

Addressing Health Disparities Through Research & Mentorship

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Department of Family Medicine

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- Background and training
- Research
 - Digital health and language barriers to healthcare
 - Primary care workforce & physician workforce diversity
 - Diabetes quality of care
- Mentorship and Medical Education



Daughter of immigrants

- My parents are from Mexico
- Instilled the importance of education

Born and raised in Salinas, CA

- Cultural diversity and social disparities
- Agricultural prosperity & economic inequality

Memories with my grandma

- Caregiver while parents were working
- Role as a translator

First Gen

- Attended community college in Monterey County
- Transferred to UCLA

Medical School

- PRIME-LA (MD/MPH)
- Research publication: Interest in Family Medicine Among US Medical Students and its Association With a Community College Academic Pathway

Residency and Fellowship

- UCLA Family Medicine Residency Program
- UCLA NRSA T32 Primary Care Post-Doctoral Research Fellowship (2 years)(MS)



Source: Talamantes E, Hernandez AM, Gonzalez R, Gonzalez K, Ulloa J, Dowling PT, Estrada A, Moreno G. Interest in Family Medicine Among US Medical Students and Its Association With a Community College Academic Pathway. *Fam Med*. 2017 Nov;49(10):759-764. PMID: 29190400.

Clinician-scientist (75%)

- Assistant Professor
- Diabetes, digital health, primary care workforce, medical education

Teaching and mentoring

- Medical students and residents
- Center of Excellence, PRIME
- High school mentorship program

Clinical care (25%)

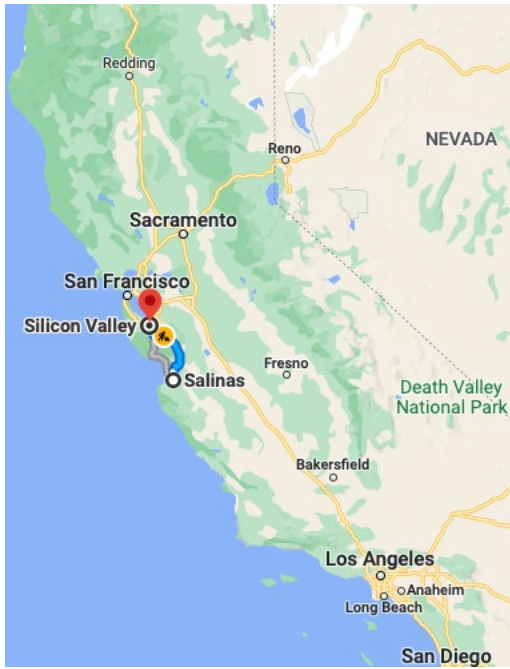
- Primary care physician
- Culturally responsive care

Community

- Community medicine
- Health fairs



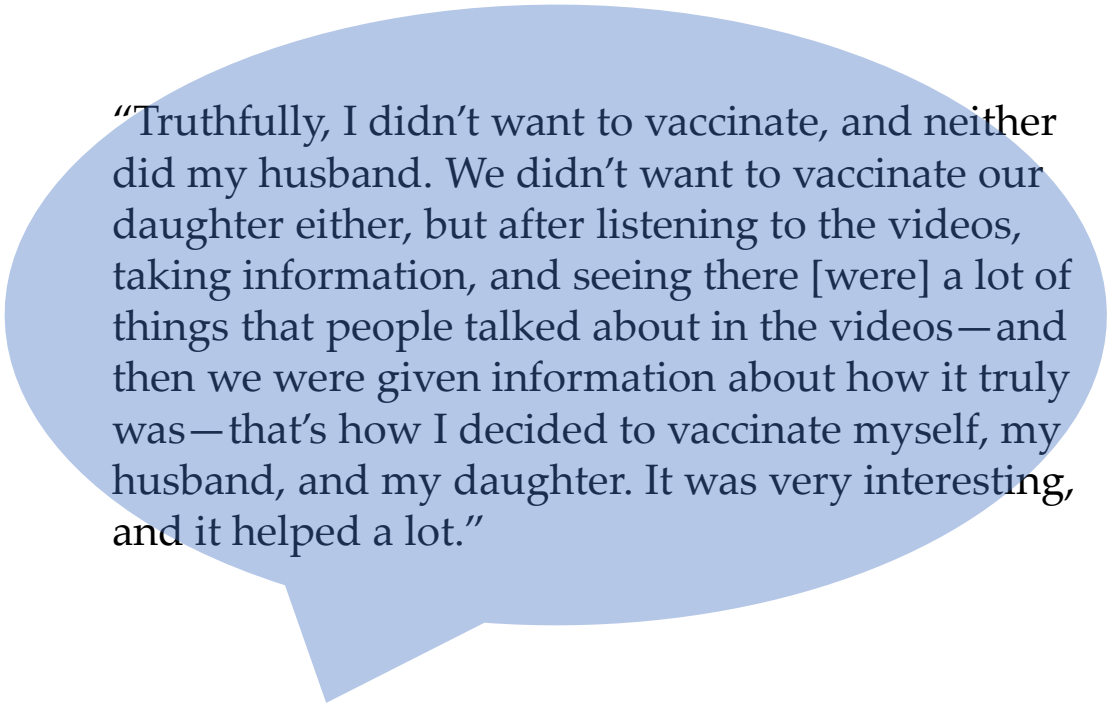
2. Research – Digital Health



Using digital technology to build COVID-19 vaccine confidence: A qualitative study among Latinx parents of children ages 5–11 in under-resourced communities across Los Angeles County

Michael Panameno ^{1,2}, Luisa Blanco ³, Ann Marie Hernandez ^{1,4}, Renato Escobar ⁴, Brittney Zendegas ⁴, Susana Rafaela ⁴, Yelba Castellon-Lopez ⁵

- Purposeful sampling of parents having a child 5-11 years old who previously enrolled in the MVLA intervention
- Randomly recruited participants from those who enrolled and completed MVLA and those who enrolled and did not complete MVLA
- Conducted six virtual focus groups via Zoom that lasted up to 60 mins with 5-10 participants per group



“Truthfully, I didn’t want to vaccinate, and neither did my husband. We didn’t want to vaccinate our daughter either, but after listening to the videos, taking information, and seeing there [were] a lot of things that people talked about in the videos—and then we were given information about how it truly was—that’s how I decided to vaccinate myself, my husband, and my daughter. It was very interesting, and it helped a lot.”

