



MEDISCA® MAZERUSTAR® PERFORMANCE TIME COMPARISON WITH CONVENTIONAL COMPOUNDING METHODS



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Purpose:

To determine if the Mazerustar® (Maz), revolutionary mixer manufactured by Medisca®, is more time efficient than conventional methods at making compounded creams. We hypothesized that there would be a significant difference in time to compound creams between the Mazerustar® and conventional methods.

Methods:

- The time taken to create compounded prescription creams at an independent pharmacy in Spokane, Washington (Sixth Avenue Medical Pharmacy) was evaluated between both the Mazerustar® and conventional compounding methods.
- Conventional compounding methods consisted of using an electronic mortar and pestle (EMP) to mix and an ointment mill to reduce the particle size.
- Each compounded cream was timed from the beginning of the mixing process to the end by the technicians completing the compounding.
- Compounding time data was collected by a total of three technicians. Time results were recorded on an Excel spreadsheet and data was tracked through the pharmacy software system. Weighing ingredients and placing cream into final dispensing containers were not included in time comparison. For compounds with 5% or less active ingredients, we mixed at a rate of 2000 rpm for 1:00 minute. For compounds with 5% active ingredients or more, we mixed at a rate of 2000 rpm for 2:00 minutes. Compounds that did not mix well, such as Lidocaine and DHEA containing creams, were not included in this study.
- The compounds for individual prescriptions were directly compared by recording time taken to compound the prescription through conventional methods one month and then using the Mazerustar® the next month.
- All data analysis and statistical tests were completed in Microsoft Excel.



Figure 1: The inside of the Mazerustar®, showing how it mixes compounds. (<https://goo.gl/images/ZsE4ra>)

Results:

- There was a statistical significance of $p=0.46$ (via paired t-test) between how long it took to compound creams with the Mazerustar® versus conventional methods. The Mazerustar® saved on average 44 seconds per compounded cream in comparison to conventional methods. (Figure 2)
- Using an average of \$22.00 per hour for a technician, plus indirect costs (around \$22 per hour), it is estimated for a pharmacy compounding an average of 20 compounded creams per day that there would be a cost savings of approximately \$42,000 annually. (Figure 3)

