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## Abstract

### Background

Effective primary care is challenging in under-served communities. Chronic disease, multiple co-morbidities, and poly-pharmacy are only a few of the barriers facing healthcare providers in rural communities. Limited healthcare resources and support services, along with social and economic factors, can influence patients compliance or non-compliance with their healthcare plan. Too often, the term “noncompliant” has been used to describe those that do not follow the instructions of the provider.

### Purpose

The purpose of this project is to raise awareness and promote understanding of poor adherence in rural primary care. It is important to know that many patients do not choose to veer from the treatment plan, instead, their choices are influenced by a multitude of intrinsic and extrinsic circumstances. Determining and understanding these individual elements, can enable the PCP to assist the patient in the achievement of an optimal state of health.

### Review of Literature

Comparing a rural area, such as Mohave County, to a more metro/rural area like Maricopa County can give insight into how the populations and access to care are different. Statistics and surveys show the disadvantages of rural areas with regard to healthcare, adherence, and other factors. This project will also give insight to the provider’s point of view when dealing with nonadherence.

### Recommendations

Recommendations for improvement in patient adherence by identifying individualized relevant factors and offering support and resources for improvement will be presented. Community resources such as transportation, churches, local charities, and government programs are available to those in need. The realization of the problem and the identification of the need are essential in overcoming adherence issues.

## Introduction and Background

The noncompliant patient has been associated with negativity, related to the implied patient refusal to comply with medical treatment. The continuation of research to improve compliance has revealed the many factors involved in nonadherence to a treatment plan. Compliance and adherence may be differentiated by the understanding that adherence requires patient agreement with the plan. Compliance indicates the following of instruction by an authoritative figure. Through identification and understanding of patient factors relating to poor adherence, with attention to rural communities, providers can offer alternatives and helpful resources to assist the patient in achieving optimal health

### Adherence

- “the extent to which a person’s behavior – taking medication following a diet, and/or executing lifestyle changes, corresponds with agreed recommendations from a health care provider” (WHO, 2003)
- requires mutual agreement between provider and patient, without the agreement, known as compliance
- measurement is subjective
- the impact of poor adherence grows as the impact of chronic disease increases
- estimated direct and indirect costs totaled \$337 billion in 2013, related to nonadherence (Express Scripts, 2015)
- \$1 of every 9\$ spent on healthcare related costs was wasted because of nonadherence in 2013 (Express Scripts, 2015)

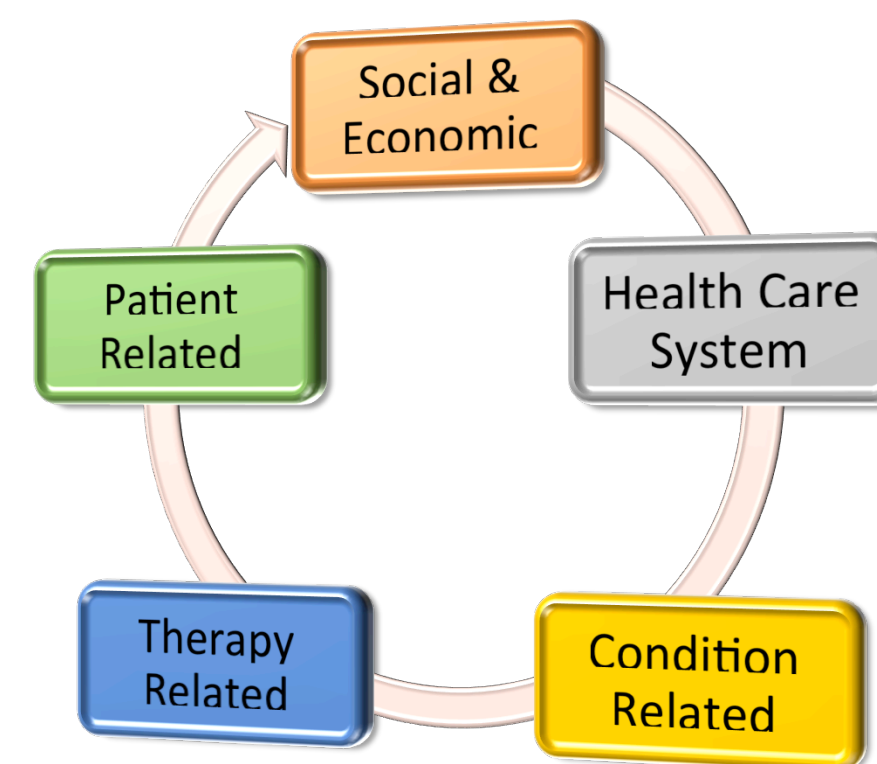
## Contributing Factors

The World Health Organization (WHO) (2003) has developed a model indicating five factors or “dimensions” which may overlap and influence patient adherence.

