Evidence Based Practice

 The number of illegal immigrants in the United States has been increasing rapidly over the past years. It is now estimated to be 11 million. This huge population is now becoming a burden to the American taxpayers. On an annual estimation, the cost is up to a tune of $346 billion. Among the affected sectors is the health care system since the cost of treating this population is so high. Reports released by the Center for Immigration Studies indicate that currently the cost of providing health care services to the uninsured illegal immigrants costs the government a tune of about $4.3 billion annually, and this only covers the free clinics and emergency rooms, let alone the in-patient care services provided by hospitals (Center for immigration studies, 2009) It’s quite unfair that this whole burden is weighing down on the tax payers, yet these illegal immigrants get to enjoy Medicaid benefits, something they have not paid a dime for.

 According to the research that was conducted by the Hospital Association of Southern California, it was found that the undocumented immigrants are responsible for 50 percent of those individuals without health care insurance; hence providing health care services to these individuals bring about drain on hospital resources. The condition in place for all the hospitals is that, the hospital must first of all agree to treat and stabilize all patients who show up to the hospital emergency room regardless of their immigration status or the ability to pay ,it’s when the hospital can receive the federal Medicaid payments. Hence the illegal immigrants get to receive treatment just like any other legal immigrants, native-born Americans and the naturalized Americans.

 This issue has not only seen the costs and insurance premiums skyrocket but also the number of uninsured individuals due to loss of jobs. In as much as there have been extensive discussions about the crisis facing the health care system, no focus has been directed towards the role played by illegal immigration in skyrocketing the number of uninsured and the increasing cost of health care. In the attempts to salvage the situation, most states have resolved to cutting down their health care budgets, this seems not to be helping given that we have a large number of illegal immigrants who are accessing the emergency medical care. It is quite evident that it is very expensive to provide health care services to illegal immigrants, and the American citizens are suffering because of these individuals. This whole problem is as a result of the immigration system allowing a large number of foreigners to acquire legal residence regardless of the fact that some of them may not end up working in jobs with health care insurance.

 Illegal immigrants have very limited access to public health care services which are funded by the government, reason being, they fear and are confused as well over the eligibility rules and language barrier. The illegal immigrants are only eligible to access emergency services and other services that apply to the general public, for instance immunizations.

PICO Table Example

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|  | *Example:* |
| P (patient/problem) | Children with Asthma |
| I (intervention/indicator) | Inhaled corticosteroids |
| C (comparison) | Beta-agonists |
| O (outcome) | Decrease Asthma exacerbation/ED visit |

PICO question; in children with asthma, are inhaled corticosteroids more likely to result in less asthma exacerbation/emergency room visit than standard therapy with beta-agonists?

 In my search strategy, I first of all took time to familiarize myself with the topic of choice, picked the keywords, chose a database and finally connected my keywords. For the Healthcare problem, some of the keywords and phrases used were healthcare problems, illegal immigrants, problems caused and current practices. And, for my PICO question, some of the keywords used were inhaled Corticosteroids (ICS), and Corticosteroids to prevent asthma. There were quite a number of articles ranging from journals, research articles, and blogs and case reports. Needless to say, my topic of choice had aide range of readily available resources to pick from, hence better handling of the issue.

**Research Evidence Topics**:

1. Comparative effectiveness of long term drug treatment strategies to prevent asthma exacerbations: network meta-analysis:
2. Timing of Emergency Department Visits for Childhood Asthma after Initial Inhaled Corticosteroid Use.

 Both research articles focused on the most effective drug regimen for preventing asthma exacerbation. The researchers argued that asthma exacerbation rates reduced significantly when inhaled corticosteroids (ICS) are used as a first line of maintenance treatment to prevent asthma. Writers contend all single drug treatments were inferior to single low dose inhaled corticosteroid treatment (Loyman et al., 2014) Both articles proved there is better correlation with asthma symptom control after inhaled corticosteroids treatment. They conclude acute asthma exacerbation requiring emergency visit are preventable events with adherence to ICS use.

**Non Research Evidence Topics:**

1. Correct Use of Inhaled Corticosteroids in Chronic Obstructive Pulmonary Disease”: A Consensus Document
2. Management of Acute Asthma Exacerbations

These articles claimed ICS are still underused. The writers contend some patients who are treated in the ED still presents with intermittent asthma and most of them have persistent asthma and need corticosteroid therapy for best outcomes. They state, together with a short course of oral **CS**, Inhaled Corticosteroids should be **started before discharge**from the ED in patients with persistent asthma. They claimed NIH/NAEPP Expert Panel Report 3 suggests considering the prescription of Inhaled Corticosteroids right from the **discharge** from the emergency room (Andrews et al., 2014).

