# Building the COVID-19 vaccination booking system for over 20 million patients

accuRx

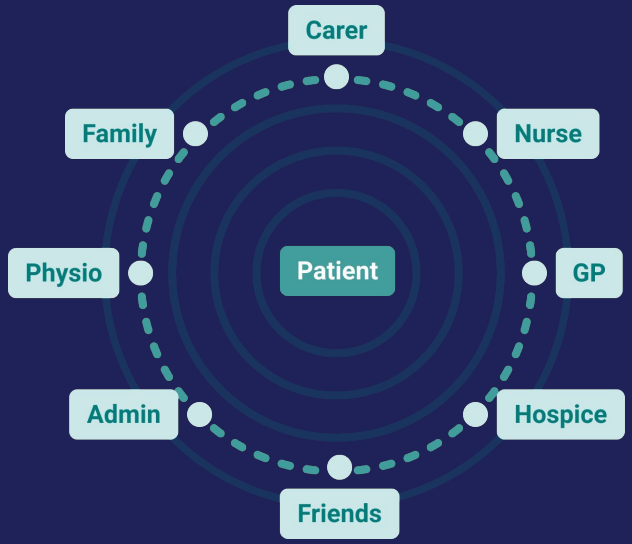
# accuRx - who are we?




accuRx

# Why we exist

**Our vision is that everyone involved in a patient's care can communicate with each other**



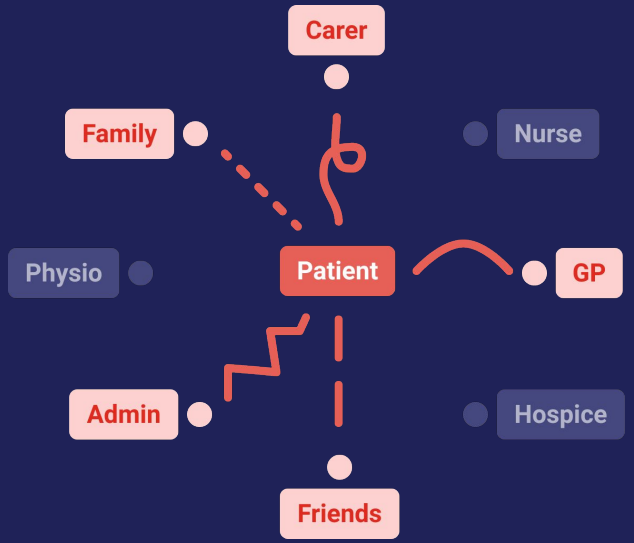

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# We know that healthcare is a communication industry



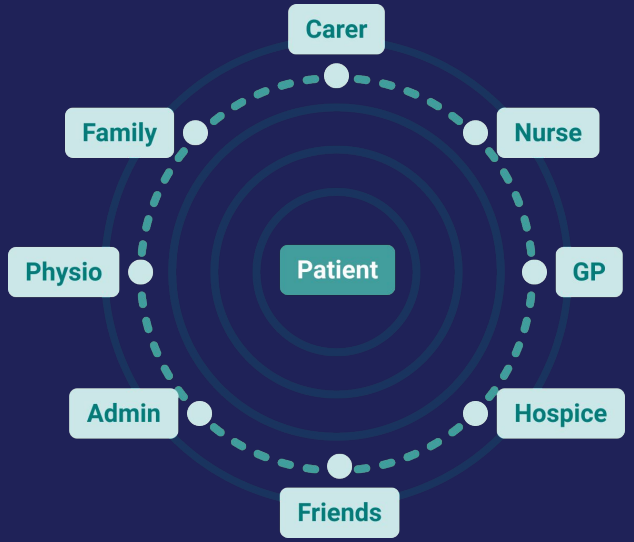

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# But we've seen that communication in healthcare is broken