- To assess the association between limited English proficiency and telehealth use among adults living in California
- Conducted a cross-sectional analysis of 2021 California Health Interview Survey
- Multivariable logistic regression was used to calculate adjusted odds of telehealth use associated with English language proficiency
- Covariates: age, sex, education, FPL, race/ethnicity, insurance type, self-reported health, and usual source of care
- ***Manuscript submitted for peer review***

Variable	Telehealth Use (AOR)
English proficiency (ref: non-LEP)	
Limited English proficiency	0.68***
Education (ref: college grad)	
Less than HS	0.62***
HS graduate	0.60***
Some college	0.83**
Race/ethnicity (ref: White)	
African American	1.01
Asian	0.66***
Hispanic/Latino	0.89*
Insurance (ref: employer-based)	
Uninsured	0.36***
Medicare	1.75***
Medi-Cal	0.92
No usual source of care	0.31***

*p < 0.05; **p < 0.01; *** p < 0.001; AOR = Adjusted Odds Ratio

Lessons learned from a multi-site collaborative working toward a digital health use screening tool

Ann M. Hernandez^{1*}, Elaine C. Khoong^{2,3}, Neytali Kanwar⁴,
Naomi Lopez-Solano⁵, Jorge A. Rodriguez^{6,7},
Emilia De Marchis⁸, Oanh Kieu Nguyen^{3,5,9} and
Alejandra Casillas¹⁰

- The digital divide demands a roadmap for digital health exclusion screening as a distinct social driver of health
- Identifying common challenges and persistent gaps in frequently used social screening tools

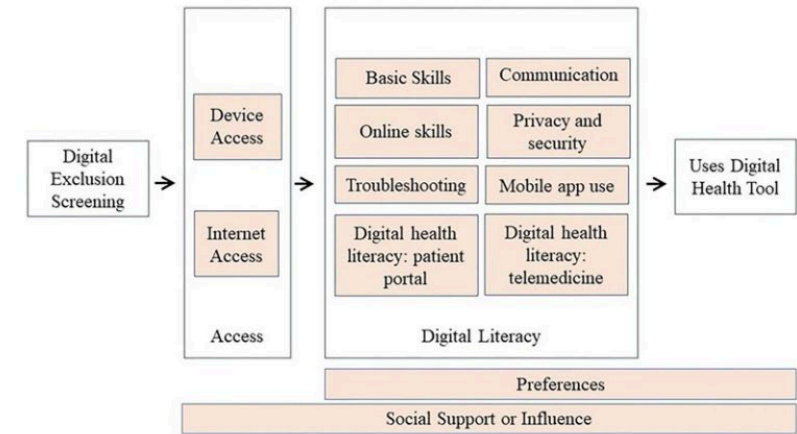


FIGURE 1

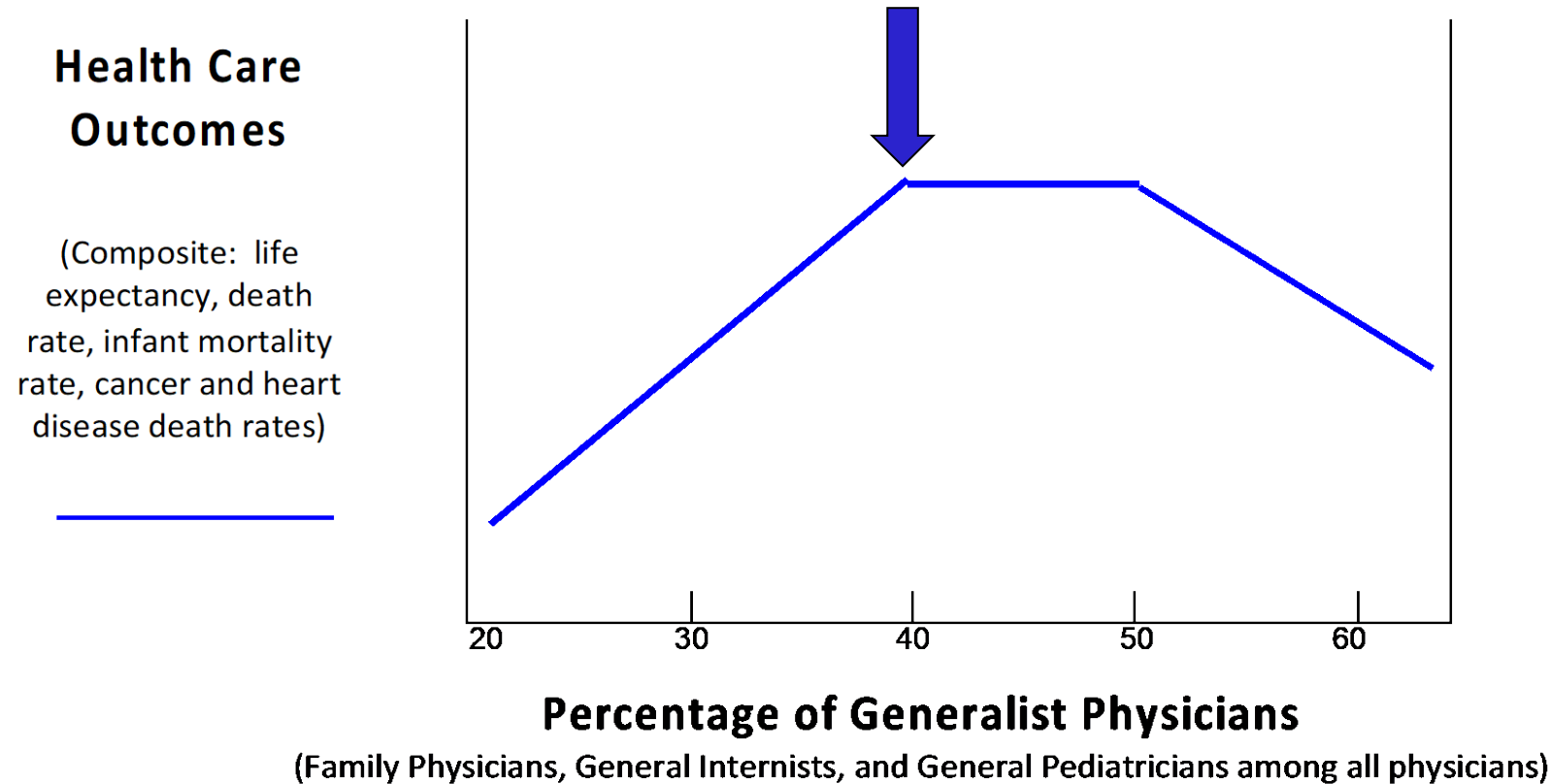
Conceptual framework for use of digital health tools.

