NATIONAL Sciences
ACADEMIES Medicine

Supply Chain Disruptions: Impacts on Vulnerable Communities - A Workshop



NATIONAL Sciences
ACADEMIES Medicine

Panel 3: Innovative Approaches & Sustainable Strategies

- Carla Chinavare, Whole Family School Age Services Director, Wayne Metropolitan Community Action Agency
- Chris Tang, Distinguished Professor & Edward W. Carter Chair in Business Administration, UCLA
- Dima M. Qato, Hygeia Centennial Chair and Associate Professor, University of Southern California
- Tinglong Dai (Committee Member), Professor of Operations Management and Business Analytics, Johns Hopkins University



The Families First Marketplace



Wayne Metropolitan Community Action Agency

Carla Chinavare, Whole Family School Age Services Director

Agency Overview

Mission:

In our pursuit to eliminate poverty, Wayne Metro empowers people and communities to be strong, healthy, and thriving.

Vision:

We envision thriving communities where all people have hope and opportunities to realize their full potential.



The Driver:

COVID-19 disrupted the food system. It also exacerbated food insecurity, so There was a need for new ways to get food to people in need.



What is the Families First Marketplace?

An innovative food assistance program allowing clients to choose and order products online



How was it Launched?



Through a cross-sector partnership that enabled resource, skill, and infrastructure sharing.



The Impact:

assistance with dignity, & local jobs

talent development, & new partnerships



Families First Marketplace

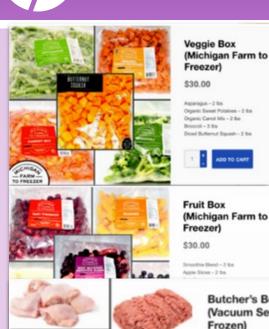


Families First Marketplace





Families First Marketplace Product Portfolio



Veggie Box (Michigan Farm to Freezer)

\$30.00

Asparagus - 2 bs Organic Sweet Potatoes - 2 Ibs Organic Carrot Mis - 2 fire Broccoli - 3 Bs Diced Butternut Squash - 2 be



\$30.00

Smoothia Bland + 2 lbs

Apple Slices - 2 be





Veggie Box -Fresh

\$30.00

A variety of fresh regetables that redute 15 its combined of these

Variety Squesh Sweet Potato Putatio





Fruit Box - Fresh

\$30.00

A selection of tesh fruit that may include

Green Applies - 3 Figi Apples - 3



\$35.00

Buttermilk Pancake Mix - 585 Bag Toesty O's Cerest - 34 oz

Chicken Breast Meal Kit (Individually Quick Frozen)

\$37.00

Chicken Breasts - 5 the (16 pieces/5 oz.

Roasted Redskin Potatoes - 2.5 ibs Whole Green Beans - 2 lbs: Cut Com - 2.5 Ba

All Natural Halal

Boneless Chicket

(Individually Quid

Frozen, ready to cook boneless.

12-16 servings in each kit

Breast

Frozen)

\$40.00



Atlantic Salmon Meal Kit (Vacuum Sealed & Frozen)

\$45.00

Attacto Salmon - 4.3 bs (4 to 8 or Roseted Redskin Positives - 2.5 for

Broccot Florets - 2 bs 10-12 servings to each tot



North Pacific Cod

Loins \$45.00

10 to Cod Loire Pacific 3 oz portions Individually Quick Fessen (60 pcs.per





Pantry Staples

\$38.00

Bush's Original Baked Beans - 28 cz. Azar Creamy Peanut Butter - 5 to Smucher's Grace July - 4 fb Place - Whole Grain Chick Plat - 25 oz. Pasts - Spagnetti - 10 lbs Plour Tortillas (6-inch) - 12 pack Indiani Salt - Ni or

in stock







Quaker Quick Ostmest - 42 oz Log Cabin Pancake Sunup - 12 oz



ADD TO CART





Frozen)

\$40.00



Butcher's Box

(Vacuum Sealed &







Existing Relationship & Infrastructure

Did not have to build the program from scratch



Dedicated Customer Service

Meeting the unique needs of low-income customers



Shared Organizational Culture

Reamined adaptive and mission-focused

Impact on the Community

Food Quality

- Fresh, high-quality food with increasing focus on local sourcing
- Boxes with balanced meals
- Culturally appropriate food

Dignity

- Ability to receive help in privacy and comfort of home
- Personalization that meets dietary needs
- Removed burden and stigma of asking for help

Economic Resilience

- Additional jobs
- Specialty compensation
- Support local suppliers with continued business



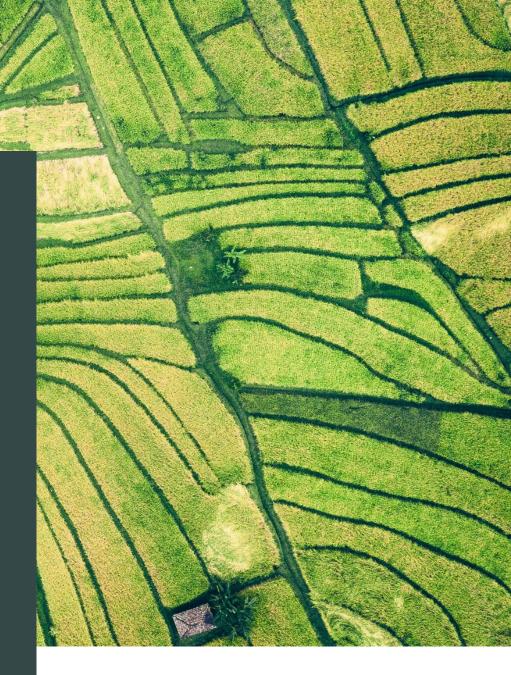
Thank You!