accuRx

# We building products to fix that




accuRx

# Who am I?

Save the Children

WORLD ANIMAL PROTECTION

BARTS CHARITY

Bliss for babies born premature or sick

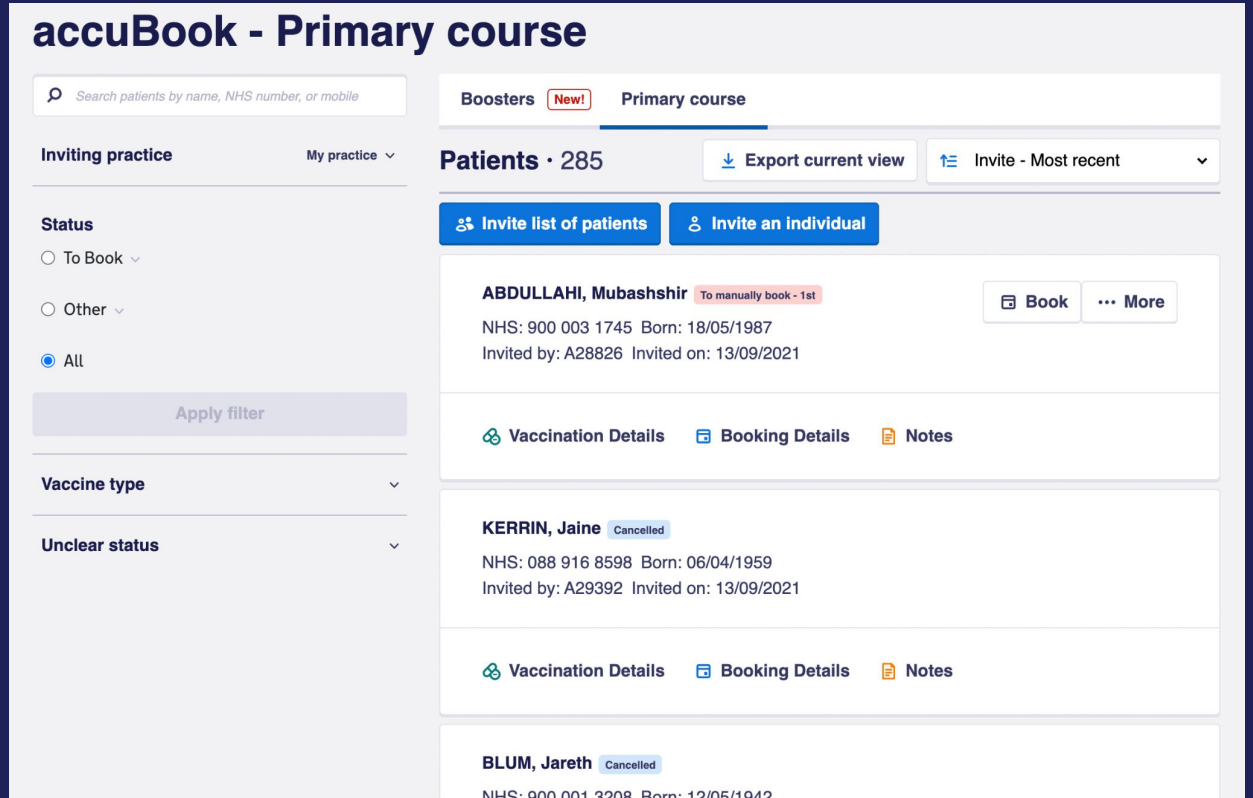
lightful

accuRx

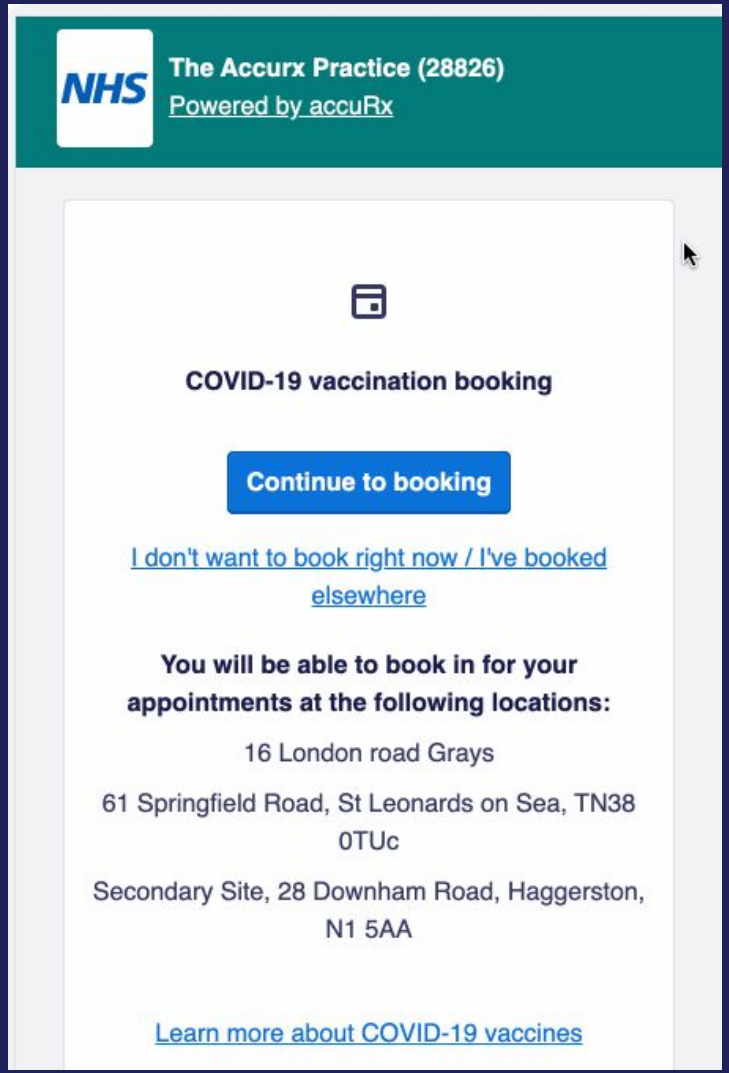
@Jennifer_Rose_S



# Why am I here?


accuBook - Primary course
Search patients by name, NHS number, or mobile
Inviting practice
My practice
Status
To Book
Other
All
Apply filter
Vaccine type
Unclear status
Boosters
New!
Primary course
Patients · 285
Export current view
Invite - Most recent
Invite list of patients
Invite an individual
ABDULLAHI, Mubashshir
To manually book - 1st
NHS: 900 003 1745 Born: 18/05/1987
Invited by: A28826 Invited on: 13/09/2021
Book
More
Vaccination Details
Booking Details
Notes
KERRIN, Jaine
Cancelled
NHS: 088 916 8598 Born: 06/04/1959
Invited by: A29392 Invited on: 13/09/2021
Vaccination Details
Booking Details
Notes
BLUM, Jareth
Cancelled

# What is accuBook?



# Why did we build it?

“We don’t have the tech to do this”

