Plate waste studies are a quick method to assess intake from a large sample size in an efficient and effective manner. Typically, plate waste studies are used for school meals or large food service organization. They allow data to be collected to establish a baseline reading and/or the effects of changes caused by altering independent variables. The importance of assessing plate waste for hospital patients is that these studies provide knowledge about food preferences, what foods are being consumed, and what is being thrown away. It is expected, that regardless of how good the food taste, that there will still be a significant amount of plate waste because the target population includes ill individuals who are likely to be on medications that may alter their appetite or ability to taste normally.

For this study, plate waste data was collected on four consecutive days at Monongalia General Hospital. The cart from which the trays were selected from was chosen at random according to what was available at the time of the observation. Trays were excluded from the analysis if they did not have the original ticket to identify the diet and meal order or if they were on a liquid diet. Each day of the study 10 trays were analyzed and the percentages of each major item were recorded.

For the first day of the study the basic menu included: pork BBQ sandwich on a bun, 4 oz. of macaroni and cheese, ½ cup of coleslaw, and ½ cup of orange gelatin with whipped topping. 56.57% was the average consumption of pork BBQ sandwich. This was the lowest consumption of any entrée served throughout the course of the study. The macaroni and cheese seemed to be largely accepted and eaten with the second highest consumption rate of any side option at 69%. Coleslaw showed an average consumption rate of 63.33%, which was also
relatively high in comparison to other side options. The gelatin option for dessert was the second highest consumed dessert option with a consumption rate of 85%.

On the second day of the study the following items were part of the standard menu: chicken salad sandwich, lettuce and tomato slices, 6oz. of garden vegetable soup, with a rice crispy treat or a brownie for dessert. This entrée had the second worst consumption rate with 63.5% of the chicken salad and only 44.5% of the bun. Only 40% of the lettuce and tomato served with the sandwich were consumed. In fact, most people did consume the tomato but left the lettuce leaf untouched. The garden vegetable soup had the highest consumption rate of 74% of any side item or entrée on the menu. The brownie was only chosen by one patient tray but it did have the highest consumption rate with 100%. The rice crispy treat was much more popular with 5 of the test trays selecting it; it had a high consumption rate of 75%

For the third day of the plate waste study the menu consisted of 4 oz. of roasted turkey, ½ cup of mixed vegetables (cauliflower, broccoli, and carrots), ½ cup of mashed potatoes with 1 oz. of brown gravy, and either pineapple upside down cake or peach cobbler for dessert. The roasted turkey had the lowest consumption percentage of any other entrée, with only 62.5%. The roll also had the lowest consumption rate (52.78%) of any other starchy side item. The mixed vegetables and mashed potatoes with gravy fared better with a consumption rate between 64-65%. The pineapple upside down cake had the lowest consumption rate for any of the dessert options with only 42%. This percentage only slightly increased with the other option for dessert, peach cobbler at 52.5%.

4oz. of chicken parmesan, ½ cup of pasta, ½ cup of either green beans or broccoli, ½ cup of tomato and onion salad, 1 breadstick, and either lemon meringue pie or lemon pudding for dessert was the standard menu for the final day of the study. The chicken parmesan was the
entrée with the highest average consumption with 71.11%. The pasta had a relatively high average consumption rate of 65%. The green beans are the highest consumed vegetable for any meal with an average consumption of 100%. Broccoli consumption levels were significantly lower with an average consumption of 55%. The breadsticks only had an average consumption rate of 50%. The tomato and onion salad had a relatively high consumption rate of 62.5%. The lemon pudding was served either in a ½ cup portion or a 1/3 cup portion. The 1/3 cup portion tied for the highest consumed dessert option with 100% and the ½ cup portion had an average consumption percentage of 66%, just slightly more than the lemon meringue pie who had 65%.

Each standard meal was served with 6 oz. of coffee and ½ pint of milk with option to substitute or add hot tea, iced tea, or a different beverage. Throughout the week, tea (iced or hot) had the highest average consumption rate for a beverage with 66.5%, followed by coffee with 63.54%, and then milk with just slightly less at 63.45%.

On average, about 30-40% of most items are being disposed as plate waste. While this value seems unreasonably high, it is important to remember that patients who are served these meals are not healthy individuals choosing to eat. They are individuals who may have acute illnesses, just underwent surgery, or are on a variety of medications. These factors can significantly affect ones desire to eat by altering one’s appetite. There are most likely meals that patients enjoy more than others but with a sample size of only 10 trays per meal period it is difficult to draw any conclusive statements.