We conceptualize use of a digital health tool as requiring device and internet access, digital literacy, and preference for using the tool. Social support may impact any of these three constructs. Digital exclusion screening should focus on access and digital literacy.

- Digital Health Technology Navigators
 - Exploring Health Technology Navigators' perspectives on barriers and facilitators towards digital health implementation for older and linguistically diverse patients in a safety net health system
 - Mentoring a medical student and collaborating with Dr. Alejandra Casillas
 - Manuscript in review
- The future: AI as a disruptor of innovation in digital health

2. Research – Primary Care Physician Workforce

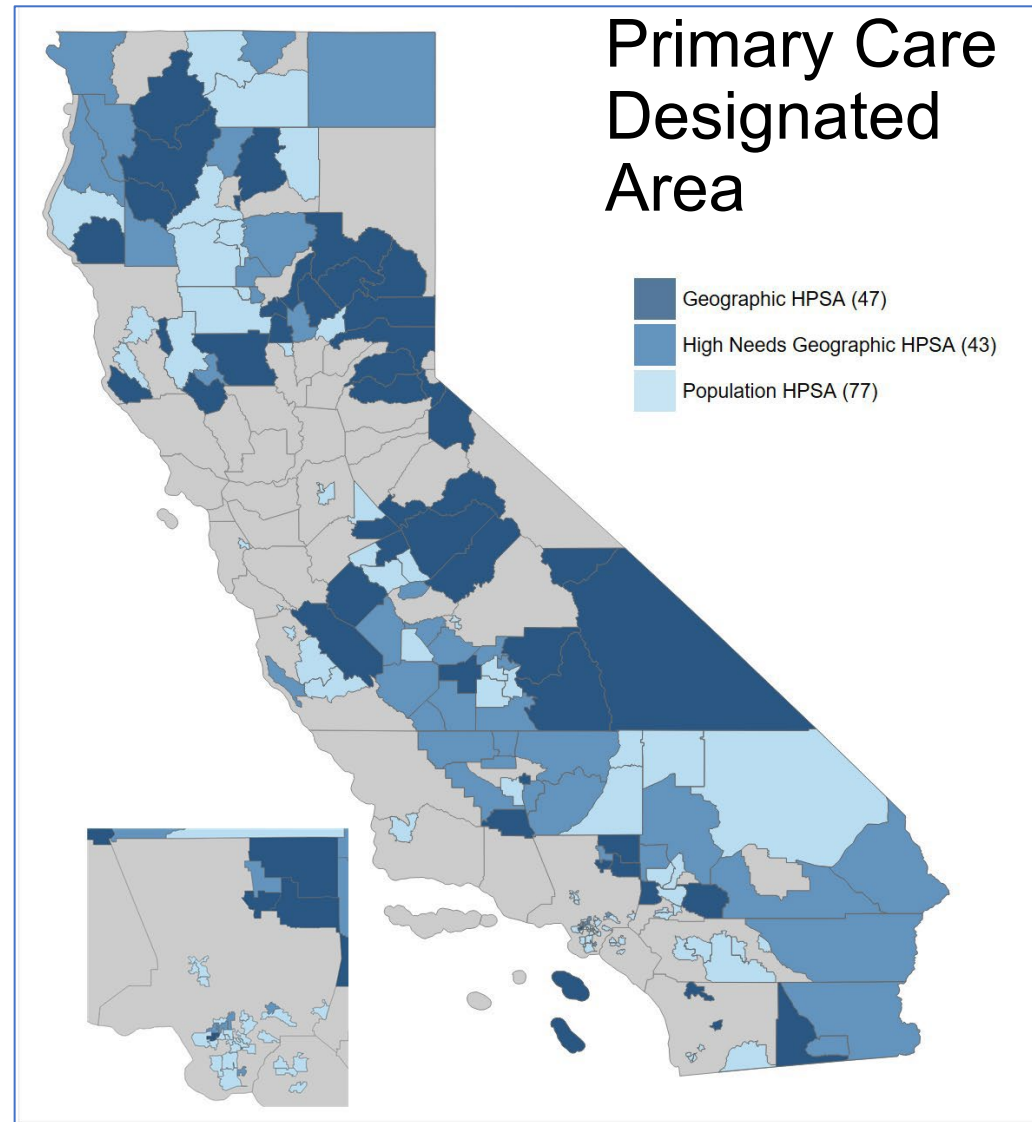
Relationship of Physician Workforce and Health Outcomes



Source:

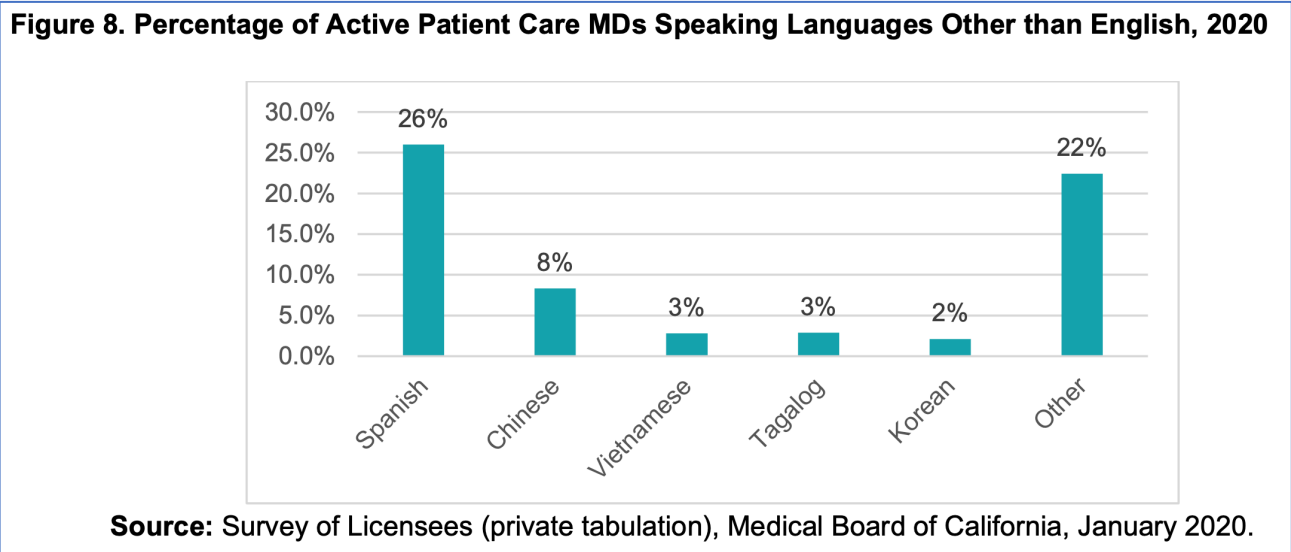
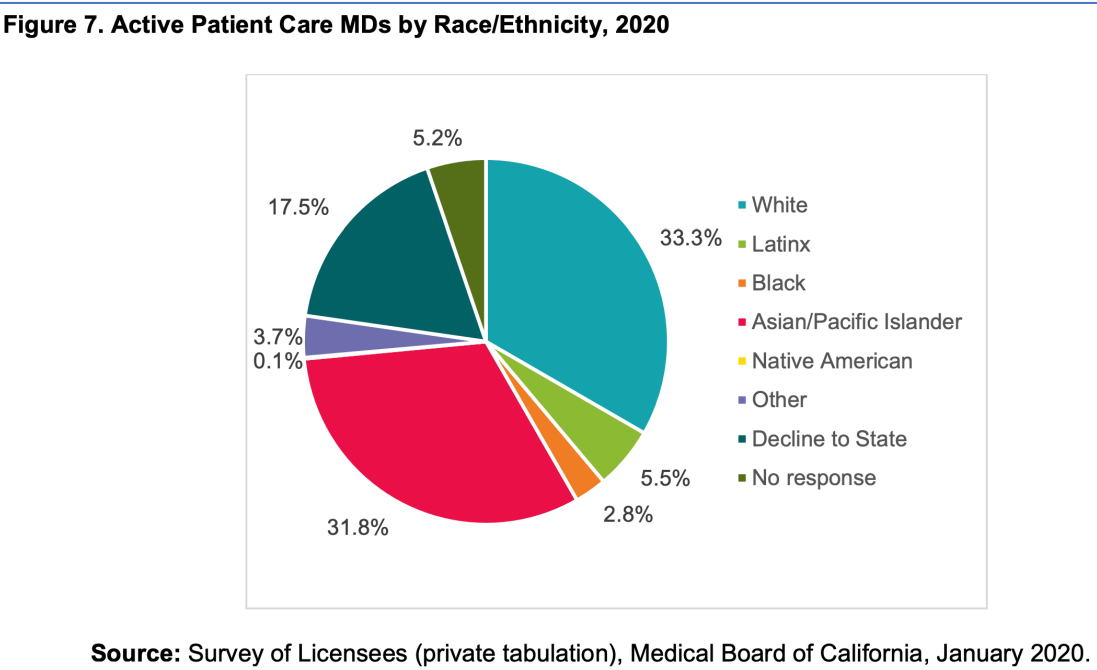
Composite Model Using Data from The Bloomberg School of Public Health (John Hopkins University)

Health Professional Shortage Areas



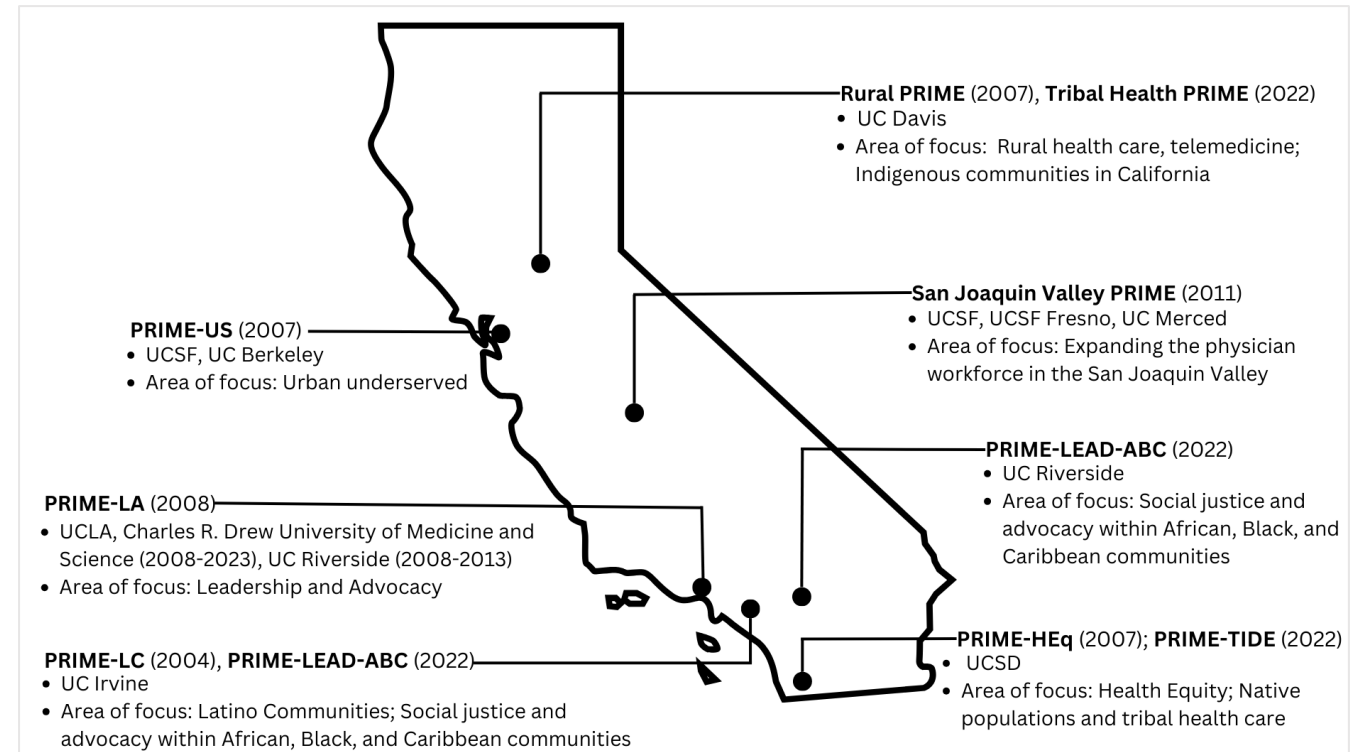
Source: <https://data.chhs.ca.gov/dataset/health-professional-shortage-areas-in-california>