 The Global Initiative for Asthma (GINA) 2008 guidelines recommends initiation or continuation of Inhaled Corticosteroids prior **to** discharge from the emergency room. The initiation of ICS therapy by the emergency providers equally encouraged in the **emergency** medicine literature over the past decade.

The potential for adverse effects of ICS must be taken into consideration, but there is no research consensus on whether limiting use is justified. (Self, Rumbark, Rogers, & Twilla, 2009).

The writers conclude administration of systemic corticosteroids within one hour of presenting to the ED reduces the need for hospitalization, with the most significant effect in patients with severe exacerbations (Pollart, Compton, & Elward, 2011).

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| Authors | Journal name/WGU Library | Year of Publication | Research Design | Sample size | Outcome Variables Measured | Level (I–III) | Quality (A, B, C) | Results/Author’s Suggested Conclusions |
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| Rust, Zhang, Holloway, & Tyler-Hill | Timing of Emergency Department Visits for Childhood Asthma after Initial Inhaled Corticosteroid Use | 2015 | Review | 43156 | 8458 | I | A | Appropriate daily use of ICS could substantially decrease asthma-related ED visits, especially if prescribed before the crisis of an acute exacerbation. |
| Gilchrist, Brady, Gallop, Wild, Tabberer, Jacques, & Lenney | How Do Children and Their Caregivers Perceive the Benefits of Inhaled Asthma Therapy? | 2012 | Review | 41 | 41 | III | A | Treatment change from ICS to ICS/LABA will lead to reduced cough and wheeze, increased participation in sport or play activities, and reduced rescue medication use; |
| Gemiciolu, Caliskaner Ozturk, &Duman | Comparison of allergic asthma patients treated with omalizumab and non-allergic patients treated with continuous oral corticosteroids: results of five year follow-up therapies | 2016 | Review | 36 | 36 | II | B  | Adding omalizumab to step 5 therapies improved the control of severe persistent allergic asthma. However, nearly half of the patients in both groups presented at least one exacerbation in the 5th year |

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| Authors | Journal name/WGU Library | Year of Publication | Research Design | Sample size | Outcome Variables Measured | Level (I–III) | Quality (A, B, C) | Results/Author’s Suggested Conclusions |
| Park, Han, Kim, Lee, Cho, Yoon, & Yu | Original article: Association of symptom control with changes in lung function, bronchial hyper responsiveness, and exhaled nitric oxide after inhaled corticosteroid treatment in children with asthma | 2016 | Descriptive | 33 | 33 | I | A | Changes in the BHR to AMP, and to a lesser extent eNO, correlate with asthma symptom control after ICS treatment. BHR to AMP may better reflect the relationship between improved airway inflammation due to ICS treatment and asthma symptoms. |
| Loyman, Gemperli, Cohen, Rubinstein, Sterrk, Reddel, Juni, & Ter Riet | Comparative effectiveness of long term drug treatment strategies to prevent asthma exacerbations: network meta-analysis | 2014 | Review | 64 | 15 | I | B | inhaled **corticosteroids** and long acting β agonists are most effective and safe in preventing severe exacerbations of **asthma** |

 **Recommended practice change**

 Evidence showed using inhaled corticosteroids can significantly reduce frequent use of asthma rescue inhaler and frequent emergency room visit. Asthma flare ups requiring emergency room visit could be decreased significantly by adhering to daily use of ICS as compared to using other prescription drugs in chronic care management of asthma (Rust, Zhang, Holloway, & Tyler-Hill, 2015). In addition, research also contend symptoms of uncontrolled asthma like coughing, wheezing and using of rescue inhaler decreased significantly when combing ICS and beta agonist, as opposed to just using one of the regimen (Gilchrist et al., 2012).

 Furthermore, research studies shows patients treated with any other medications, other than inhale corticosteroids, or with combinations will still present with symptoms of asthma exacerbation like allergies (Gemiciolu, Caliskaner Ozturk, & Duman, 2016). **Research also noted changes** in bronchial hyper responsiveness (BHR) to adenosine 5 monophosphates (AMP) correlate with **asthma symptom control after** Inhale Corticosteroid is used as a treatment regimen. BHR to AMP will lead to better reflection in the relationship between improved airway inflammations due to using ICS (Park et al., 2016).