- *Many, many GPs.*

# What happened?

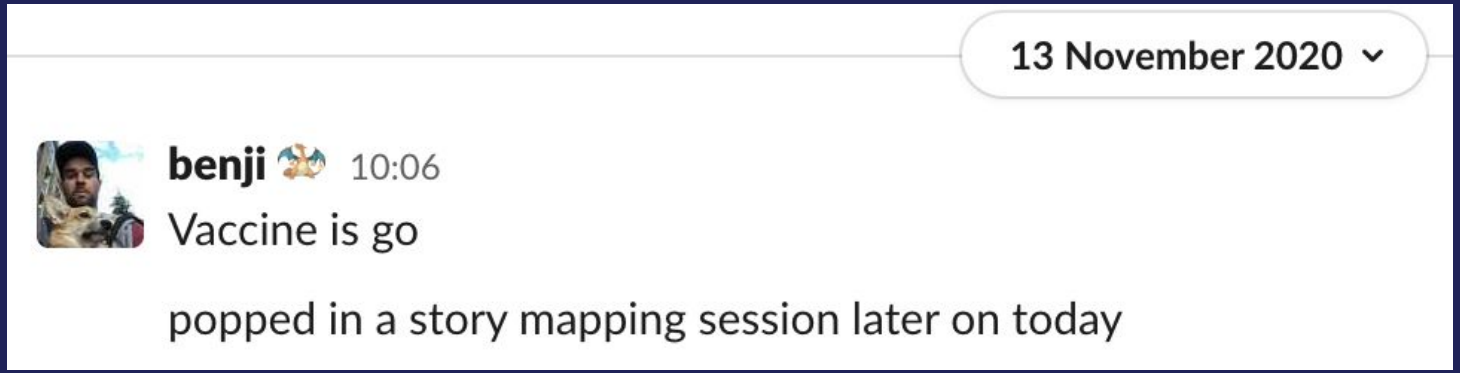
**Built & released our MVP nationally in 4 weeks**

**21.7 million COVID 19 vaccinations booked in (to date)**

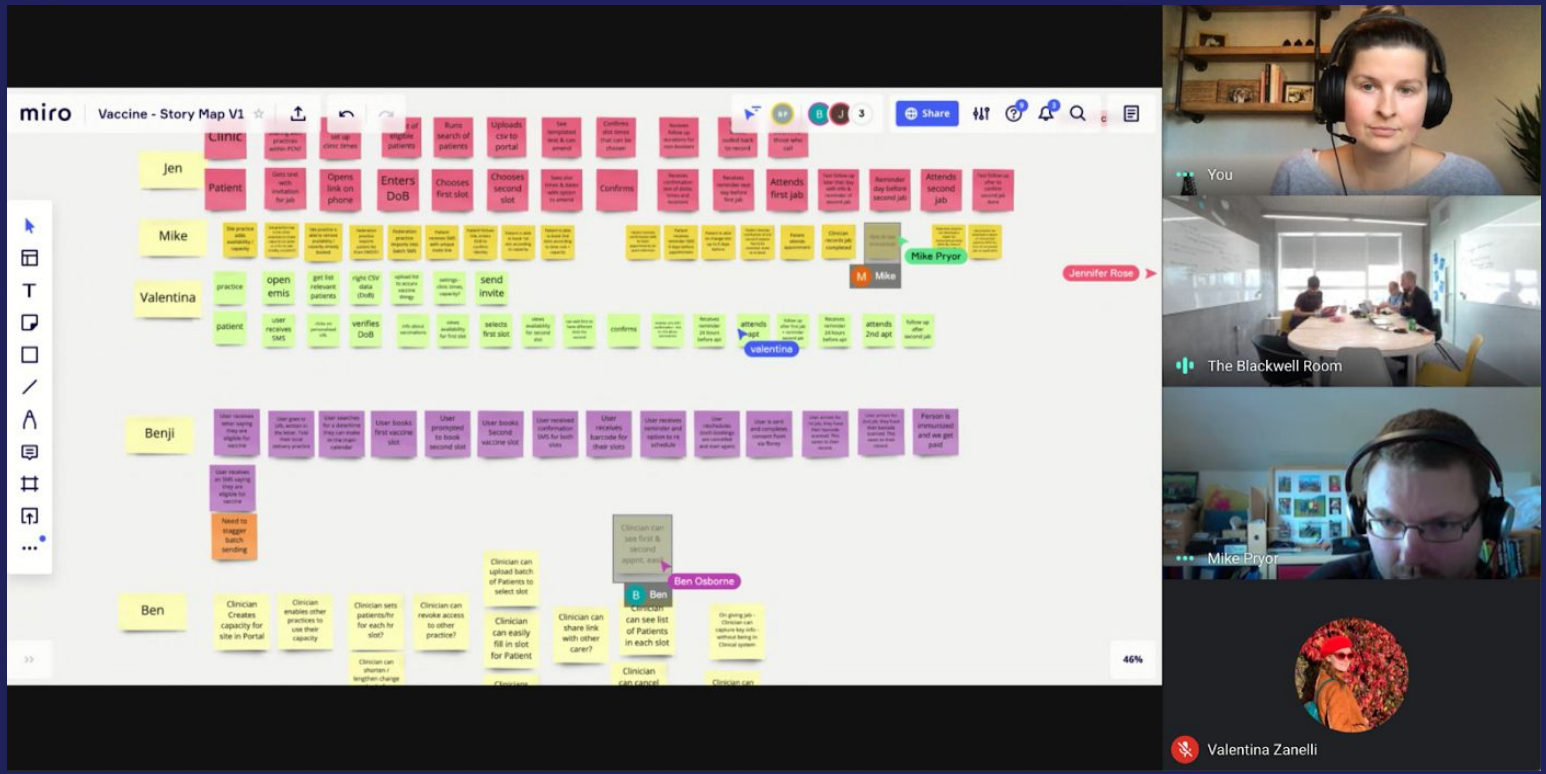
# So… where does our story start?



