



A data analysis to uncover the predisposing factors for treatment efficiency in diabetic patients

By: Pandavas*

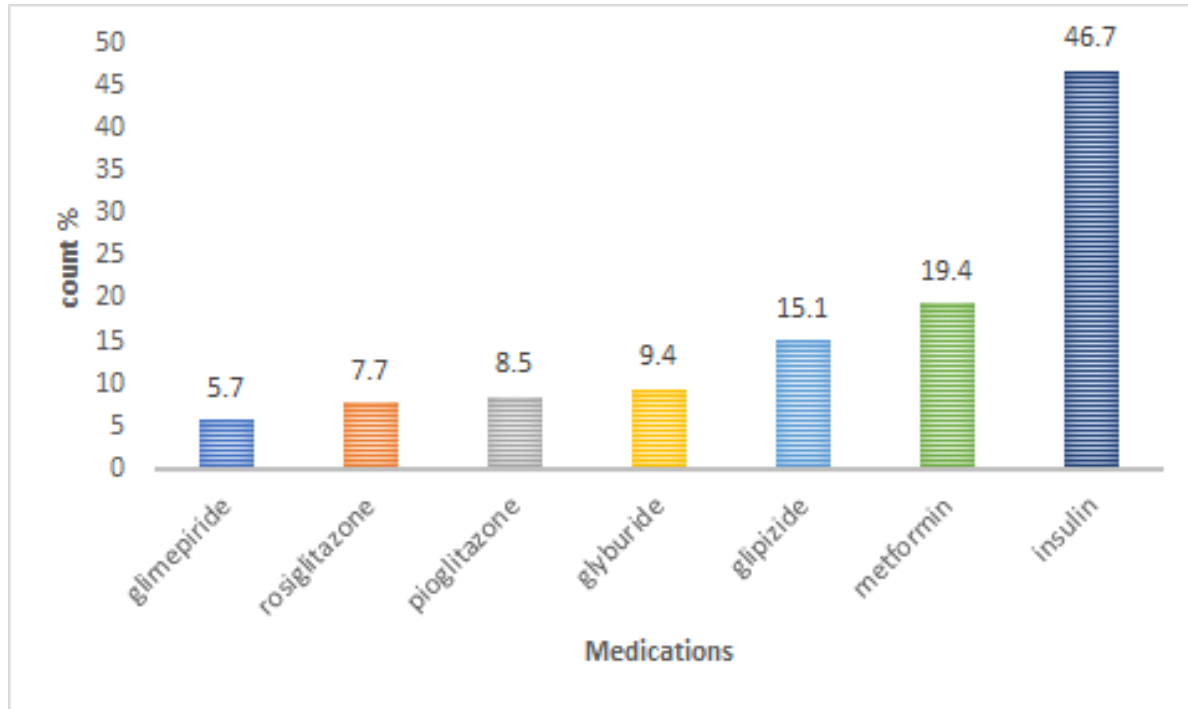
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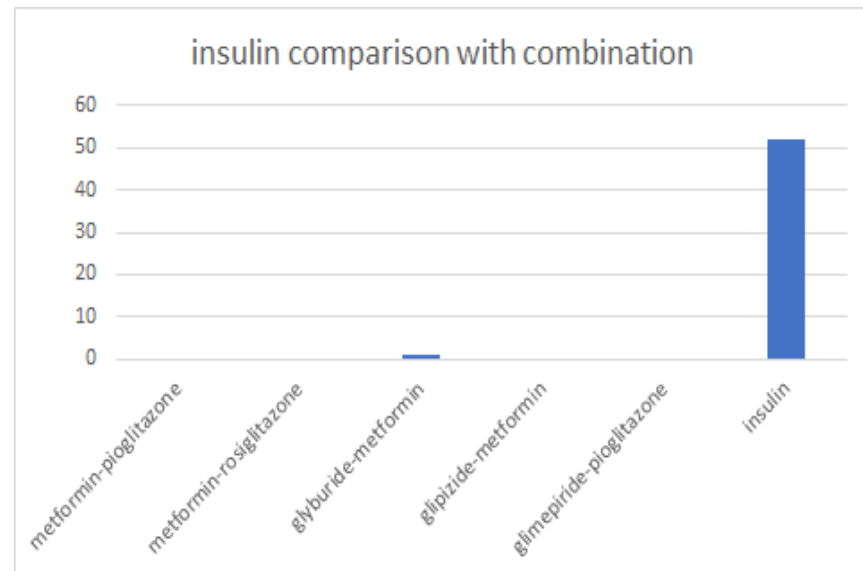
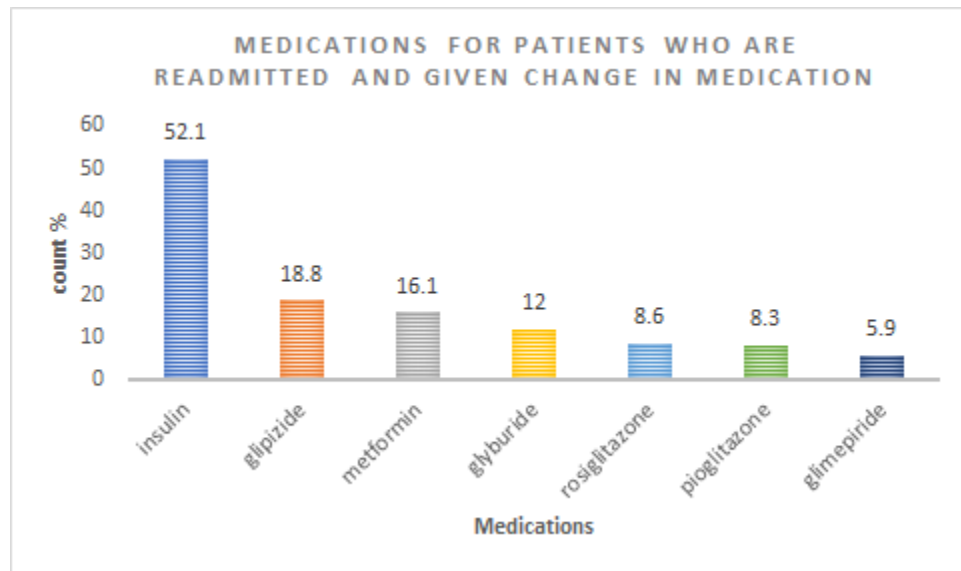
Which drug ?