 Lastly, research evidence showed all 15 identified drug regimen for the treatment of asthma exacerbation were all inferior to a single low dose inhaled corticosteroid treatment. The same research study concludes the only two maintenance treatment that succeeded in managing asthma exacerbation are, combination of beta agonist and inhale corticosteroids, or single low dose of ICS (Loyman et al., 2014).

**Implementation Process for the Recommended Practice Change**

The process of getting the proposed recommendations into place involves concerted efforts by various stakeholders. The interested parties in this context include all families, friends and clinicians that understand the implication of poor management of asthma. There have to be representative and supportive elements in the sphere that seek to deal appropriately with this troubling pulmonary disease. The stakeholders, in this case, include the family members of the patients, the close friends, and their personal or family physicians. The three parties stand at the very vertex of the process where concentrated efforts are needed to control the symptoms in order to avoid frequent emergency room visit and hospitalization.

For the operation of inculcating the recommended approach to working smoothly and bear impressive results, the three parties need an excellent collaboration and interaction. I would involve all three starting with the family of the patient. The role that the family plays in implementing the recommendation is that of monitoring the patient when they present with new signs and symptoms. They first need to ensure their loved ones adhere strictly to the medication

regimen. They need to stay away from doubling the dose of their therapies whenever they feel like. They ought to ensure patient sticks to the prescribed dietary and environmental stipulations. The Friends also fall into this category of responsibility. This is to help remind, encourage and sometimes enforce adherence to diet and environmental changes as recommended. Friends may help influence adherence to recommendations made because they are close enough to interact more freely with the patient. This will lead to effective disease management disease.

 Finally, the input of the personal physician‘s role would be important in helping the implementation team. They will help to educate, assess/examine, and monitor patient’s clinical symptoms that may show effective medication management. Physicians and patients had differing views on the level and content of education regarding asthma and its treatments. The stakeholders need to understand the treating physician is primarily responsible for patient education regarding asthma. Also, routine examination is necessary to keep track of the clinical changes. Clinicians will also be involved in helping patients choose the right corticosteroids, or the alternatives that can help manage patient’s symptoms.

**Barriers in applying evidence to Practice the Changes**

 Though the discussion about the need for implementation of the recommended change sounds pliable and real, there are some challenges in trying to apply the evidence. First, adherence to treatment; Patient’s adherence to treatment regimen is a major barrier in chronic asthma management. Adherence to medication regimens tends to be very poor in asthma patients. Medication-related factors like difficulties with inhaler devices, complex regimens, side effects, cost of medication, dislike of medication, and distant pharmacies could all be the culprits when it comes to non-adherent to medication regimen.

 Another barrier to the change implementation would be the hardship of trying to dislodge patients from initially held eating and environmental habits. Some of them will not believe the relevance of the evidence if it comes to bring a rift between their disease and their long-held lifestyles and that’s a big hurdle for the change in practice implementation.

**Strategies to Overcome the Barriers**

 There is the need for collaborative deliberations to surmount the obstacles ahead of the process of changing the method to deal with asthma disease. One of the strategies is to ensure early observation of the progress that ICS is making in helping to control the flare ups.

Non adherence to prescribed medication regimen continues to be a frequent problem in patients with asthma. Real measurement of adherence should be implemented whenever possible. Example of ways to measure adherence include; review of pharmacy refill records, routine check-ups and electronic monitoring of inhaler actuation. Comprehensive designed clinical trials are needed to access the efficacy of remote electronic monitoring systems to ensure adherence (Sumino & Cabana, 2013)

Lastly, educational programmes that focused specifically on ways to address the unmet need and specific reasons for non-adherence to treatment regimen for the target population.

**Indicators to measure the outcome related to the recommendation**

Some Indicators to measure the outcome of recommended practice will be increase in lung function and reduction of exacerbation. Improved lung function is a significant indicator of effective inhale corticosteroid use to manage asthma. The most important indicator will be patient-reported outcomes, which include, but not limited to health-related quality-of-life measures, to assess asthma control. Example of health related qualities of life are: increase physical functioning, decrease fatigue/increase energy, increase social functioning, decrease ER visit etc.

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