Comparison of Average Compounding Time Between Conventional Method VS Maz Method

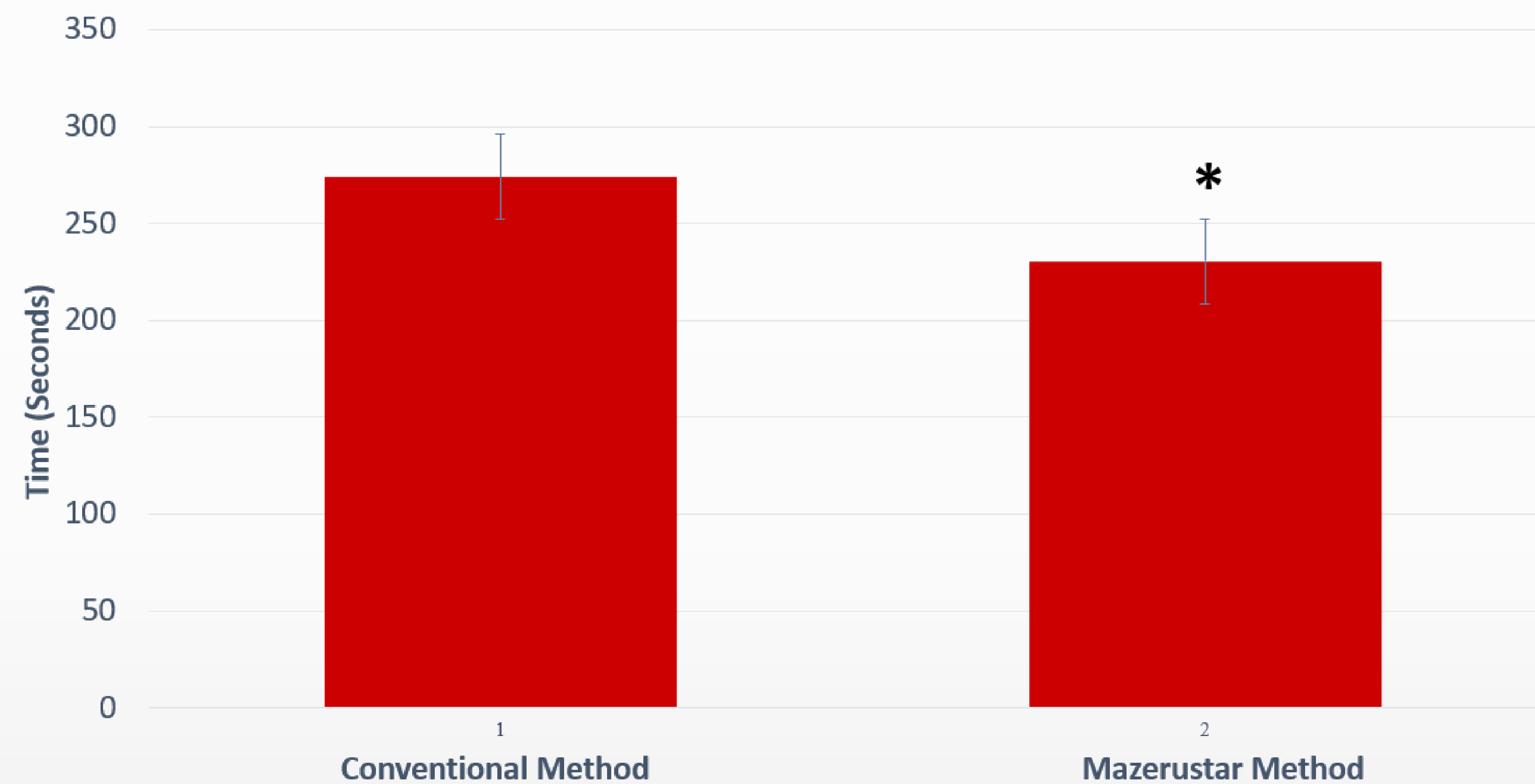


Figure 2: Shows comparison of compounded creams and their time difference between conventional methods and using the Mazerustar®