Carla Chinavare

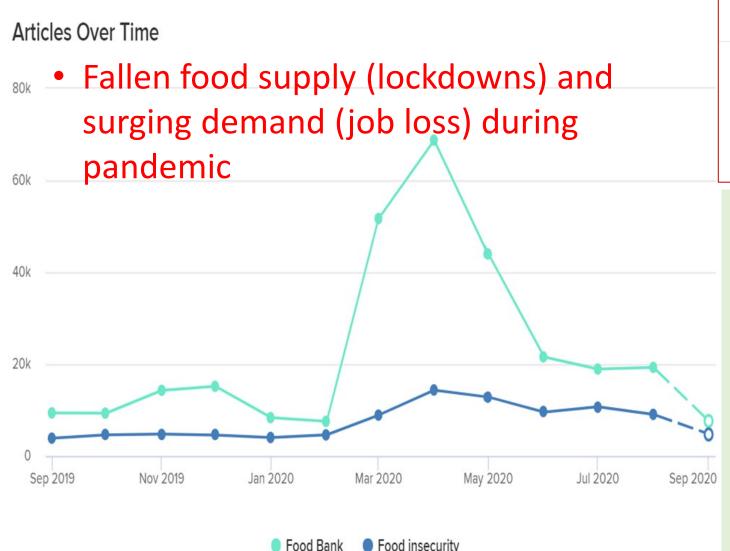
Whole Family School Age Director
Wayne Metropolitan Community Action Agency
cchinavare@waynemetro.org

Fixing a Food Bank's Pandemic Logistics Problem

Christopher Tang, UCLA Anderson School of Management



Fixing a Food Bank's Pandemic Logistics Problem



Los Angeles Times

SUBSCRIBE

Rotting food. Hungry masses. Chaotic supply chains. Coronavirus upends the U.S. food system

".... how to rebalance the supply and demand," said <u>Chris Tang</u>, a <u>supply chain</u> <u>expert and professor</u> at the UCLA Anderson School of Management. ".... how do you reduce the food waste so that the food will actually get to the people in need?"

Tang hopes that government and the private sector in California, with its tech hubs and massive farms, could take the lead.

LA Regional Food Bank (before Covid)



Hundreds of Food Sources to the Food Bank

More than one million pounds of food per week

600+ agencies

Distribution through

- · Food pantries
- · Soup kitchens & shelters
- Senior programs
- · Children's programs and schools
- Other agencies veterans, group homes, residential programs

- Founded in 1973
- The largest food bank in USA
- Distributed 82 million pounds of food in 2019
- In LA, 20% population with food insecurity
- In LA, 69% students received free/reduced price meals
- Received cash and food donations from grocers, mfrs, USDA, donors, etc.

- Retailers, growers, manufacturers, food drives
- USDA commodities
- Feeding America (national food bank network)
- Purchased food



Extra Helpings Program

Food bank distribution during Covid -- 2020

- Demand surged by 80% since April (continued to grow): Job loss, homelessness
- Covid-specific requirements
 - Closure of agencies (Churches, schools, etc.)
 - New locations (parking lots, popup tents)
 - Prepack food boxes (individuals cannot select items)
 - masks, social distancing
- Food Supply Shortages
 - Food/cash donations flattened
 - Farm operations disrupted
 - Restaurant closures, shortage of farm workers
- Manpower Shortages
 - Fixed number of employees
 - Volunteer shortages



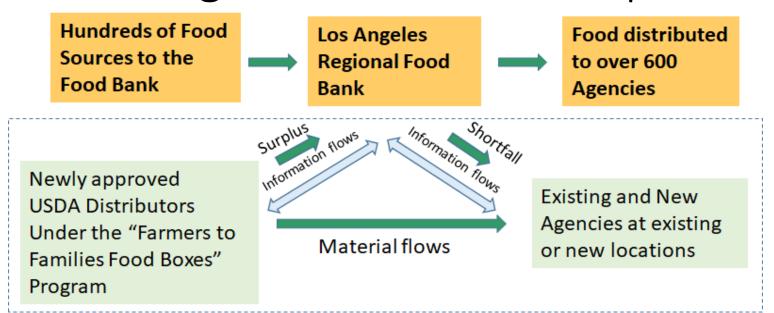
Federal government programs for sustaining food supply – May 2020

- Direct support to help farmers and ranchers to stay afloat: \$16 billion
- Indirect support to sustain demand for agricultural products: \$3 billion
- The Box Program
 - USDA purchases "fresh" produce, dairy, and meat directly from the producers
 - Approved suppliers (or distributors) can pack fresh products into preapproved boxes
 - Approved suppliers deliver boxes to Food banks, and other agents
- Challenges for LA Regional Food Bank
 - Cannot handle the volume
 - Insufficient manpower, storage space, freezers
 - Cannot manage the "dynamic" flows of \$1 billion fresh food from a dynamic list of suppliers to a dynamic list of agents with dynamic availability
 - Cannot keep track of the "flows" for auditing purposes





How did LA Regional Food Bank cope?





A hybrid supply chain structure during the Covid-19 Pandemic.

- Between mid-May to mid-June, LARFB distributed over 240,125 boxes (over 4.3 million pounds of produce, dairy, and meat products) from 14 suppliers approved by USDA to 370 agencies and 70 makeshift distribution locations (including 35 schools) under the box program.
- As the "box program" continues to grow, LARFB needs an online Decision Support System (DSS) quickly so that it can manage the box program more efficiently and continue to supply food to the needy amid the pandemic.