- 1. Exploring treatments for effectiveness**
- 2. Is the best cure insulin or a combination of drugs?**
- 3. Best treatment for a newly diagnosed patient based on their features and the response to certain drugs**
- 4. Effect of medications with respect to age , gender and chances of readmission**

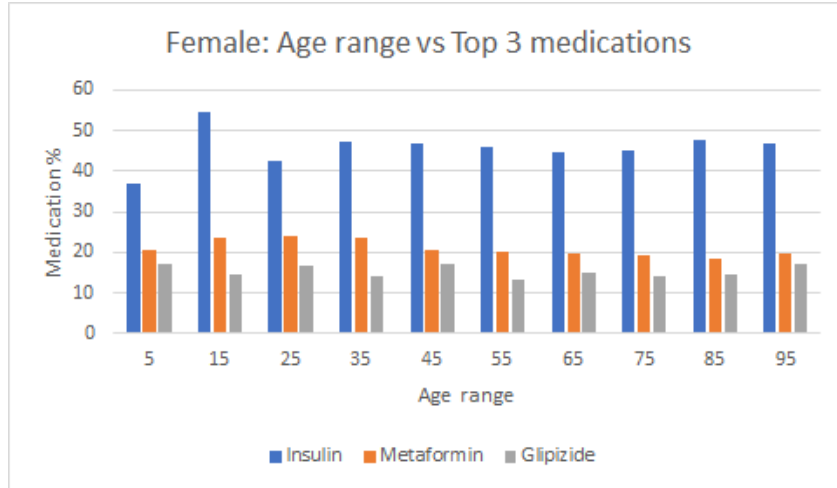
Which Drug Is Most Effective?