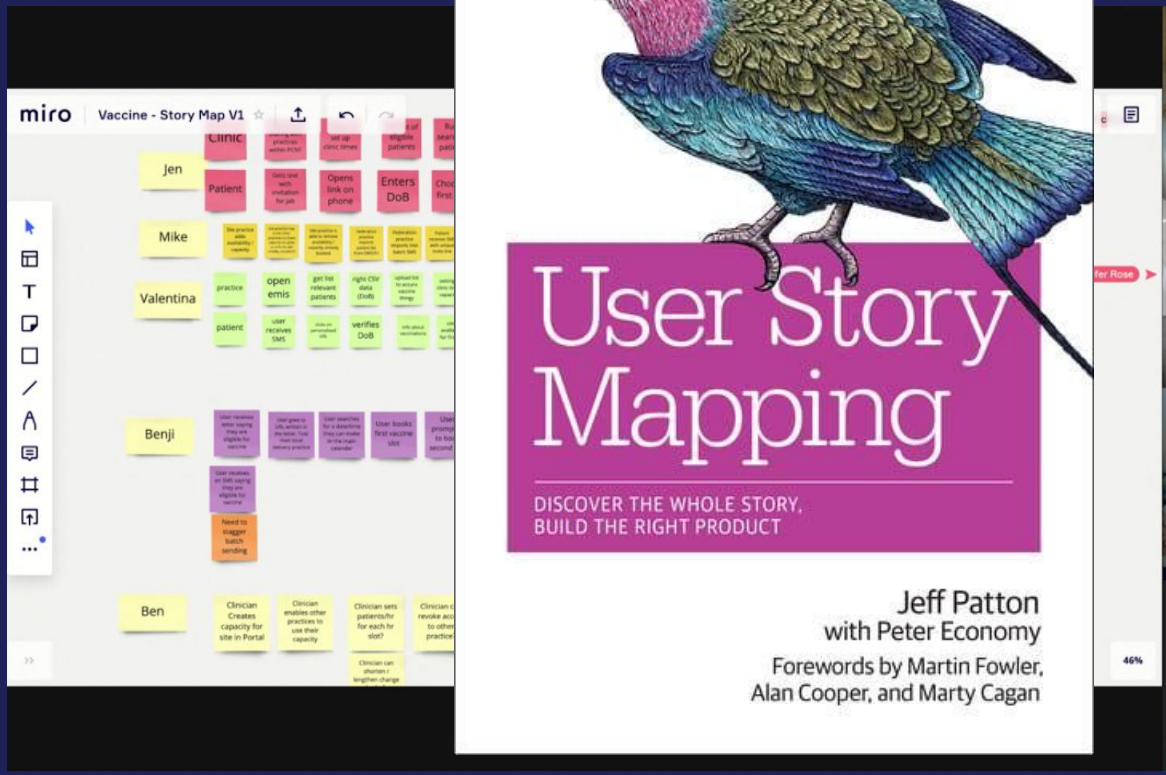
# Go/no go decision



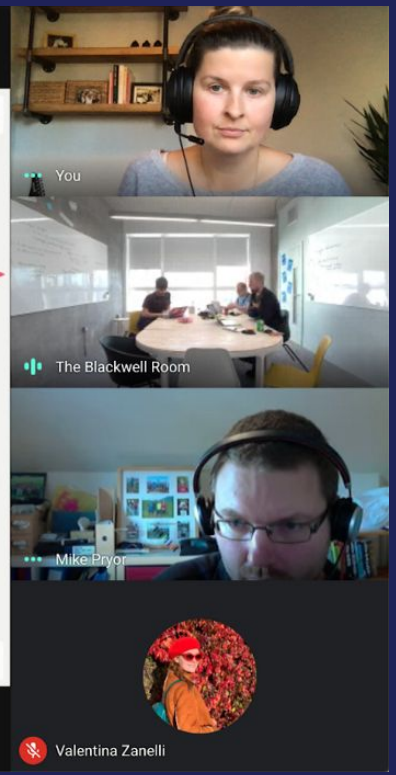
# Where we started



# Where we s


miro
Vaccine - Story Map V1
Jen
Patient
Enters DoB
Mike
Valentina
Benji
Ben
Need to stagger batch sending


O'REILLY
User Story Mapping
DISCOVER THE WHOLE STORY, BUILD THE RIGHT PRODUCT
Jeff Patton
with Peter Economy
Forewords by Martin Fowler, Alan Cooper, and Marty Cagan