Food bank distribution problems during pandemic A team project with LA Regional Food Bank + Salesforce + UCLA

A silver lining

- Partnership (LARFB non-profit, Salesforce for-profit, UCLA public university)
- Diversity (Gender, Race, Skill)
- Volunteerism
- Rapid development 40 days (end to end)

Impact

- More equitable allocations of food
- Reduce burden from the management of LARFB
- Improve accuracy (check actual food deliveries and accurate invoicing from distributors to USDA)



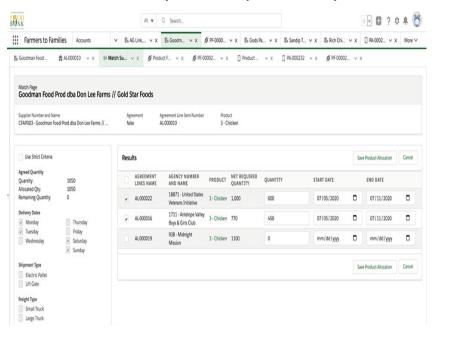


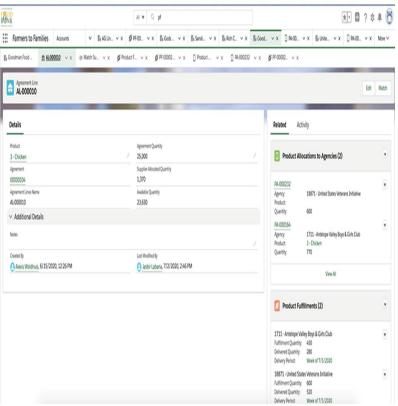




Salesforce DSS

- Information tracking dashboard
 - Who, what, when, how much, truck type, deliver days
- Food Allocation Solutions
 - Who, what, when, how much, truck type, deliver days

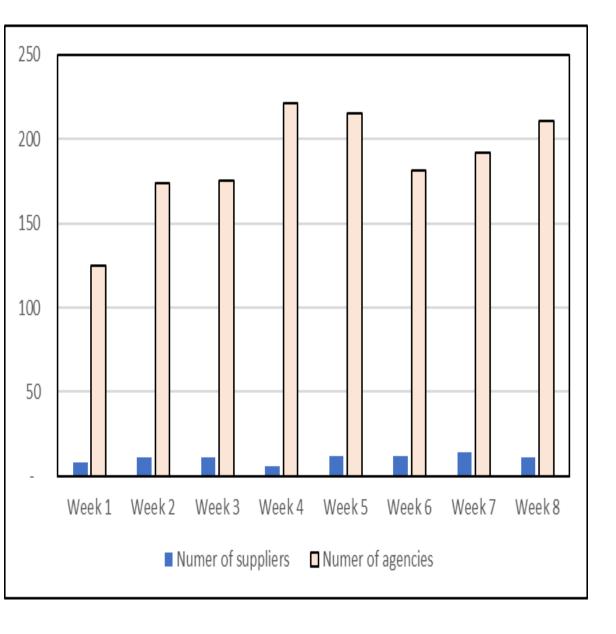


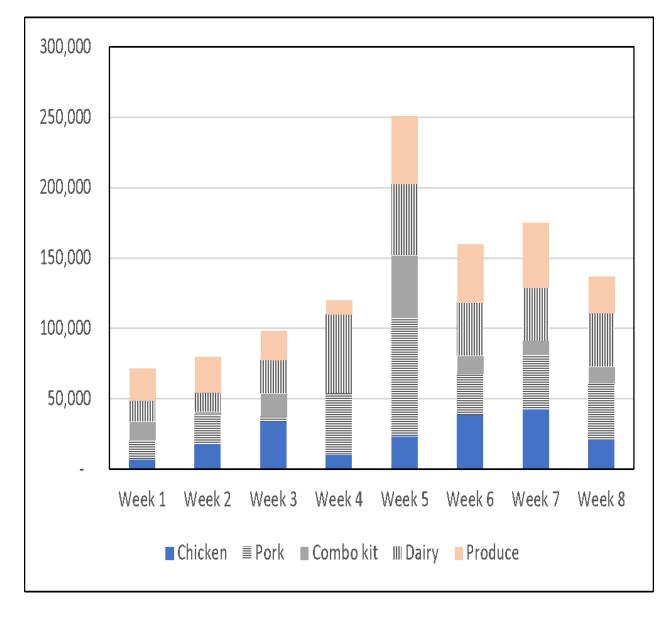






Scaling up the operations (8 weeks in July & Aug, 2020)





An innovative partnership solution to address food distribution

Los Angeles Times

Times Article Inspires Food Distribution Partnership with L.A.

Regional Food Bank

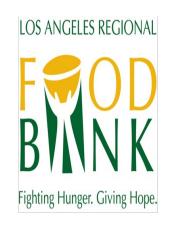


An article that appeared in the Los Angeles Times on May 5 inspired a new partnership to help get food to Angelenos in need.

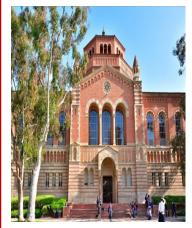
Reporter Kevin Rector's story, Rotting food. Hungry masses. Chaotic supply chains.

Coronavirus upends the U.S. food system, detailed how the country's food industry was flipped on its head by the COVID-19 pandemic. It included an interview with Chris Tang, a supply chain expert and professor at the UCLA Anderson School of Management. Tang explained that billions of dollars of food was being left to rot on

California farms at the same time that area food banks were seeing demand soar.







Improving equitable access of healthcare services and vaccines

- LA Venice Clinic Mobile Van (2021)
- Easy access location community centers near bus lines
- Expand vaccination sites in pharmacy / food dessert areas (e.g., 99 cents stores, dollar tree stores)
- Major challenges: communication, cooperation, collaboration among partners and beneficiaries!



VENICE FAMILY CLINIC LAUNCHES MOBILE CLINIC VAN TO HELP FAMILIES AT RISK
OF BECOMING HOMELESS AND ENHANCE ITS STREET MEDICINE PROGRAM



VACCINATION SITE

Los Angeles Metro Opens Vaccination Site Near 70 Bus Line In Boyle Heights





Dima M Qato, MPH, PharmD, PhD
Hygeia Centennial Chair and Associate Professor
Senior Fellow, Schaeffer Center for Health Policy and Economics
University of Southern California
qato@usc.edu

September 12th, 2023



'Pharmacy deserts' a growing health concern in Chicago, experts, residents say

'Pharmacy deserts' a growing health concern in Chicago, experts, residents say ... of Illinois at Chicago, who has studied pharmacy access for years ... active pharmacies in Chicago, state data obtained by the Tribune show.