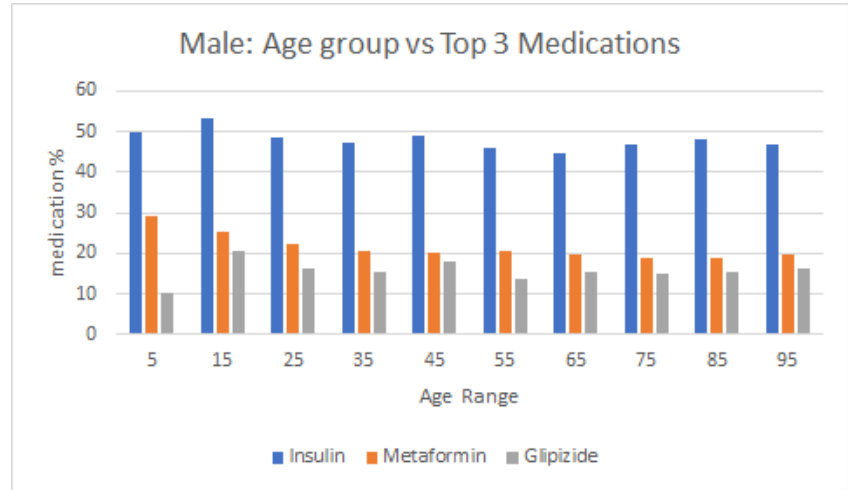
Insulin , Individual Drug or combination of drugs?



Effect of medications with respect to age , gender and readmission



- **Insulin** : best medication for all age groups.
- **Metformin** : high administration for 5-35 age groups
inconsistency over 45+ age group.
- **Glipizide** : inconsistent over all age group.

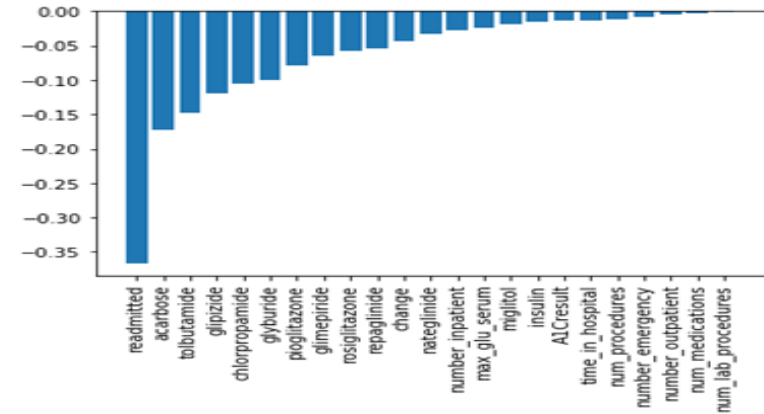
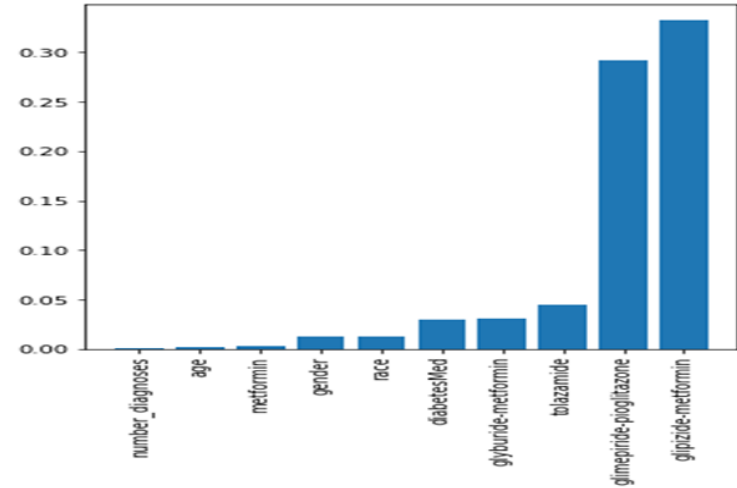
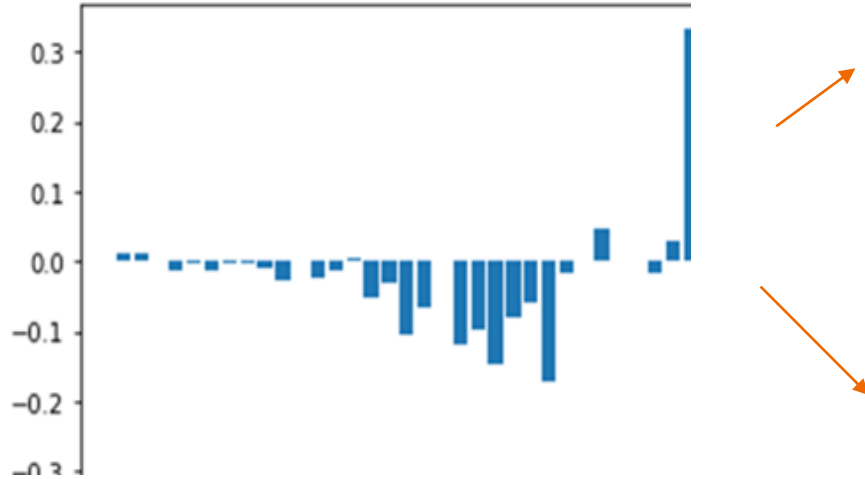