Diversity & Language Representation in California's Physician Workforce



Source: UCOP Annual Review Report (2021)

- UC Office of President Initiative
 - Each medical school in California has a PRIME program
- Goal of PRIME Programs
 - California communities
 - Expand to other professions
- At UCLA, PRIME-LA
 - 18 students per year
 - MD/Masters Concurrent Program
 - Assistant Director, Research & Evaluation



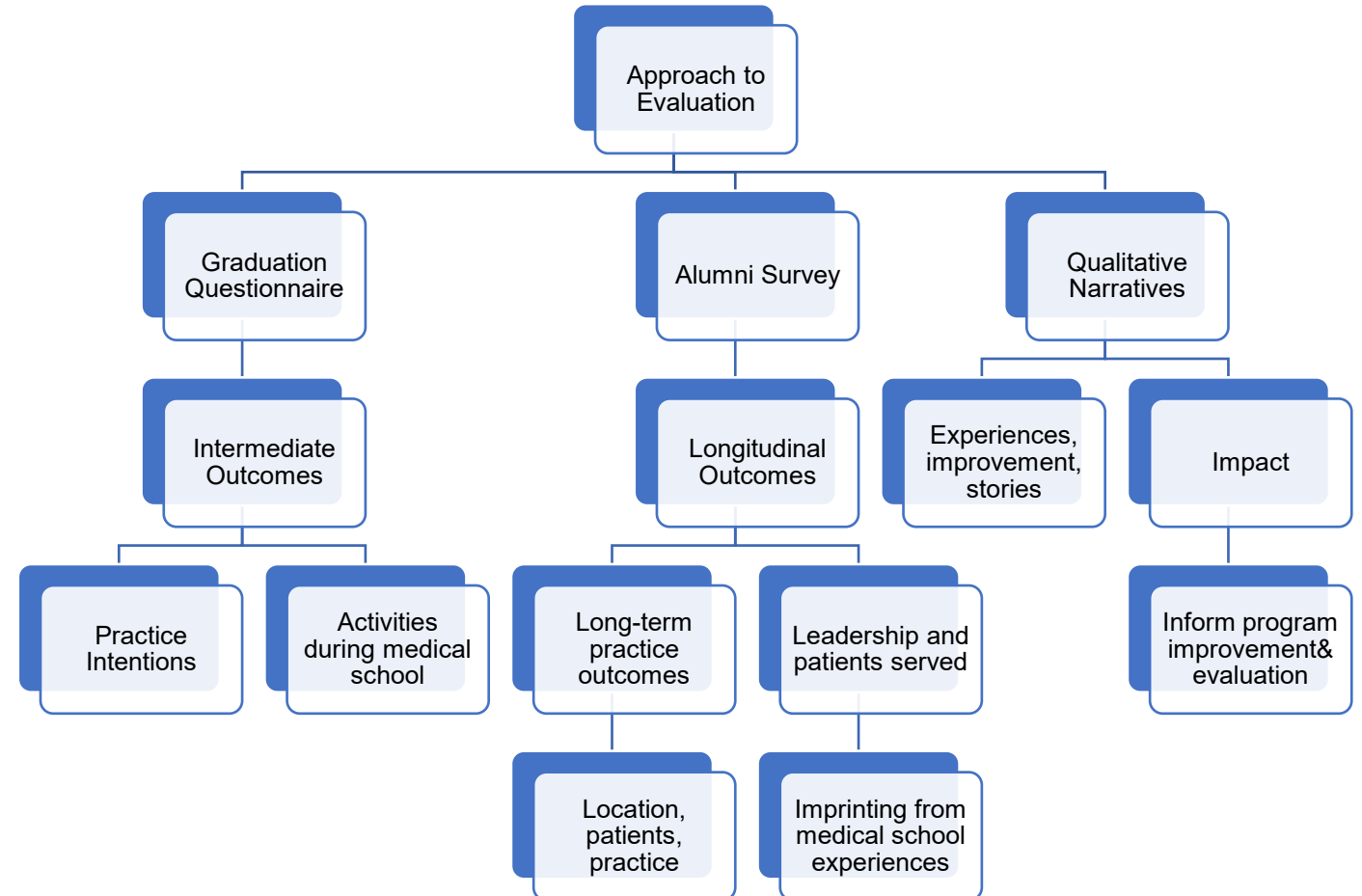
Source: Hernandez et al, FamMed (2024)



Over 300 medical students matriculated



- Mixed methods, cohort study



- AAMC Graduation Questionnaire, a national survey conducted annually
- PRIME-LA vs comparator group
- Primary outcome: intentions to practice in an underserved community or underserved area

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ORIGINAL ARTICLE

Practice Intention: Addressing the Needs of Diverse Underserved Communities in Medical Education

Ann M. Hernandez, MD, MPH^a; Yulsi L. Fernandez Montero, MD, MPH^a; Olivia Ishibashi, MD, MPH^{a,b}; Ricardo Antillon, MPH^a; Alejandra Torres, MEd^b; Gerardo Moreno, MD, MSHS^{a,b}

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ABSTRACT

Background and Objectives: The US physician workforce is at a critical juncture, with a projected shortage and misdistribution of primary care physicians. Culturally and linguistically diverse states, such as California, are challenged to search for innovative approaches in medical education to address the physician needs of diverse underserved communities. The University of California recognizes this imperative and supports Programs in Medical Education (PRIME), including PRIME Leadership and Advocacy (PRIME-LA) at University of California Los Angeles (UCLA). This study examines medical education outcomes for PRIME-LA graduates versus a comparator group.

Methods: We conducted a secondary data analysis of the graduation questionnaire.