Estimated Savings Annually Using the Mazerustar® for Compounded Creams

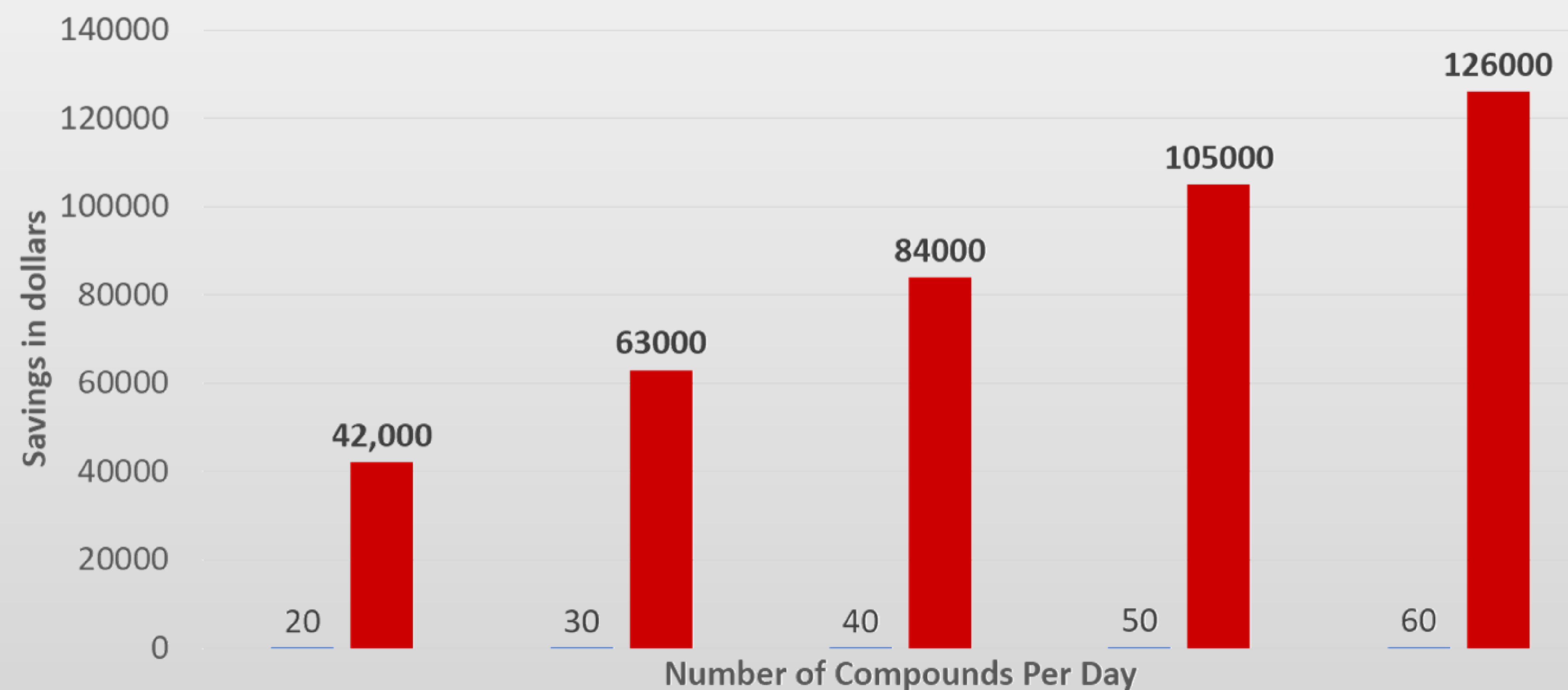
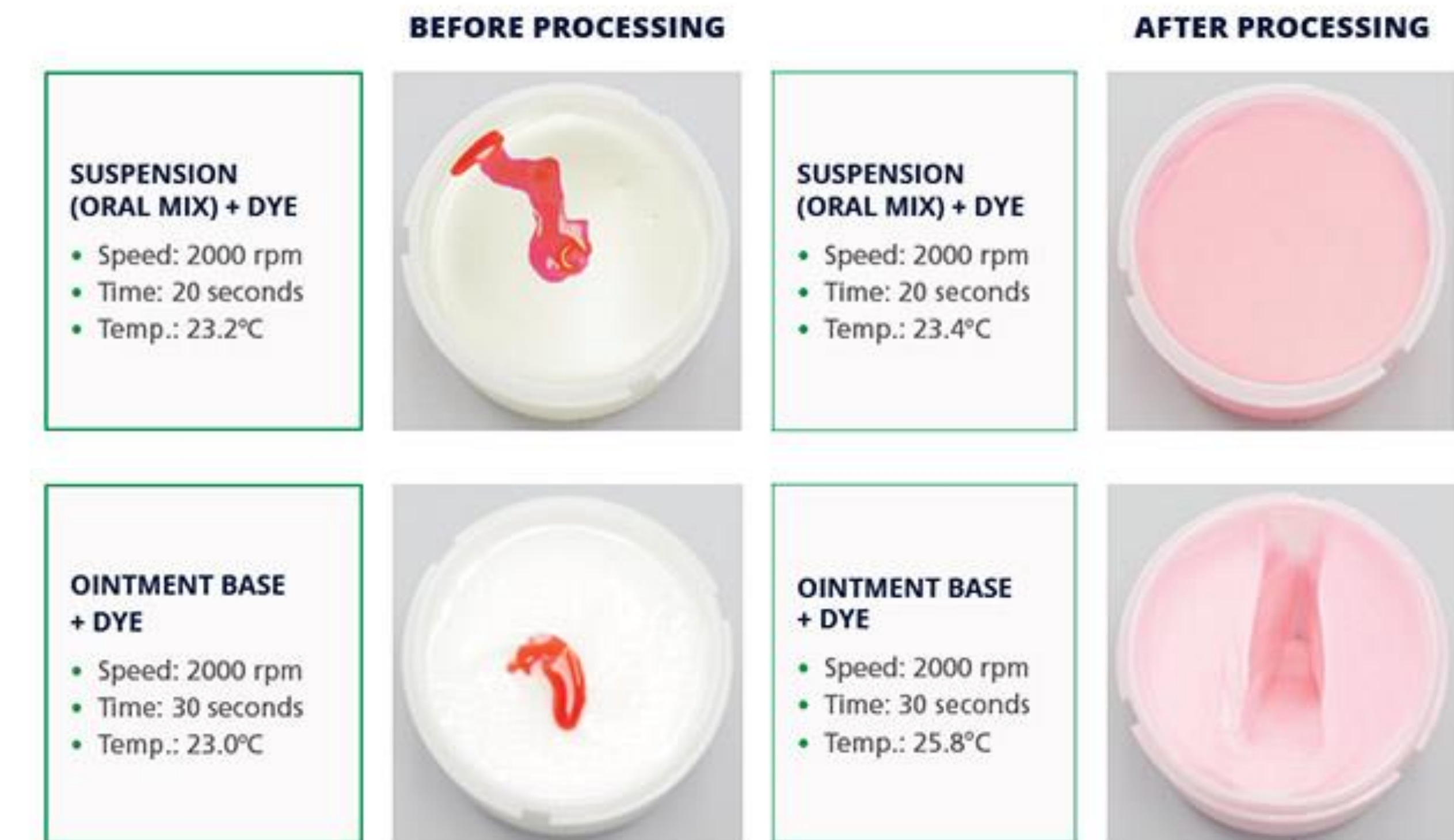


Figure 3: Average savings in dollar amounts comparing pharmacies that produce different averages of compounded creams per day



Preparations were examined for content uniformity using dye tracer, ensuring colorant was evenly distributed from top, through to middle, and all the way to the bottom.

Figure 4: Compounded creams before and after mixing of the Mazerustar® (<https://goo.gl/images/om2svy>)

Conclusions:

By using the Mazerustar® for compounding creams instead of conventional methods, time and money can be saved in pharmacies. The Mazerustar® mixer saved compounding time relative to conventional methods when compounding creams. This could translate to cost and time savings for compounding pharmacies.



Figure 5: Picture of the outside of the Mazerustar® (<https://goo.gl/images/ZSynF6>)