COVID-19 Logistics Response

Lauren Davis, Pitu Mirchandani and Dave Morton

May 12, 2020

Ketut Gita Ayu, Luke Bennett, Oscar Dowson, Zhanwei Du, Daniel Duque, HsinChan Huang, Lauren Meyers, Remy Pasco, Simon Risanger, Bismark Singh
Three Projects

• Trigger optimization for lockdown
• Ventilator (re)deployment
• Pharmacy selection for testing

SEIR-style model with 90 compartments per city over 217 cities
How to relax social distancing, if you must: Austin TX

Indefinite lockdown

Indefinite relaxation

Triggers with 95% cocooning
How to relax social distancing, if you must: Austin TX

The new data paints a picture of:
1) what happens if we do nothing
2) what an optimal path forward looks like
3) what happens if we don’t cocoon the most vulnerable well

Indefinite relaxation

Triggers with 95% cocooning

Triggers with 80% cocooning
Ventilator deployment and redeployment

Demand realized

prepositioning
Using pharmacy infrastructure for diagnostic testing at scale
Using pharmacy infrastructure for diagnostic testing at scale

**All**

**Walgreens**

![Graph showing distance to closest pharmacy vs number of ZIP codes with pharmacies for all and Walgreens](image-url)
Using pharmacy infrastructure for diagnostic testing at scale

New Jersey

Wyoming

Number of ZIP codes with pharmacies

% of population with access

Number of ZIP codes with pharmacies

% of population with access

All
CVS
Rite Aid
Shoprite
Walgreens
Walmart

All
Shopko
Walgreens
Walmart
Thank You!