Intentions at Graduation	PRIME-LA n = 91 %	Comparator n = 775 %	P value
Plan to work primarily in an underserved area	89.0%	31.6%	<0.001
Regardless of location, plan to care primarily for an underserved population	93.4%	43.5%	<0.001

Source: Hernandez et al, FamMed (2024)

Table 1. Respondent characteristics from 2013-2022 for the University of California Los Angeles Program in Medical Education

Respondent characteristics	Respondents n = 85 n (%)
Race/ethnicity	
Asian	17 (20.0%)
Black	13 (15.3%)
Latino/a	37 (43.5%)
White	6 (7.1%)
More than one race	7 (8.2%)
Other	5 (5.9%)
Training status	
Residency or fellowship	42 (49.4%)
Not in training	43 (50.6%)
Practice or residency in CA	67 (78.8%)
Family Medicine Specialty	25 (29.4%)
Specialty	
Primary care	41 (48.2%)
Non-primary care	44 (51.8%)

Table 2. PRIME-LA alumni self-reported underserved practice and clinical care characteristics by training status

	Resident + Fellow (n = 42)	Not in Training (n = 43)
Do you currently practice in an underserved area?	35 (83.3%)	33 (76.7%)
Regardless of location, do you provide care primarily for an underserved population?	33 (78.6%)	33 (76.7%)

- ***Manuscript in progress***

2. Research – Diabetes

Exploring how Spanish-speaking Latino/as navigate pharmacologic diabetes treatment options

- The American Diabetes Association recommends that glucagon-like peptide 1 (GLP-1 RA) receptor agonists be considered in adults with type 2 diabetes when assessing patients' preferences and needs.
- For adults with established atherosclerotic cardiovascular disease, heart failure, or kidney disease, the ADA recommends sodium-glucose cotransporter 2 inhibitors (SGLT2i) and/or GLP-1 RA as part of the glucose-lowering regimen.
- Use of SGLT2i and GLP-1 RA may be variable among patient populations. Studies have shown racial and ethnic disparities in the prescription of these medications.
- Little is known about the Latino perspective and experience with these newer diabetes medications.

- To explore knowledge and experiences navigating diabetes pharmacologic treatment initiation and continuation among Spanish-speaking Latino/as with their primary care physicians.
- To explore sources and access to information regarding diabetes pharmacologic treatment with SGLT2-inhibitors and GLP-1 receptor agonists among Spanish-speaking Latino/as.

- **Study design:** qualitative study, semi-structured one-on-one interviews
- **Sample size:** 30 patients from our community partner sites
- **Study sites:**
 - UCLA Family Health Center
 - Mid-Valley Comprehensive Health Center





Variable name	Source	Type
Age	Self-reported	Continuous
Gender	Self-reported	Categorical
Race/Ethnicity	Self-reported	Categorical
Education	Self-reported	Categorical
Preferred language	Self-reported	Categorical
Income	Self-reported	Continuous
Insurance coverage	Self-reported	Categorical
Weight	Self-reported	Continuous
Hemoglobin A1c	Self-reported	Continuous
Medication list	Self-reported	Categorical
Recruitment site	Observed and self-reported	Categorical



- **Knowledge of medications**

- Tell me what you know about how these medications are taken.
- What are the benefits of these medications?
- What are the dangers of these medications?
- How did you learn about these medications?

- **Influence**

- Tell me about your experience talking to your doctor about these medications.
- Who else do you talk to when deciding which medications to take?
- How do these conversations influence your interest in these medications?

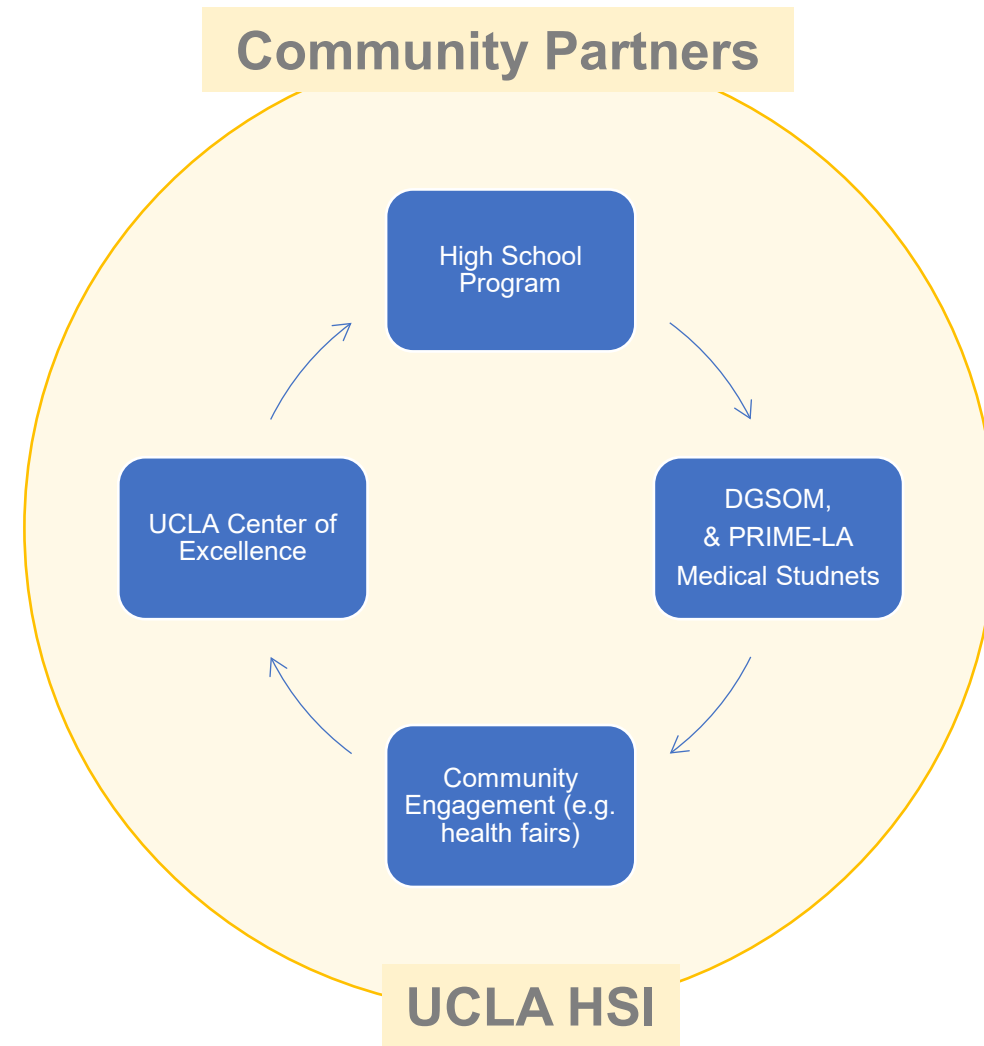
- **Cost**

- How has the cost of these medications influenced your interest in these medications or your ability to take these medications?