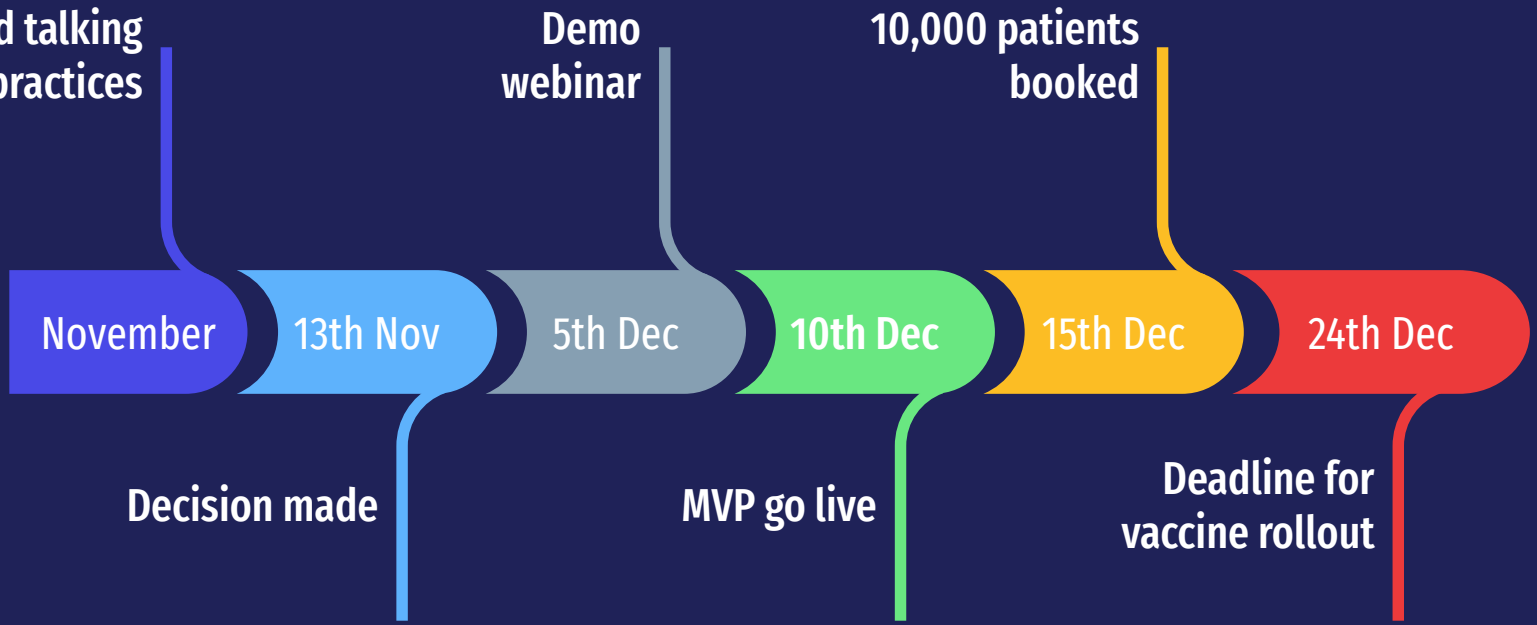

You
The Blackwell Room
Mike Pryor
Valentina Zanelli

# What was in our MVP?

Staff at a GP practice were able to send out mass invites to their patients via SMS

Patients could then book into an available time slot via a unique link

# What was our big challenge?



# What allowed us to move so fast?



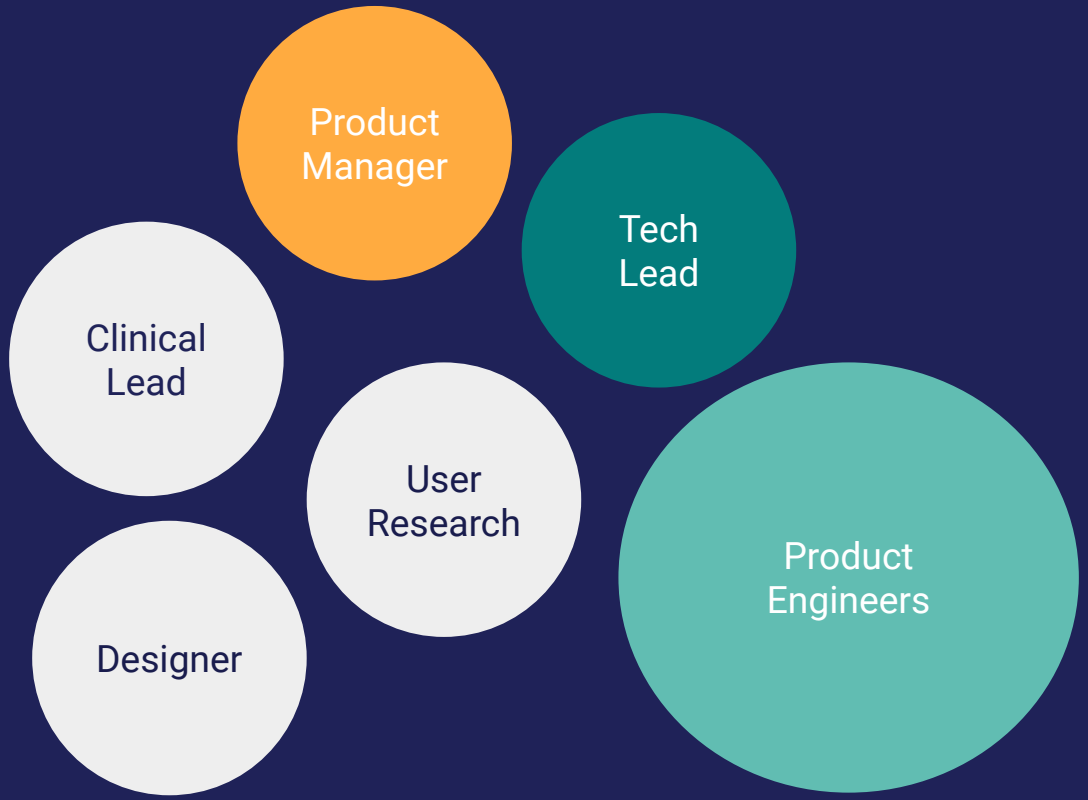
# 3 reasons:

1. We prioritise teams
2. User research is at the heart of everything we do
3. accuRx is built for this, culturally

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# What our teams look like



# We give teams time to be teams

We may ask a team to change what they’re doing, but not who they’re doing it with

# High level of psychological safety

# 3 reasons:

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# Naturally, the first thing we did was go and speak to users

