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Lecture 3d: Practice Problems

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Estimating a 95% Confidence Interval

- A healthcare information company is interested in estimating the average charge for a standard patient visit to a chiropractor in Maryland, after applying the discount negotiated with a large HMO plan. Data is collected from 16 randomly selected chiropractic practices in Maryland, and the following are some summary statistics:
 - Mean charge: 25.50 USD
 - SD of charges: 2.10 USD

Estimating a 95% Confidence Interval

1. Assuming the charge data is normally distributed for all chiropractic practices in Maryland, estimate a range of amounts that most (95%) of the chiropractic practices in Maryland charge for a standard patient visit
2. Without assuming normality, estimate a range of amounts that most (95%) of the chiropractic practices in Maryland charge for a standard patient visit
3. Assuming the charge data is normally distributed for all chiropractic practices in Maryland, estimate a 95% confidence interval for the mean amount charged by Maryland chiropractors
4. Without assuming normality, estimate a 95% confidence interval for the mean amount charged by Maryland chiropractors
5. What is the difference in the interpretation of the intervals created in questions 1 and 2 and questions 3 and 4?