatment vs. control	Base rate	MDE
Arm vs. Arm: base	486 vs. 493	0.5%	2.63 percentage points (pp.)
	486 vs. 493	1%	3.11 p.p.
	486 vs. 493	2%	3.82 p.p.

We will be able to detect a change in the completion rate of 2.63 percentage points with a control group completion rate of 0.5%, 3.11 percentage points with a control group completion rate of 1%and 3.82 percentage points with a control group completion rate of 2%. Adding controls to the regression will further reduce the MDE.