Chicago Tribune - Jan 22, 2018

A Wave of Closures Has Left Some Neighborhoods in a "Pharmacy Desert"

Researchers point to a growing trend: fewer pharmacies in black and Latino communities, which could lead to a wider public health crisis.

CHICAGO MAGAZINE

Walgreens
Adds 200
Stores To
Growing Global
Closure List



Walgreens open again after temporary closure related to Covid-19

CVS closes locations in more than 20 states amid George Floyd protests

ns in more than ∠υ **⇔CVS** pharmacy pe Floyd protests

The pharmacy chain said that while many stores will be temporarily closed, customers will still be able to get prescriptions filled at nearby locations

WBEZ91.5

CHICAGO'S N P T NEWS

Morning Shift

Where Did All The Corner Drug Stores Go? Areas Lose Easy Access To Medicine

Morning Shift

Chicago CVS Closures Cause Major Headaches For Low-Income Seniors

Independent Pharmacies
Are Closing Down Across
the U.S.



BEHIND CLOSED DOORS

WHAT HAPPENS WHEN PHARMACIES CLOSE?

PHARMACYTODAY.ORG

'Pharmacy deserts' a growing health concern in Chicago, experts, residents say

Chicago Tribune

CVS is closing 46 stores: What you need to know

CVS revealed during its quarterly earnings call it is closing 46 stores that had been underperforming.

Here's what you should know.



Pharmacy deserts appear in Ohio as stores close amid drug pricing debate

DANVILLE – Maintaining access to the kinds of care that keep people out of the emergency room is becoming more difficult in the sparsely ...

The Columbus Dispatch - Jul 7, 2019

Pharmaceutical Supply Chain Disruptions at the Local Level

Community

Access to Medicines

Pharmacy Access

- •Is pharmacy accessible?
- Pharmacy Closures
- Pharmacy Deserts

Medication Availability

•Are Medicines in Stock?

Medication Affordability

- •Are Drugs Covered by Insurance?
- •Co-pay Affordable?

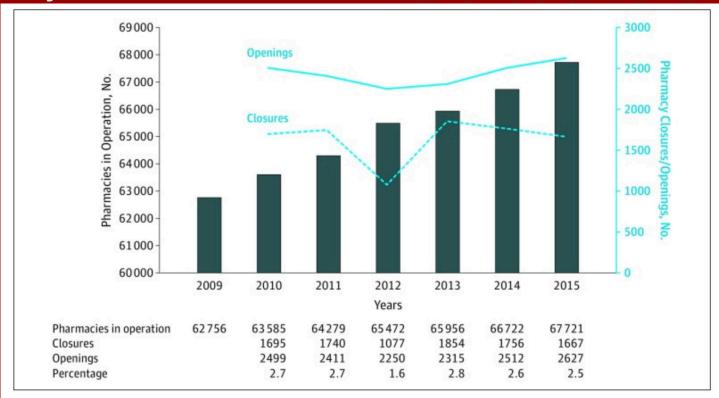
Access to Pharmacy Services

Pharmacist-Prescribing
Immunizations
Hours of Operation
Drive-Thru



Pharmacy Access

Despite a growing number of pharmacies, thousands of pharmacies close each year in the U.S.



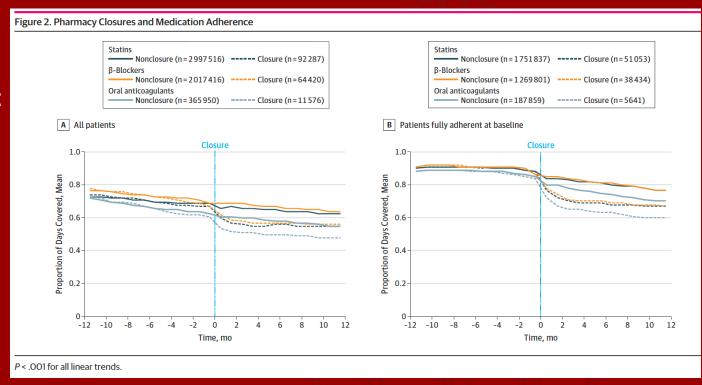
Assessment of Pharmacy Closures in the United States From 2009 Through 2015

JAMA Internal Medicine

Jenny S. Guadamuz, MS¹; G. Caleb Alexander, MD, MS^{2,3}; Shannon N. Zenk, PhD⁴; Dima M. Qato, PharmD, MPH, PhD^{1,5}

Pharmacy Access

Pharmacy closures have an immediate and persistent effect on adherence ...including among patients fully adherent prior to their pharmacy closing.

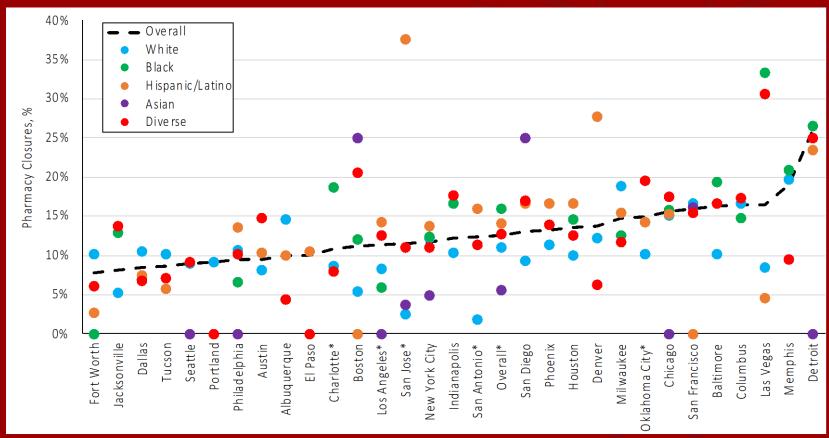


Association Between Pharmacy Closures and Adherence to Cardiovascular Medications Among Older US Adults

JAMA Netw Open. 2019;2(4):e192606. doi:10.1001/jamanetworkopen.2019.2606

Pharmacy Closures Disproportionately Impact Predominately Black and Hispanic Neighborhoods in U.S. Cities.