- **Insulin** : best medication throughout all age groups.
- **Metformin** : lower administration as the age increases.
- **Glipizide** : inconsistent over all age groups.

What's the best treatment for a newly diagnosed patient based on patient's features and the response to certain drugs?

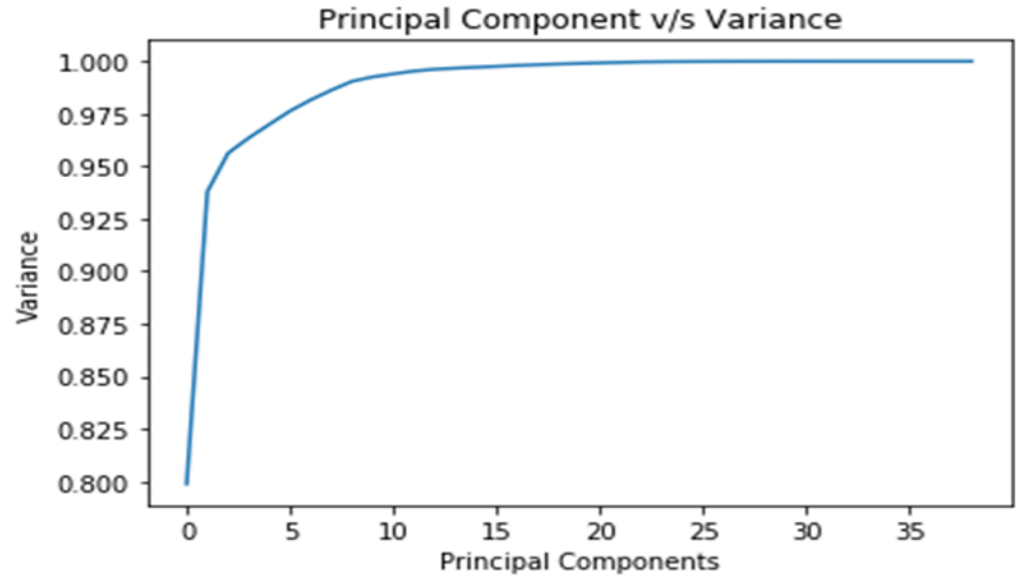
- Considering all the above cases Insulin is the best medication for newly diagnosed patients
- Considering the redmission, insulin still remains the best medication followed by glipizide and metformin
- Among the combination of drugs glyburide-metformin is useful

Weights to different Features by Logistic Regression



Principal Component Analysis

- **42 PC**
- **6 principal Components : 97% + variance**



CONCLUSION

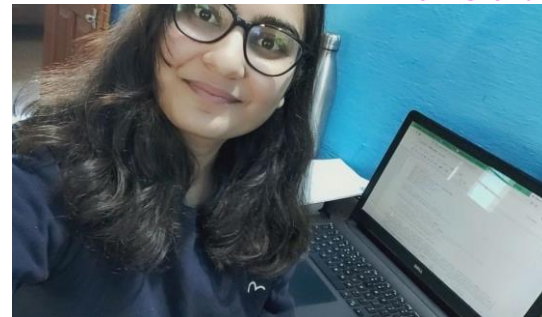
- Insulin is a better treatment of choice.
- Model can be be trained well using Random Forest Ensembling Method can be Used to identify those features contributing towards max. efficacy in treatment.

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Extra