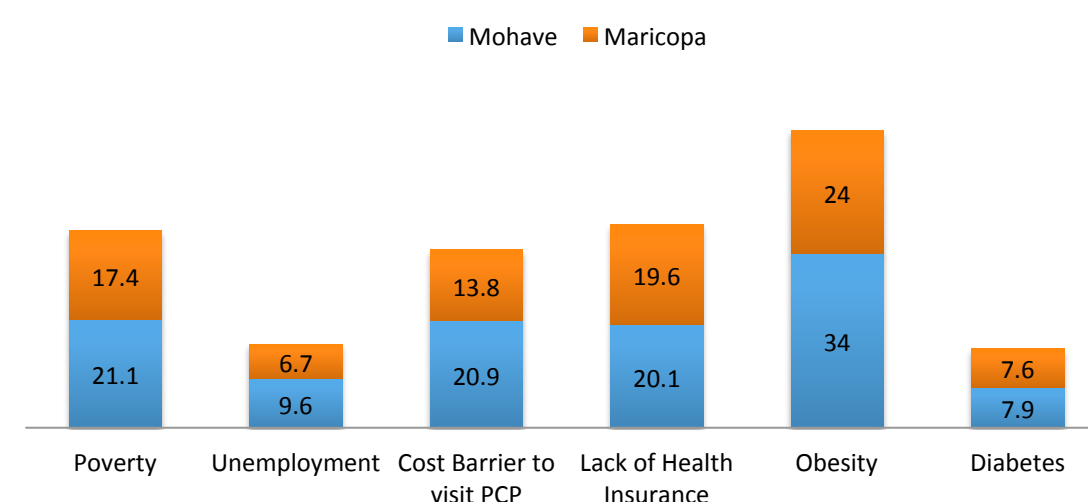
These five areas are:

- ❖ **Social & Economic** – Poverty, unemployment, lack of social support, high cost of medical services and medications, age, race, and culture
- ❖ **Health Care System** – Patient-provider relationship, lack of training and education for providers, short consultations, weak patient education and follow-up
- ❖ **Condition Related** – Co-morbidities, patient perception of illness, level of disability, severity of symptoms, rate of disease progression and availability of effective treatment
- ❖ **Therapy Related** – Complexity of treatment regimen, duration of treatment, observable benefits, treatment failures, frequent changes in treatment and follow-up
- ❖ **Patient Related** – Forgetfulness, inadequate knowledge, stress, low motivation, perceived negative effect of treatment, misunderstanding of disease process, disbelief, unclear instruction, follow-up, frustration, anxiety, feelings of stigmatization by the disease

5 Dimensions of Adherence (WHO, 2003)



Factors Effecting Adherence in Rural vs. Metro/rural Area

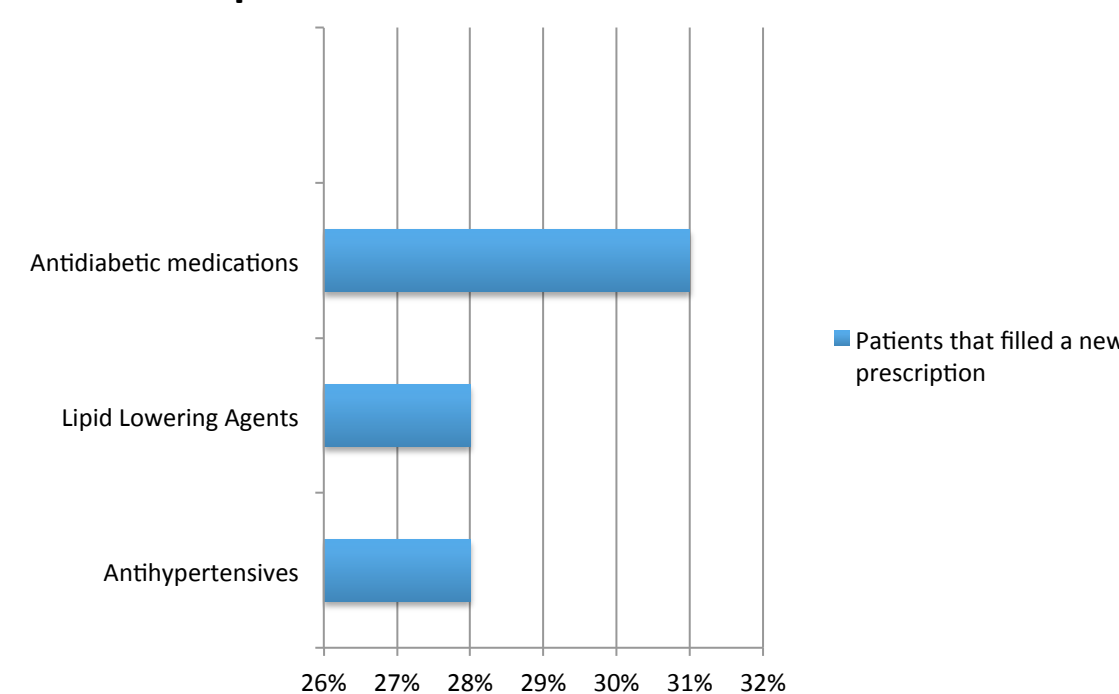


Providers View of Nonadherence (Firlick, 2015)