# However… our conversations went a little like this…

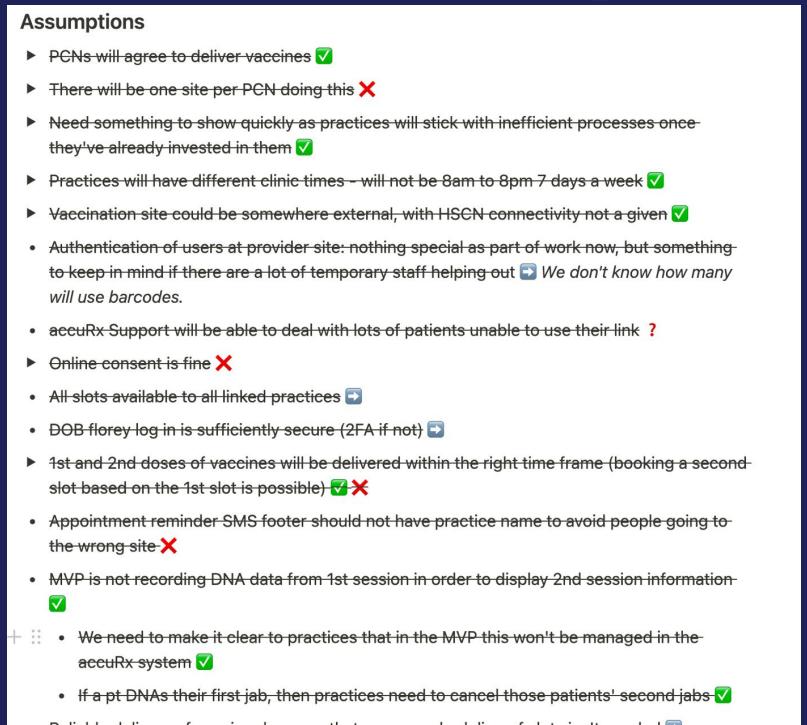
***"When you're setting up your clinics, how far in advance are you going to know how much vaccine you'll get?"***

*"We're not sure yet, we're getting told soon"*

***"How are you thinking about your DNA (did not attend) rate and ensuring vaccines aren't wasted?"***

*"We have no idea what the DNA rate will be yet. We're thinking low? We'll copy what we did for the flu and learn as we go"*

# So we had to just start building, making a lot of assumptions



## Assumptions

- ~~PCNs will agree to deliver vaccines~~ ✅
- ~~There will be one site per PCN doing this~~ ❌
- ~~Need something to show quickly as practices will stick with inefficient processes once they've already invested in them~~ ✅
- ~~Practices will have different clinic times - will not be 8am to 8pm 7 days a week~~ ✅
- ~~Vaccination site could be somewhere external, with HSCN connectivity not a given~~ ✅
- ~~Authentication of users at provider site: nothing special as part of work now, but something to keep in mind if there are a lot of temporary staff helping out~~ ➡️ *We don't know how many will use barcodes.*
- ~~accuRx Support will be able to deal with lots of patients unable to use their link~~ ❓
- ~~Online consent is fine~~ ❌
- ~~All slots available to all linked practices~~ ➡️
- ~~DOB florey log in is sufficiently secure (2FA if not)~~ ➡️
- ~~1st and 2nd doses of vaccines will be delivered within the right time frame (booking a second slot based on the 1st slot is possible)~~ ✅❌
- ~~Appointment reminder SMS footer should not have practice name to avoid people going to the wrong site~~ ❌
- ~~MVP is not recording DNA data from 1st session in order to display 2nd session information~~ ✅
    - ~~We need to make it clear to practices that in the MVP this won't be managed in the accuRx system~~ ✅
    - ~~If a pt DNAs their first jab, then practices need to cancel those patients' second jabs~~ ✅

**Luckily, because we live and breathe the lives of admin and GP staff, a lot of our assumptions were right**

We also understood the problem well… we even published a paper on it!

# How can software help the Covid vaccine effort?



Matt Honeyman Follow

Nov 11, 2020 · 5 min read



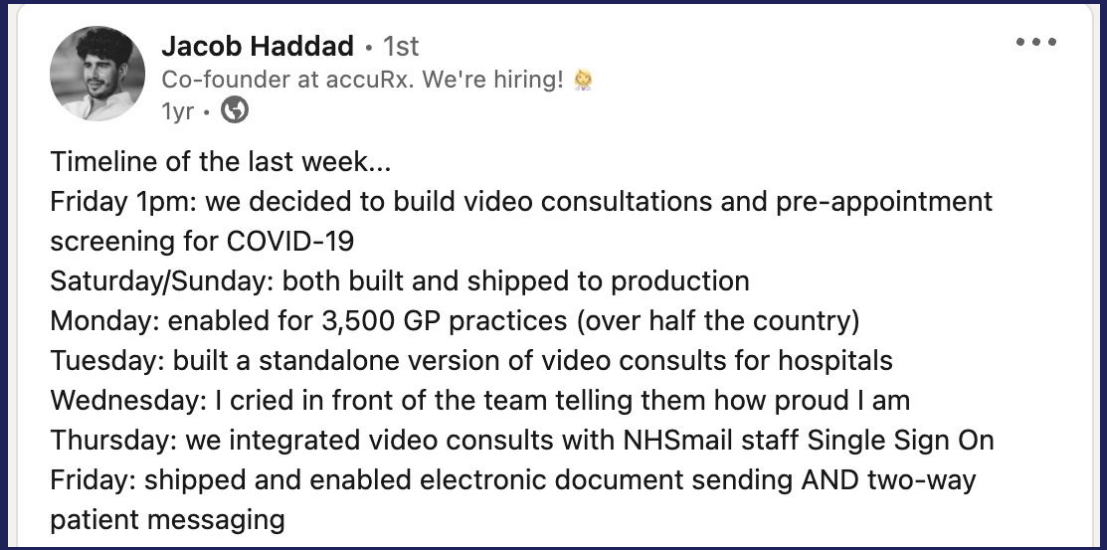
## The Covid-19 Vaccine programme

There is a fast-moving effort to ready the NHS to vaccinate much of the UK's population. If the vaccine is safe and its effectiveness holds up, huge numbers of lives will be saved. A successful programme will mean we can

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# This wasn’t our first foray into building rapidly...

