



# Immunization Access Through Pharmacies Located in Low Income, Medically Underserved Areas

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## Background

In 2012, we surveyed all licensed pharmacies (104) providing general pharmacy services to the public in the Omaha Nebraska area. Characteristics of immunizing pharmacies were identified. This and other data<sup>1,2</sup> was analyzed to assess service availability based on geographic economic characteristics.

## Objectives

- 1) Conduct telephone survey of Omaha area pharmacies to determine immunization services provided at each facility, including whether vaccines are offered, and which vaccines are available.
- 2) Analyze this data in the context of economic status of the zip codes in which these pharmacies are located.
- 3) Determine relative access to pharmacy delivered immunization services based on poverty levels geographically across the Omaha area.

## Methods

We assessed the number of immunizing pharmacies located in defined Medically Underserved Areas (MUAs), and in zip codes by percent of population living below the Federal Poverty Level (FPL), according to 2011 U.S. census data<sup>1</sup>. Microsoft Access was utilized for data entry; statistical analysis was conducted in IBM SPSS Statistics.

## Demographics

- ❖ 84 of 104 (81%) licensed pharmacies in the city serving the general public provided immunization services.
- ❖ Zip codes were assigned arbitrary poverty definitions by percent of population living below the Federal Poverty Level (FPL).

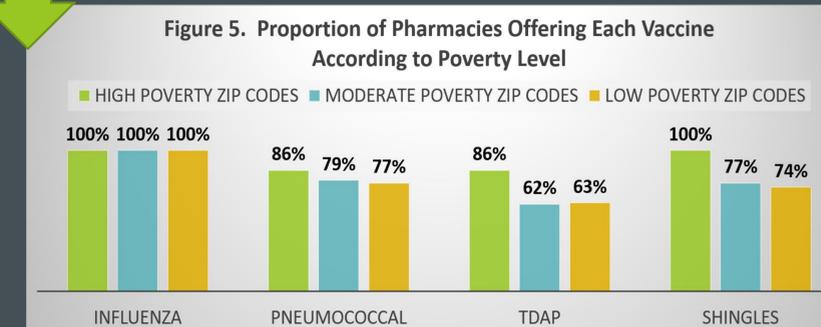
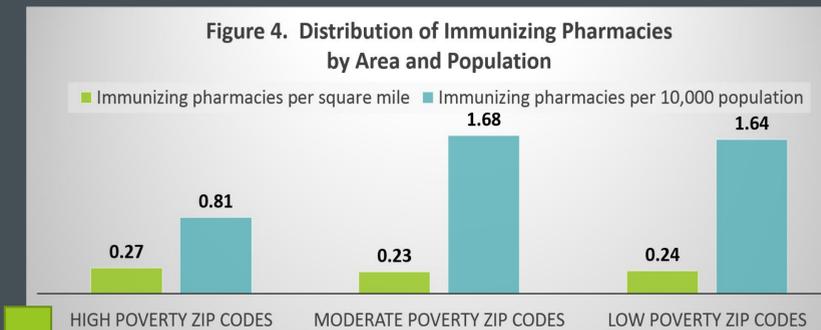
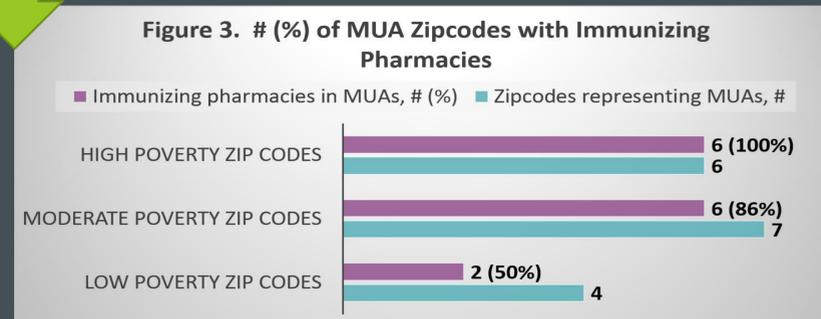
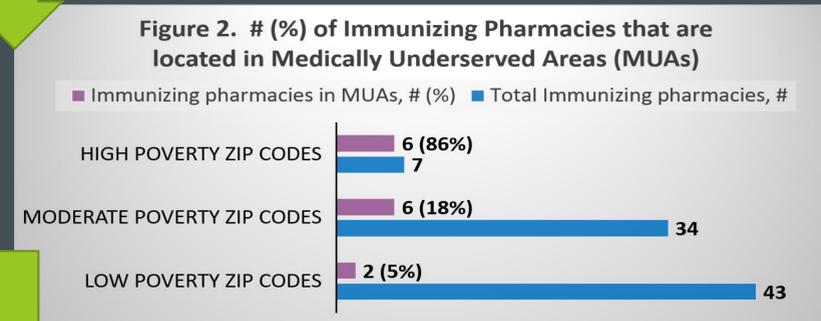
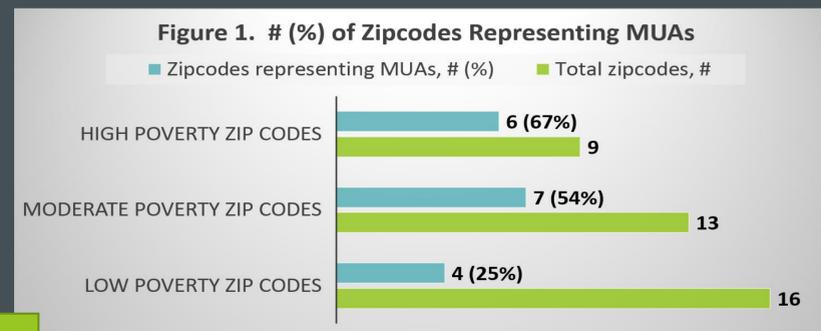
% of population living below FPL	High poverty area (≥ 25%)	Moderate poverty area (10 – 24%)	Low poverty area (< 10%)
# of zip codes	9	13	16
% of pharmacies offering immunizations	78% (7/9)	74% (34/46)	88% (43/49)
Median rate of Black/African American residents per zip code	17% (Range: 3 – 68%)	6% (Range: 0 – 22%)	2% (Range: 0 – 22%)