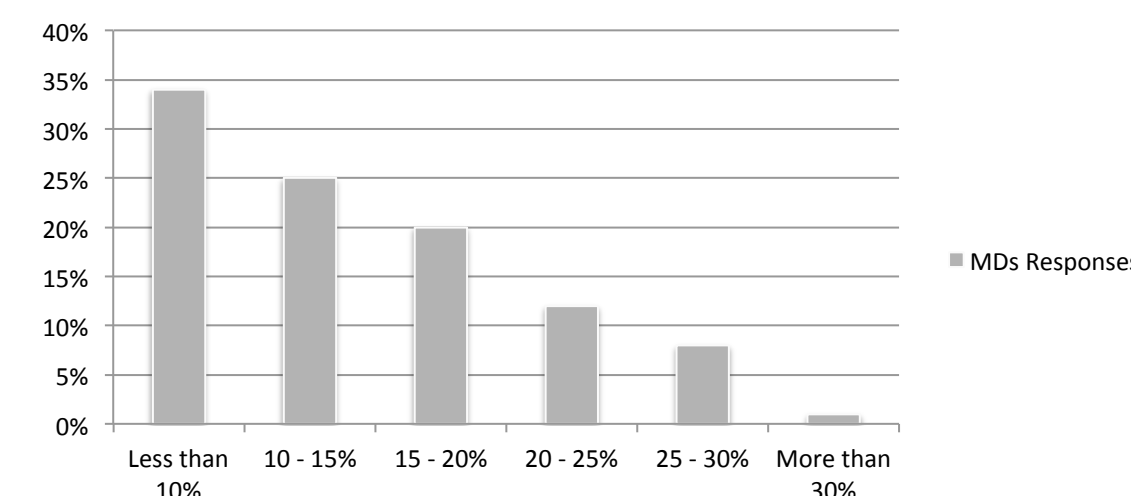
A survey was commissioned by HealthPrize Technologies, a leading company devoted to medication management, to identify primary care physicians’ outlooks on patient medication nonadherence. The survey unveiled an interesting observation regarding the outlook of providers. The survey included 100 physician in the United States.

The results of the survey found that many of the providers felt that their patients had better adherence than the average. Do most providers choose to ignore nonadherent behaviors? If so, this disbelief and avoidance may be contributing to the increasing problem.

Patients that filled a new medication prescribed to them (Sankaranarayanan, J., 2010)



MDs Perception of % Unfilled New Medication Prescription (Firlick, 2015)



## Rural Considerations

### Categories of Healthcare Barriers in Rural Communities (Stanford Medicine, 2017)

- Transportation Difficulties
- Limited Health Care Supply
- Lack of Quality Health Care
- Social Isolation
- Financial Constraints

## Recommendations

Although there are many barriers to healthcare in rural areas that may increase the rate of nonadherence, the use of available resources, along with modified treatment plans can be helpful.

use community resources, such as charity organizations, churches, and government programs to help with transportation, mental health counseling, substance abuse counseling

encourage family or other support person to accompany patient during visit for added educational benefit and support

simplify medication regimens, encourage pill boxes, calendars and reminders to take medication

promote a trusting and open relationship between provider and patient

provide education and timely follow-ups

individualize each plan to maximize adherence according to the patient’s needs

## References

Centers for Disease Control and Prevention. (2015). *CHSI: Information for improving community health*. Retrieved from <https://www.cdc.gov/CommunityHealth/profiles/currentprofile/AZ/Mohave/>

Chesnow, N. (2014). *Why are so many patients noncompliant?* Retrieved from <http://www.medscape.com/viewarticle/818850>

Express Scripts. (2015). *The high price of low adherence to medication*. Retrieved from <http://lab.express-scripts.com/lab/insights/adherence/the-high-price-of-low-adherence-to-medication>

Firlick, K. (2015). *The physician’s view of patient nonadherence*. Retrieved from HealthPrize Technologies website at <https://healthprize.com/blog/physicians-view-medication-nonadherence/>

Gee, P.M., Greenwood, D.A., Paterniti, D.A., Ward, D. & Miller, L.M.S. (2012). *The eHealth enhanced chronic care model: A theory derivation approach*. *Journal of Medical Internet Research*. 17(4), e86. doi: 10.2196/jmir.4067

Sankaranarayanan, J. (2010). *Why don’t patients fill prescriptions? A study examining primary nonadherence*. Retrieved from <http://www.medscape.com/viewarticle/720999>

Stanford Medicine. (2017). *Healthcare disparities & barriers to healthcare*. Retrieved from <http://ruralhealth.stanford.edu/health-pros/factsheets/disparities-barriers.html>

World Health Organization. (2003). *Adherence to long-term therapies: Evidence for action*. Retrieved from [http://www.who.int/chp/knowledge/publications/adherence\\_introduction.pdf](http://www.who.int/chp/knowledge/publications/adherence_introduction.pdf)

1 Asch, D.A., Muller, R.W. & Volpp, K.G. (2012). *Automated hovering in healthcare – Watching over the 5000 hours*. *New England Journal of Medicine*, 367, 1-3. doi: 10.1056/NEJMp1203869