- Career Development Award (K Application)
 - Preparing to apply for a Career Development Award through NIDDK to advance my work in diabetes-related health disparities.
- OPSD K Writing Bootcamp
 - Actively participating in the Office of Physician-Scientist Development (OPSD) K Writing Bootcamp to refine my proposal and strengthen my application.
- Institutional Career Development Award

3. Mentorship & Medical Education

- Mentorship as a two-way street
- Creating a supportive and inclusive space
- Tailored guidance for individual growth
- Building confidence and overcoming barriers
- Long-term commitment to their success



- Pathway program for underserved youth
- San Fernando Valley high schools
- LAUSD, low-income
- Resident mentors



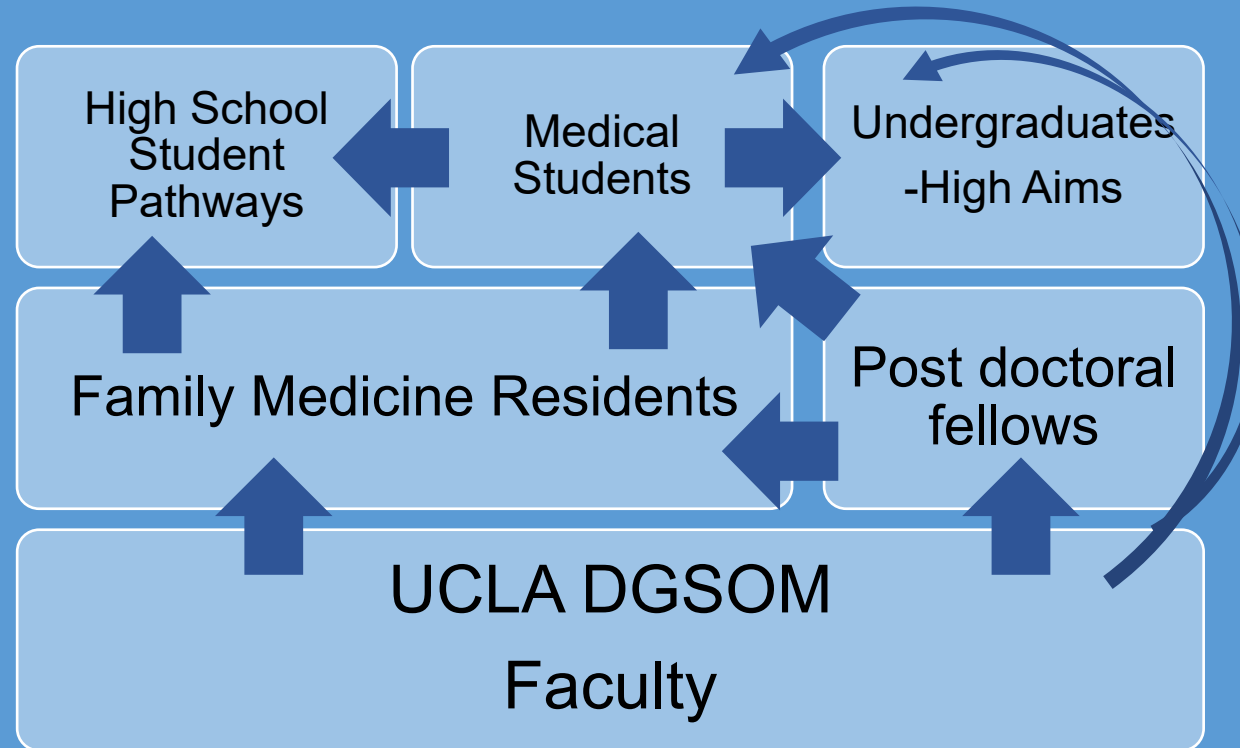


Research Mentorship & Teaching

- Prematriculation Course - Program Faculty
 - Engaging in research as a medical student
- PRIME-LA Petal Course
 - Community Partnered Projects
 - Partners include: AltaMed, LAC DPH
- Longitudinal Clinical Experience Course Preceptor
 - Teaching medical students in clinical setting
 - Emphasis on excellence in patient-centered, culturally sensitive healthcare



**UCLA
HRSA –
Center of
Excellence**



**UCLA,
DGSOM,
Community**

COE Discovery Cohort 2025 – Medical Student Research Program



Desiree Acosta



Gladys Bello



Jacqueline Cabral



Amani Carson



Milan Carter



Vanessa De Haro



Karla Murillo



Kevin Muy



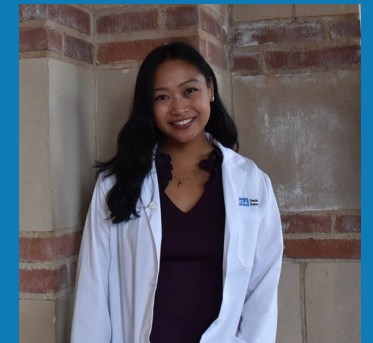
Larissa Nicolas



Leslie Nunez



**Alejandro Quiñones
Baltazar**



Melanie Ramirez



**Alejandra Rivas
Deras**



Anael Rizzo



**Monica Soto
Noveron**



**Ky'Tavia Stafford-
Carreker**



Melissa Venegas

UCLA

UIM-COE

PRIME - LA INSTITUTE

MISSION

The Programs in Medical Education (PRIME) Leadership and Advocacy (LA) Institute is a year-long mentorship program for community college students and recent transfer students with a culminating one-week summer intensive program designed to provide students with the opportunity to learn more about the PRIME-LA track at DGSOM.

The overall goal is to prepare students to become competitive applicants for medical school and leaders in medicine.