Exhibit 1. Pharmacy Closures in the 30 Most Populous U.S. Cities, by City and Community Type, 2015



Sources: Author analyses of data from the National Council for Prescription Drug Programs (2009-2015) and the American Community Survey (2011-2015).





Pharmacy Deserts
which
disproportionately
impact Black and
Latinx neighborhoods.



Pharmaceutical Supply Chain Disruptions at the Local Level

Community Access to Medicines Pharmacy Access Is pharmacy accessible? Pharmacy Closures Pharmacy Deserts Access to Medicines Medication Affordability • Are Drugs Covered by Insurance? • Co-pay Affordable? Access to Pharmacy Services

Pharmacist-Prescribing
Immunizations
Hours of Operation
Drive-Thru

Addressing Disruptions in Access to Medicines and Pharmacies in Vulnerable Communities

- Pharmacy Closures temporary and permanent
 - →Increased demand for home-delivery
- Stockpiling Patients were encouraged to fill 3 or 6-months supply of chronic medicines
 - → Stockouts of essential medicines
 - → Affordability of extended days supply for low-income
- Pharmacy Services
 - → Need for testing and vaccinations
 - → Need for pharmacist to prescribe



Ensuring Access to Medications in the US During the COVID-19 Pandemic

G. Caleb Alexander, MD, MS

Johns Hopkins Bloomberg School of Public Health, Center for Drug Safety and Effectiveness, Baltimore, Maryland; and Johns Hopkins Bloomberg School of Public Health, Department of Epidemiology,

Dima M. Qato, PharmD, MPH, PhD University of Illinois at Chicago College of Pharmacy, Department of Pharmacy Systems, Outcomes and Policy, Chicago, Illinois. The coronavirus disease 2019 (COVID-19) pandemic continues to rapidly evolve. Given the origins of COVID-19 in China, there were initial concerns regarding medication shortages due to the reliance of the US on overseas manufacturing of active pharmaceutical ingredients. ^{1,2} Although no major disruptions in pharmaceutical access have occurred thus far, the future of the pandemic and its effect on the US drug supply remains far from certain.

The pharmaceutical supply chain represents a series of interdependent steps that ultimately produce the products that are used by consumers in the US. From manufacturers, pharmaceuticals are shipped through wholesalers or distributors and on to retail, specialty, and mail-order pharmacies as well as to hospitals, nursing homes, prisons, clinics, and other sites of care. Retail pharmacies have an especially important role in this process, dispensing more than 85% of all prescription medications in the US. ³ From manufacturers to end users, the pharmaceutical supply chain is vast, employing tens of thousands of workers who manage the annual distribution of an estimated nearly 6 billion prescriptions in the US. ³

[P]harmacies have closed due to the pandemic, and widespread illness, quarantines, and social distancing measures may increasingly disrupt pharmacy access.

Although early reports regarding drug shortages have focused on overseas manufacturing, the effect of the COVID pandemic on the distribution of medicines within the US is also a concern. There have been reports that some pharmacies have closed due to the pandemic, and widespread illness, quarantines, and social distancing measures may increasingly disrupt pharmacy access. In addition, given a surge in demand for certain types of health care, there will be heightened need for many medicines such as those used to treat respiratory disease and critical illness.4 There may also be demand surges for specific medicines based on media coverage, emerging evidence of benefit, or other factors. These events, such as those that have already occurred for acetaminophen and hydroxychloroquine, may contribute to "stock outs" at distributors and pharmacies and, if left unregulated, worsened access for many in need.5,6 Federal and state regulators, as well as distributors and pharmacies, should take several emergency response and preparedness measures to address these possibilities.

Develop an Essential Medicines Strategy

Federal and state preparedness efforts should focus on what the World Health Organization (WHO) considers "essential medicines," which are medicines that satisfy the priority health needs of the population and should be available in the health system at all times, in adequate amounts, with quality ensured, and at a price the individual and community can afford. Such treatments include antibiotics, antivirals, antidiabetic agents, cardiovascular drugs, respiratory agents, contraceptives, mental health products, and analgesics. To implement an essential medicines strategy, the US Food and Drug Administration (FDA) should first develop a list of essential medicines. Such a list is critical in shaping regulations that ensure access to essential medicines is not interrupted during this and future critical.

Prevent Stockpiling and Drug Shortages

Efforts are needed to guard against surges in medication use as well as stockpiling that may cause shortages and inequitable access. One major wholesaler recently an-

nounced steps to protect its inventory, including to identify and mitigate the risk of drug shortages by allocating specific products, including antibiotics, antiviral agents, and respiratory medicines. ⁸ This allocation strategy should include other essential medicines and be required for all wholesalers. Restricting the retail dispensing of essential medicines to a 30-day emergency supply, including for cash-

paying customers, would also reduce the likelihood of demand surges and drug shortages.

Expand Capacity for Mail-order and Home Delivery

Rapid increases in the capacity for mail-order and home delivery are vital. Many retail pharmacies do not offer home-delivery services, and mail-order pharmacies account for less than 10% of all retail prescriptions dispensed in the US. ³ The scope of these delivery systems should be increased given potential for quarantines or widespread pharmacy closures. Following the lead of several large pharmacy chains, ⁹ public and private payers should also provide incentives for pharmacies, particularly independent stores located in underserved areas, to offer home delivery services at no cost.

