



**CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY**

Name(s) Alexander Fan	Project Number J0408
Project Title Men vs. Women: A Survey to Find the Gender with the Best Medication Adherence	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Medication adherence costs Americans around \$289 billion a year. Patient nonadherence to prescribed medications is associated with poor therapeutic outcomes, progression of disease, and an estimated burden of billions per year in avoidable direct health care costs. In the United States, medication noncompliance is estimated to cause approximately 125,000 deaths per year and at least ten percent of hospitalizations. It is a rising issue that needs to be solved. In my experiment I hoped to find which gender has the best adherence and what would help patients comply with their prescription.</p> <p>Methods/Materials I surveyed patients on their medication adherence, how to improve their medication adherence, and their demographics. I conducted my survey in the lobby of Bakersfield Dermatology. I introduced myself to patients, asked them to participate in the survey, and finally surveyed the patients. After, I reviewed the data and analyzed the statistics using Excel.</p> <p>Results Men had a medication adherence rate of 36% while women had a medication adherence rate of 43%. I looked into what respondents felt would help them improve their adherence: smartphone reminder application, pill dispenser, watch alarm, or talking to pharmacist. More women than men thought smartphone reminder applications would help them take their medication (43% of women vs. 29% of men). More women than men claimed a watch with timer would be helpful (19% of women vs. 7% of men). More men than women felt a pill dispenser would help (43% of men vs. 28% of women).</p> <p>Conclusions/Discussion My data showed that the women (43%) I surveyed had a slightly higher medication adherence rate than men (36%). But, the difference was not statistically significant enough (P-value=0.82) for me to conclude that on average women have a higher medication adherence rate. A higher percentage of men than women thought a pill dispenser would help them. A higher percentage of women than men stated a smartphone reminder application and a watch with a timer. My data suggested women are looking for reminders and men need more organization for their medications. In the future I would like to create a smartphone reminder application electronically attached to a pill dispenser. By doing this I could provide a tool to remind patients to take their medication and to keep them organized.</p>	
Summary Statement I surveyed patients to discover which gender has the best medication adherence and how to improve adherence.	
Help Received Bakersfield Dermatology allowed me to survey their patients. My teacher helped me turn my data into graphs using Excel. Dr. Sylvia Ta helped guide me on how to create a survey.	