## References

- 1 U. S. Census Bureau. (2011). *American FactFinder fact sheet: Omaha city, N.E.* Retrieved: September 25, 2014, from <http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t&keepList=t>
- 2 Wang J, et al. (2013). Racial and ethnic disparities in influenza vaccinations among community pharmacy patients and non-community pharmacy respondents. *Research in Social and Administrative Pharmacy*, 10, 126-140.
- 3 Pharmacy Workforce Center. (2003). Pharmacy manpower 2020: Meeting needs of patients. Retrieved from the American Association of Colleges of Pharmacy (AACCP). URL: <http://www.aacp.org/resources/research/pharmacymanpower/Documents/Manpower2020Implications.ppt>

## Results

- ❖ Most immunizing pharmacies (86%) were located in designated medically underserved areas (MUAs) for high poverty zip codes, compared to 18% and 5% in moderate and low poverty areas, respectively (Fig. 1-3).
- ❖ Immunizing pharmacy distribution was 0.27, 0.23, and 0.24 per square mile, for geographic areas with high, moderate, and low poverty levels (Fig. 4).
- ❖ The distribution was 0.81, 1.68, and 1.64 per 10,000 population, respectively, by decreasing poverty level (Fig. 4).
- ❖ Across the poverty levels, all immunizing pharmacies provided trivalent influenza vaccine (TIV), while substantial proportions also provided other commonly recommended adult immunizations: PPSV23 (79%), Tdap (64%), and Shingles (77%).
- ❖ Immunizing pharmacies in areas with high poverty levels were most likely to provide vaccines beyond influenza, while pharmacies in moderate and low poverty areas offered these vaccines at lower rates: Pneumococcal: 86%, 79%, 77%; Tdap: 86%, 62%, 63%; and Shingles: 100%, 77%, 74%, respectively (Fig. 5).



## Discussion

### Distribution

- ❖ The immunizing pharmacies were relatively well-distributed geographically, but in high poverty areas served larger populations vs moderate or low poverty areas.
- ❖ Adjusting capacity to meet the needs of larger patient populations is typically easier for pharmacies compared to medical clinics (where more exam rooms, equipment and manpower are needed as patient volume increases)<sup>3</sup>.
- ❖ Pharmacies in high poverty areas may be able to adjust their capacity to serve the immunization needs of relatively large patient populations.

### Pharmacy Access Advantages

- ❖ Omaha Immunizing pharmacies in the high poverty area (also higher minority representation), were more likely to provide key adult immunizations (Tdap, Influenza, Pneumococcal, and Shingles) vs moderate and low poverty zip codes.
- ❖ There are racial and ethnic disparities in rates of influenza vaccination. However, Wang et al.<sup>2</sup> found that immunization rates were higher among those minority groups whose members utilized a community pharmacy.
- ❖ Pharmacies that provide immunizations in this city's highest poverty area may see a greater demand from their larger patient populations, who based on MUA status have reduced access to primary care medical clinics<sup>4</sup>.
  - This can incentivize pharmacies to provide broad immunization services.
- ❖ Other Pharmacy access advantages:
  - Pharmacies provide immunization services over extended days and hours<sup>5</sup>.
  - Pharmacies do not charge visit fees when administering immunizations.

### Limitations

- ❖ One limitation of pharmacy provided immunizations is the lack of credit available for those with no public or private health insurance coverage.
  - The Affordable Care Act, with first dollar immunization coverage, can reduce this barrier<sup>6</sup>.

## Conclusions

Immunizing pharmacies in the high poverty area of this city were more likely to provide commonly recommended adult vaccines compared to those in the moderate or low poverty areas.

Immunizations are typically available from pharmacies over extended hours, and with no added visit fee costs.

Pharmacies constitute an excellent access point for recommended adult immunizations, with similar geographic availability in high versus lower poverty areas.

### References continued

- 4 Murphy PA, et al. (2012). Pharmacy provision of influenza vaccinations in medically underserved communities. *J Am Pharm Assoc.* 52:67-70.
- 5 Goad JA, et al. (2013). Vaccinations administered during off-clinic hours at a national community pharmacy: Implications for increasing patient access and convenience. *Ann Fam Med*, 11, 429-436.
- 6 U.S. Dept Health and Human Services. (2012). The Affordable Care Act and immunization. Retrieved on October 20, 2014. URL: <http://www.hhs.gov/healthcare/facts/factsheets/2010/09/The-Affordable-Care-Act-and-Immunization.html>