Finance an Emergency Supply of Essential Medicines

Given the uncertainty around where and when disruptions to the supply chain may take place, health care

JAMA July 7, 2020 Volume 324, Number 1

Corresponding

What was the Public Health Response to Ensure Access to Medications During COVID Pandemic?

DEPARTMENT OF HEALTH & HUMAN SERVICES Centers for Medicare & Medicaid Services 7500 Security Boulevard

Baltimore, Maryland 21244-1850

DATE: May 22, 2020 (rev. from April 21, 2020)

TO: All Medicare Advantage Organizations, Part D Sponsors, and Medicare-Medicaid Plans

SUBJECT: Information Related to Coronavirus Disease 2019 - COVID-19

Walgreens, CVS Waive Drug Delivery Fees To Ensure Access During COVID-19 Pandemic

'2020-03-18 18:26:00

CMS Guidance

- Relax "Out-of-network" pharmacy cost-sharing policies
- Early refill authorizations
- Home delivery and mail-order exemptions

Pharmacy response

- Drive-thru
- Home delivery at no-cost

State Policy Responses

- Pharmacist Prescribing
- Home delivery at no-cost



Black Chicagoans are testing positive and dying at higher rates from Covid-19 than any other racial group in the city.

Population share of African Americans by zip code

10% 30% 50% 70% 90%

None of the initial testing sites in the Chicago area were located in predominantly black neighborhoods



Understanding the Federal Retail Pharmacy Program for COVID-19 Vaccination



The Federal Retail Pharmacy Program for COVID-19 Vaccination is a collaboration between the federal government, states and territories, and 21 national pharmacy partners and independent pharmacy networks to increase access to COVID-19 vaccination across the United States

However, chains account for a smaller share of pharmacies serving minority neighborhoods

EXHIBIT 2

Pharmacies in the 30 most populous US cities, by neighborhood type, 2015

	All pharmacies		Neighborhood type (%)				
	Number	Percent	White $(n = 3,718)$	Diverse $(n = 2,376)$	Black $(n = 1,326)$	Hispanic/Latino ($n = 1,926$)	
Total	9,346	100.0	39.8	25.4	14.2	20.6	
Pharmacy type Chain Independent Mass Food Clinic/government	3,341 4,327 647 601 430	35.7 46.3 6.9 6.4 4.6	44.1 34.8 7.6 9.6 4.0	31.2** 51.5** 7.4 5.5** 4.4	33.6** 53.1** 3.2** 2.6** 7.4**	26.7** 57.4** 7.6 4.1** 4.2**	
340B program Participants	2,413	25.8	26.3	22.3**	29.0	27.1	

More than half are independent stores—many of which do not participate in the federal retail pharmacy program for COVID-19 Vaccine



Pharmacies located in Black/Latinx neighborhoods are less likely to have a drive-thru, offer immunizations or be 24-hour stores.

Table 1. Types of Pharmacies and Services in New York City, Los Angeles, Chicago, and Houston, by Neighborhood Type, 2020

	Neighborhood Type, No. (%)					
	Total				Latina	
N V I A''	Total	White	Diverse	Black	Latino	pa
New York City	2782 (100.0)	830 (29.8)	943 (33.9)	346 (12.4)	663 (23.8)	
Chain stores	568 (20.4)	278 (33.5)	134 (14.2)	71 (20.5)	85 (12.8)	<.01
Services						
Immunization	1069 (38.4)	437 (52.7)	273 (29.0)	142 (41.0)	217 (32.7)	<.01
24-hour	482 (17.3)	200 (24.1)	125 (13.3)	62 (17.9)	95 (14.3)	<.01
Drive-thru	42 (1.5)	23 (2.8)	8 (0.8)	3 (0.9)	8 (1.2)	<.01
Delivery	2023 (72.7)	578 (69.6)	678 (71.9)	250 (72.3)	517 (78.0)	<.01
Los Angeles	689 (100.0)	221 (32.1)	202 (29.3)	15 (2.2)	251 (36.4)	
Chain stores	281 (40.8)	86 (38.9)	92 (45.5)	9 (60.0)	94 (37.5)	.12
Services						
Immunization	340 (49.3)	118 (53.4)	110 (54.5)	7 (46.7)	105 (41.8)	.03
24-hour	188 (27.3)	60 (27.1)	60 (29.7)	3 (20.0)	65 (25.9)	.72
Drive-thru	45 (6.5)	9 (4.1)	14 (6.9)	2 (13.3)	20 (8.0)	.72
Delivery	417 (60.5)	143 (64.7)	111 (55.0)	9 (60.0)	154 (61.4)	.31
Chicago	421 (100.0)	189 (44.9)	64 (15.2)	98 (23.3)	70 (16.6)	
Chain stores	268 (63.7)	145 (76.7)	33 (51.6)	49 (50.0)	41 (58.6)	<.01
Services						
Immunization	271 (64.4)	152 (80.4)	35 (54.7)	44 (44.9)	40 (57.1)	<.01
24-hour	82 (19.5)	56 (29.6)	12 (18.8)	6 (6.1)	8 (11.4)	<.01
Drive-thru	156 (37.1)	78 (41.3)	18 (28.1)	32 (32.7)	28 (40.0)	.23
Delivery	121 (28.7)	40 (21.2)	25 (39.1)	32 (32.7)	24 (34.3)	.02