Gustavo
Castellanos



Leslie
Nunez



Anael
Rizzo



Melissa Venegas

Medical Student Mentors

UCLA

UIM-COE

PRIME - LA INSTITUTE Cohort 1



Elixas Hernandez

Porterville College
to UC Berkeley



Gabriela Morales

Pasadena City
College
to UC Irvine



**Elizabeth
Nyarangi**

Mt. San Antonio
College
to UCLA



Emely Battle

San Diego Community
College District
to UCLA



Kenneth Hernandez

Santa Monica College
to UCLA



Leah Oasay

Southwestern College
to UCLA



**Natalia
Perozo**

Saddleback
College



John Rodriguez

Rio Hondo College



Alexa Knott

Chaffey
College



Katherine Juarez-Borja

El Camino
Community College



Blake Garrett

Bakersfield
College



Hannah Rodriguez

Victor Valley
College

- Building an inclusive research and clinical environment
- Mentorship as a cornerstone
- Collaboration & Partnership

- **Research Trained Primary Care Physician**
- **A Career Rooted in Purpose:** My work is driven by the belief that research should not only generate knowledge but also create tangible change for communities that have been historically underserved.
- **Mentorship as a Catalyst:** I am where I am today because of mentorship and pathway programs, and I am committed to paying that forward—empowering the next generation of diverse premedical and medical students to lead with purpose.

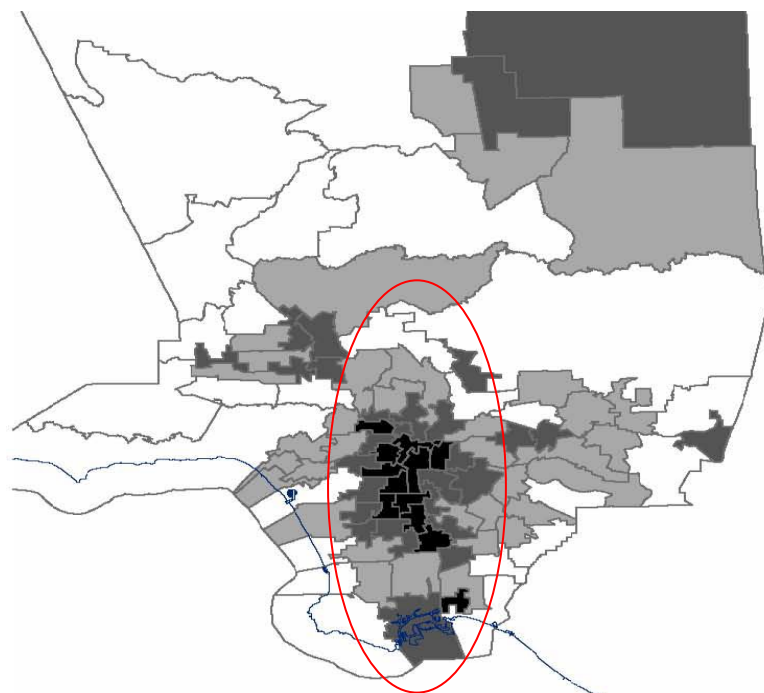
Funding Acknowledgements:

- 1) UCLA DGSOM Bruins Scholars
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(PI: Duru/Mangione)

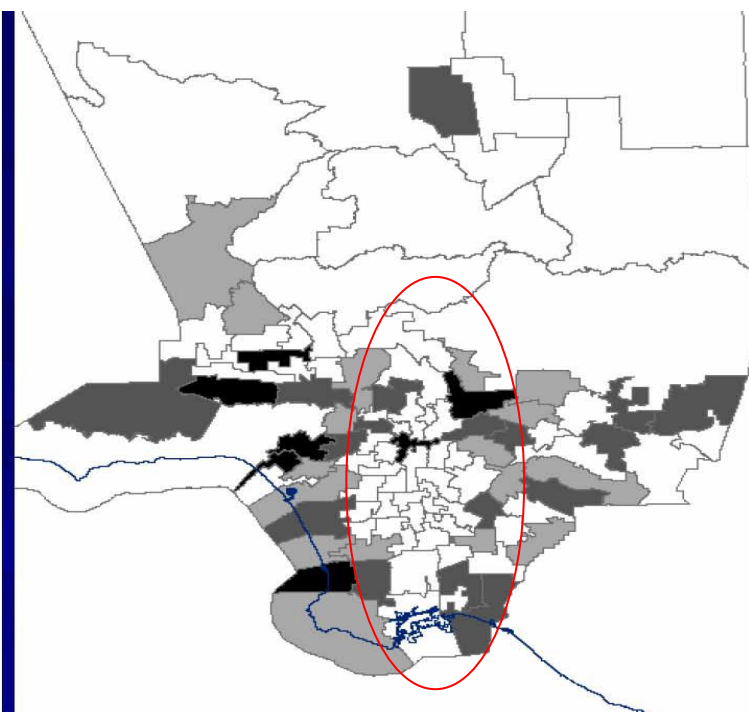
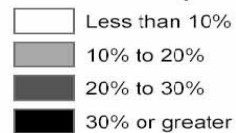
THANK YOU.

annmariehernandez@mednet.ucla.edu

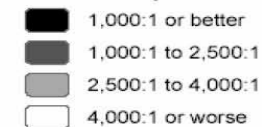
Primary Care Workforce & The Inverse Care Law



Medical Service Study Area (MSSA) Boundaries
Percent of Population in Poverty (Census 2000)



Medical Service Study Area (MSSA) Boundaries
Ratio of Population to Primary Care Physician (2003)



❖ Underuse of indicated medications is common

- Many patients with diabetes do not attain recommended therapy goals for blood pressure, glucose, and cholesterol levels

❖ Overuse and over prescribing of unnecessary medications is also common

- Greater risk of drug interactions and side effects
- Serious problem among older adults

❖ Polypharmacy and medication burden need to be studied

❖ On average, 50% of medications are not taken as prescribed

- How do Latinos manage polypharmacy? What about pharmaco-equity?

Berlowitz DR et al. *New England Journal of Medicine*. 1998.

Schmittiel JA, et al. *J Gen Intern Med*. 2008.

http://www.who.int/chp/knowledge/publications/adherence_report/en/index.html

- Access & Preventative services
- Satisfaction with care & patient preference
- Interpersonal process of care outcomes
- Patient safety & Adverse medication events
- Quality of care
- Clinical outcomes