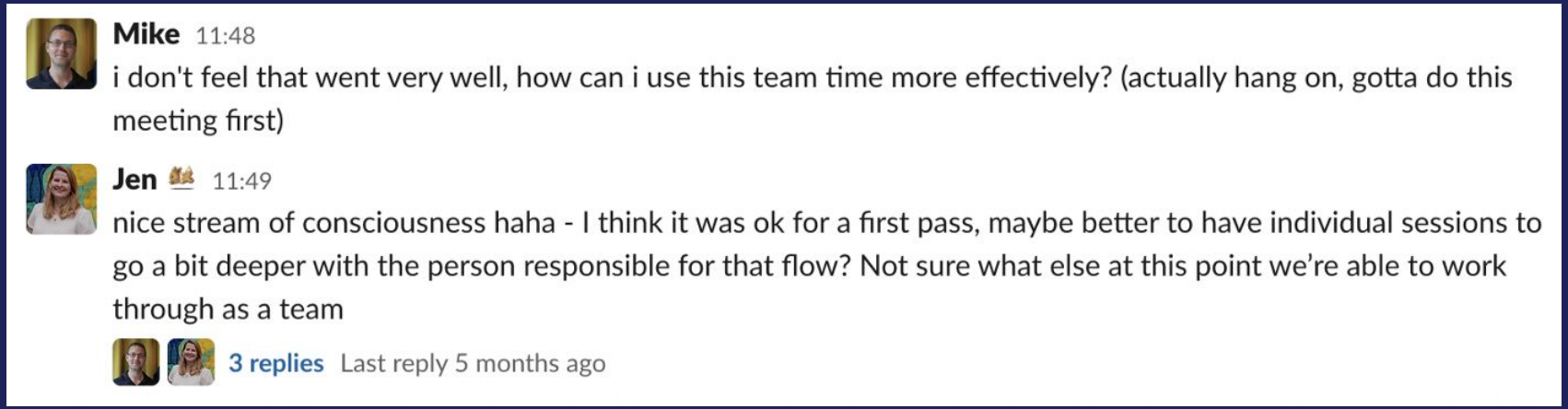


**Jacob Haddad** • 1st
Co-founder at accuRx. We're hiring! 👷
1yr •

Timeline of the last week...
Friday 1pm: we decided to build video consultations and pre-appointment screening for COVID-19
Saturday/Sunday: both built and shipped to production
Monday: enabled for 3,500 GP practices (over half the country)
Tuesday: built a standalone version of video consults for hospitals
Wednesday: I cried in front of the team telling them how proud I am
Thursday: we integrated video consults with NHSmail staff Single Sign On
Friday: shipped and enabled electronic document sending AND two-way patient messaging

# We care passionately about helping healthcare professionals

# Honest, open communication and feedback is ingrained in us

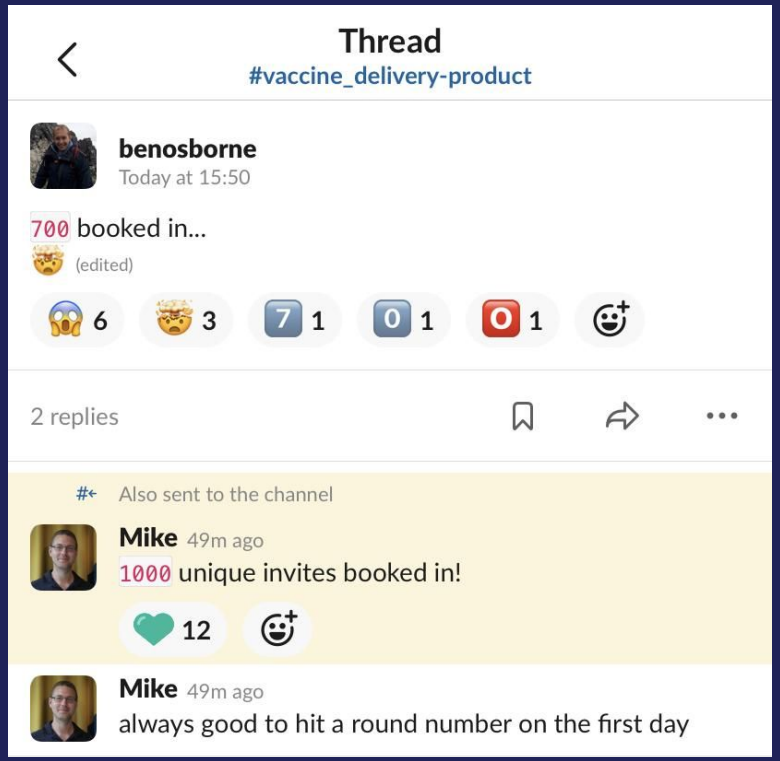


**Mike** 11:48
i don't feel that went very well, how can i use this team time more effectively? (actually hang on, gotta do this meeting first)