Pharmacy Deserts Could Become Next Vaccine Deserts

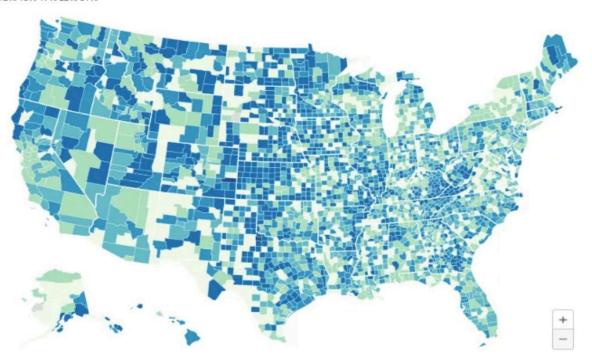
Vaccine Deserts: County by County

Share of currently unvaccinated population that could receive the full two-shot COVID-19 vaccination if 100 million vaccines were made available

Percent able to get both vaccine doses

12% 15% 17% 22% 81%



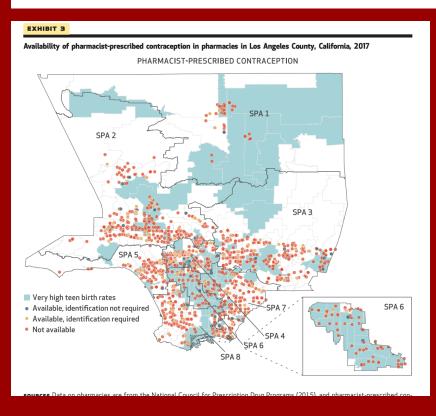


Note: This calculation is based on the proposed policy to administer 100 million COVID-19 vaccines in 100 days. The number of COVID-19 vaccines available in each county is calculated assuming the initial allocation across states is based on state population share and vaccines are distributed equally across every community retail pharmacy within a state. The number of currently unvaccinated people in each county excludes those who received the first vaccine dose as of January 8, 2021. The share of currently unvaccinated people that will have both vaccine doses available is calculated as the number of full (two-shot) vaccinations available in a given county, divided by the population in that county.

WOMEN'S HEALTH

By Dima Mazen Qato, G. Caleb Alexander, Jenny S. Guadamuz, Sun Choi, Rebecca Trotzky-Sirr, and Stacy Tessler Lindau

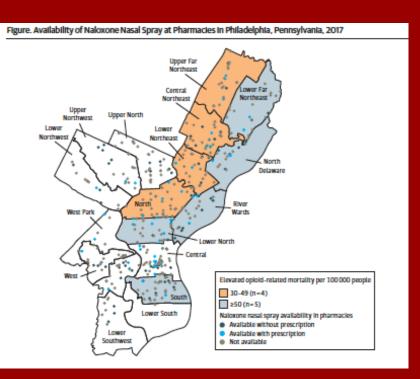
Pharmacist-Prescribed And Over-The-Counter Hormonal Contraception In Los Angeles County Retail Pharmacies



Approximately 1-year after California law allowed pharmacists to prescribe birth control only 10% of retail pharmacies actually offered this service.

Health Affairs

We found that two-thirds of pharmacies did not have naloxone available or in stock

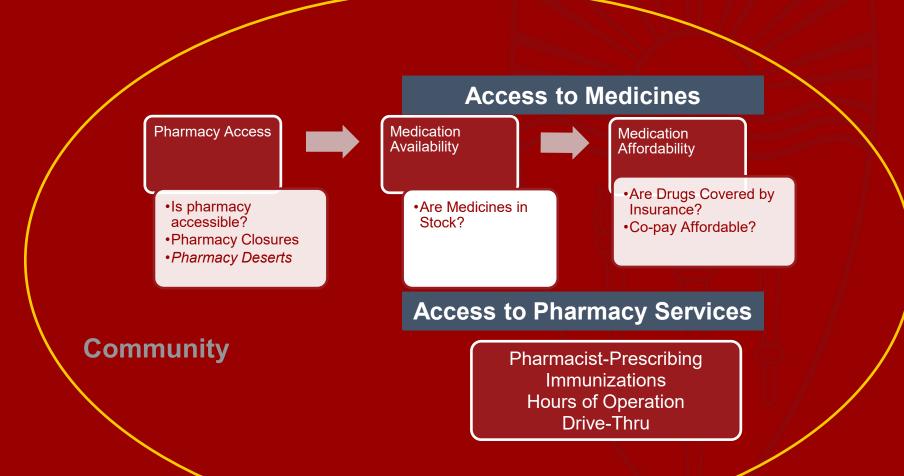


		Naloxone Nasal Spray Availability, No. (%) [95% CI, %]				
Characteristic	Total, No. (%)	Available	Not Available	P Value ^a		
Overall	418 (100)	143 (34.2) [29.8-38.9]	275 (65.8) [61.1-70.2]			
Pharmacy type						
Chain	157 (37.6)	72 (45.9) [38.2-53.7]	85 (54.1) [46.3-61.8]	<.001		
Independent	230 (55.0)	64 (27.8) [22.4-34.0]	166 (72.2) [66.0-77.6]			
Food store or mass retailer	31 (7.4)	7 (22.6) [11.0-40.8]	24 (77.4) [59.2-89.0]	_		
Neighborhood characteristics						
Minority population ^b						
Tertile 1: <41.8%	142 (34.4)	58 (40.8) [33.0-49.2]	84 (59.2) [50.8-67.0]			
Tertile 2: 41.8%-89.0%	132 (32.0)	44 (33.3) [25.8-41.9]	88 (66.7) [58.1-74.2]	.10		
Tertile 3: >89.0%	139 (33.6)	40 (28.8) [21.8-36.9]	99 (71.2) [63.1-78.2]			
Not low income ^{b,c}	165 (40.0)	60 (36.4) [29.3-44.0]	105 (63.6) [56.0-70.7]	.49		
Low Income	248 (60.0)	82 (33.1) [27.5-39.2]	166 (66.9) [60.8-72.5]			
Planning district opioid overdose deaths (per 100 000 people) ^d						
Not elevated: <30	174 (41.6)	67 (38.5) [31.5-46.0]	107 (61.5) [54.0-68.5]	.30		
Elevated: 30-49	77 (18.4)	24 (31.2) [21.8-42.4]	53 (68.8) [57.6-78.2]			
Very elevated: ≥50	167 (40.0)	52 (31.1) [24.5-38.6]	115 (68.9) [61.4-75.5]			



Less likely to be in stock in predominately Black or Hispanic/Latinx neighborhoods

Pharmaceutical Supply Chain Disruptions at the Local Level



Addressing Disruptions in Access to Medicines and Pharmacies in Vulnerable Communities

- Ensure Pharmacy Access Following Pharmacy Closures expand pharmacy networks, finance home-delivery
 - → Medicaid/Medicare cover the costs for home-delivery for low-income communities
 - → Allow patients affected by closures to refill prescriptions at any pharmacy
- Prevent Stockpiling of essential medicines with a drug shortage and finance emergency supply
 - → Restrict extended day supply for essential medicines with a drug shortage.
 - → Cover the cost of extended days supply (e.g., 12-months).
- Prevent Stock-outs Monitor Medication Needs and Forecast Demand at the Local level

 Coordination between state, local public health agencies and pharmacies to identify what medicines are increasingly filled, stock-outs.
- Expand Pharmacy Services
 - → Expand capacity for point-of-care testing and vaccinations to include independent pharmacies. e.g., "Test-to-Treat"
 - → Expand capacity for pharmacist-prescribing



Addressing Disruptions in Access to Medicines and Pharmacies in Vulnerable Communities

- Develop an Essential Medicines List
- State and local inventory or stockpile and equitable distribution of essential medicines based on need
- Prevent Patient Stockpiling and Drug Shortages
- Expand Capacity For Home Delivery
- Finance and Emergency Supply of Essential Medicines
- Increase domestic production

VIEWPOINT

Ensuring Access to Medications in the US During the COVID-19 Pandemic

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Dima M. Qato, PharmD, MPH, PhD University of Illinois at Chicago College of Pharmacy, Department of Pharmacy Systems, Outcomes and Policy, Chicago, Illinois The coronavirus disease 2019 (COVID-19) pandemic continues to rapidly evolve. Given the origins of COVID-19 in China, there were initial concerns regarding medication shortages due to the reliance of the US on overseas manufacturing of active pharmaceutical ingredients. ^{1,2} Although no major disruptions in pharmaceutical access have occurred thus far, the future of the pandemic and its effect on the US drug supply remains far from certain.

The pharmaceutical supply chain represents a series of interdependent steps that ultimately produce the products that are used by consumers in the U.S. From manufacturers, pharmaceuticals are shipped through wholesalers or distributors and on to retail, specialty, and mail-order pharmacies as well as to hospitals, nursing homes, prisons, clinics, and other sites of care. Retail pharmacies have an especially important role in this process, dispensing more than 85% of all prescription medications in the U.S. From manufacturers to end users, the pharmaceutical supply chain is vast, employing tens of thousands of workers who manage the annual distribution of an estimated nearly 6 billion prescriptions in the U.S. ³

[P]harmacies have closed due to the pandemic, and widespread illness, quarantines, and social distancing measures may increasingly disrupt pharmacy access.

Although early reports regarding drug shortages have focused on overseas manufacturing, the effect of the COVID pandemic on the distribution of medicines within the US is also a concern. There have been reports that some pharmacies have closed due to the pandemic, and widespread illness, quarantines, and social distancing measures may increasingly disrupt pharmacy access. In addition, given a surge in demand for certain types of health care, there will be heightened need for many medicines such as those used to treat respiratory disease and critical illness.4 There may also be demand surges for specific medicines based on media coverage, emerging evidence of benefit, or other factors. These events, such as those that have already occurred for acetaminophen and hydroxychloroquine, may contribute to "stock outs" at distributors and pharmacies and, if left unregulated, worsened access for many in need.5,6 Federal and state regulators, as well as distributors and pharmacies, should take several emergency response and preparedness measures to address these possibilities.

Develop an Essential Medicines Strategy

Federal and state preparedness efforts should focus on what the World Health Organization (WHO) considers "essential medicines," which are medicines that satisfy the priority health needs of the population and should be available in the health system at all times, in adequate amounts, with quality ensured, and at a price the individual and community can afford. Such treatments include antibiotics, antivirals, antidiabetic agents, cardiovascular drugs, respiratory agents, contraceptives, mental health products, and analgesics. To implement an essential medicines strategy, the US Food and Drug Administration (FDA) should first develop a list of essential medicines. Such a list is critical in shaping regulations that ensure access to essential medicines is not interrupted during this and future crises.

Prevent Stockpiling and Drug Shortages

Efforts are needed to guard against surges in medication use as well as stockpiling that may cause shortages and inequitable access. One major wholesaler recently an-

nounced steps to protect its inventory, including to identify and mitigate the risk of drug shortages by allocating specific products, including antibiotics, antiviral agents, and respiratory medicines. ⁸ This allocation strategy should include other essential medicines and be required for all wholesalers. Restring the retail dispensing of essential medicines to a 30-day emergency supply, including for cash-

paying customers, would also reduce the likelihood of demand surges and drug shortages.

Expand Capacity for Mail-order and Home Delivery

Rapid increases in the capacity for mail-order and home delivery are vital. Many retail pharmacies do not offer home-delivery services, and mail-order pharmacies account for less than 10% of all retail prescriptions dispensed in the US.³ The scope of these delivery systems should be increased given potential for quarantines or widespread pharmacy closures. Following the lead of several large pharmacy chains,⁹ public and private payers should also provide incentives for pharmacies, particularly independent stores located in underserved areas, to offer home delivery services at no cost.

Finance an Emergency Supply of Essential Medicines

Given the uncertainty around where and when disruptions to the supply chain may take place, health care

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Questions?

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