**Jen** 11:49
nice stream of consciousness haha - I think it was ok for a first pass, maybe better to have individual sessions to go a bit deeper with the person responsible for that flow? Not sure what else at this point we're able to work through as a team

3 replies Last reply 5 months ago

# And we did it!


Thread
#vaccine_delivery-product
benosborne
Today at 15:50
700 booked in...
(edited)
6
3
7 1
0 1
1
2 replies
Also sent to the channel
Mike 49m ago
1000 unique invites booked in!
12
Mike 49m ago
always good to hit a round number on the first day

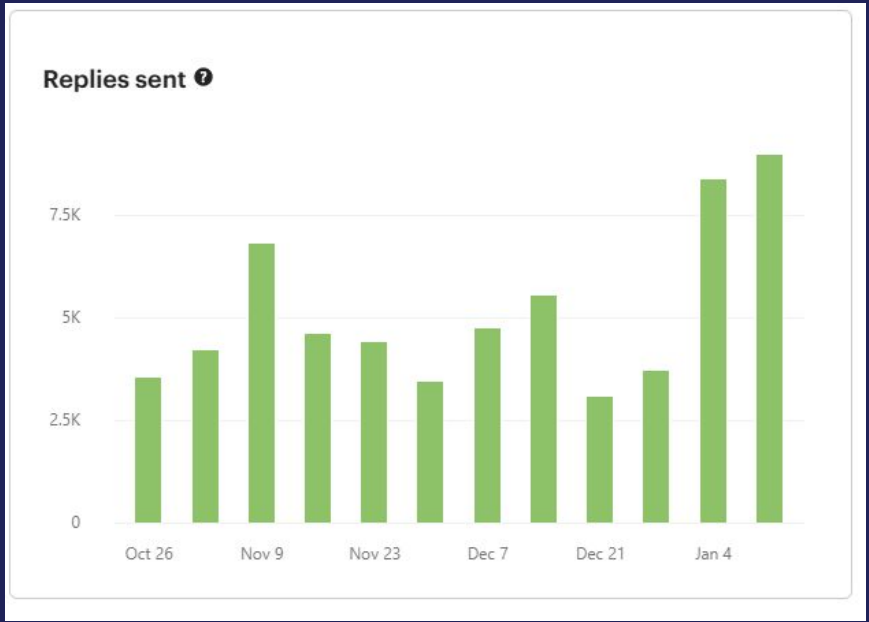
# However...



# We had to keep reacting to changes in guidance

- For those who have received their first dose and are scheduled to receive their second *after* Monday 4 January, the second dose appointment should be rescheduled in most instances (with clinical discretion applied locally if needed) for between three (Pfizer BioNtech vaccine) and four (Oxford/AstraZeneca vaccine) and 12 weeks' time, with most recipients to be booked in the last week of that 12 week period.

# Our Support team had to bear the brunt of our MVP scope

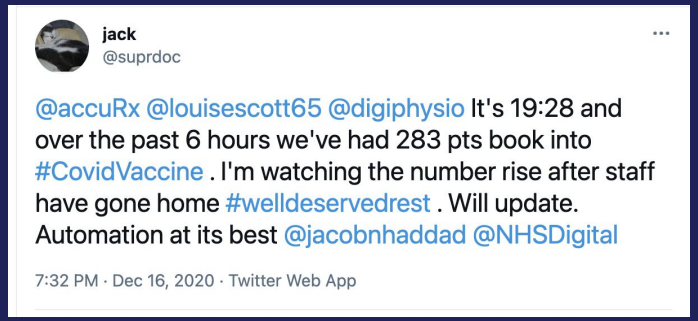


# Eventually, we had outages



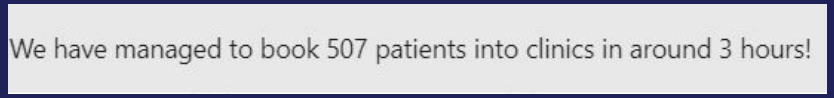
# But we’re incredibly proud of what we were able to accomplish

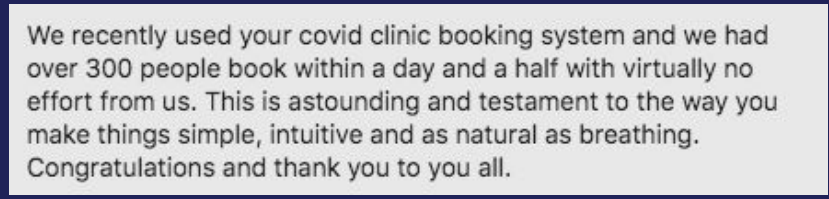
“Superb system, really well done to all of you for standing this up so quickly. At the weekend we were offered 1000 vaccines that were literally going to have to be destroyed as nobody could take them due to time constraint. We accepted knowing that we could use Accubook to get patients booked in. You should rightly feel proud of the hard work you have put in to this, 1000 more people have now started their journey towards a safer life entirely because we could get them booked within a couple of hours!”









# And we had a massive impact



**Ben Spiro** 18:25

I find it really hard to get my head around the impact we make when the numbers are so big, but I saw an article that put some scale to it.

- Roughly every 20 vaccinations being given to this cohort will save a year of life.
- We're directly supporting healthcare staff to deliver over half-a-million vaccinations a week at the moment (and climbing)
- I think that means that this week alone, we'll have supported the NHS in giving 25,000 years of extra life for the public.

None of this would be possible without the front-line staff and everyone else involved in the development and rollout of the vaccine, but to me it's really amazing that we've been able to be a part of this (edited)

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# Thank you!

## Any questions?

accuRx