Enhancing Efficiency and Patient Safety through the Implementation of Dispensing Robots in Pharmacy Services

Variables	What It Measures	Data Collection Method	Statistics Measure	Data Type	Analysis Method	Average 2022 (Pre-Robotic) No Politics - Self-State Vise Service	Average 2023 (Post-Robotic) Desident tine Inches - 104 Sales Feebler Seedle	Percentage Improvement Steeling Supersides - Steeling Supersides - 28	Mean Pre-Robotic		Std Dev Pre-Robotic			LCL Pre	UCL Post	LCL Post	Improvement Chart (In text professors instances that and realises the effectiveness of photocons of interestinate)	Control Chart (to motion and evaluate the mobility and performance of the precision filling necessity for and after implementing flows Control Chart	concultion
Different % Prescriptions Filled p Month (Average)	Percentage of or proceedings that the most has been seen as the most had been seen as the most h	$Mortlig Ros (S) = \left(\frac{Promitphon Filled}{Total Reviewd}\right) \times 100$	Percentage (Average)	crage)		0.94	0.96	Increased 2.14%	0.935	0.955	0.019	0.019	0.972417	0.897583	0.992417	0.917583	The control of the co	Track Companions A 3 cf. Commune or promption for a second result of the commune or promption follows appeared polymorars and	Superval History: 1 The State of State
Dispensing Error Rat per 1,000 Hems Dispensed	Errors per 1000 hone dispensed	Browlike ye 1000 kma = $\left(\frac{\text{Errors}}{\text{Total thens Disposed}}\right)$ + 1000	Proportion Rate		All data analysis, including calculations of averages,	0.01	0	Decrease by 82.74%	0.014	0.003	0	0.001	0.015082	0.013884	0.004598	0.000402	The Companies to Signature, or or other price to the support of the state of the st	limits shifted downward, indicating enhanced process quality and	
Average Patient Wai Time (Minutes)	Average waiting time per patient	Average Patrict Walt Time (min) = $\frac{Total$ Walt Time (min) = $\frac{Total}{Total}$ Patricts			standard deviations, coentol limits, trendiles, and viendinations, was performed using Pythen with libraries such as: NumPy for statistical calculations. Marplotth for data viendination. Pandas for data	14.17	10.33	Decrease by 27.06%	14.167	10.33	0.753	0.516	15.67221	12.66112	11.36613	9.300538	Tred Companies for Some grant and Title (160-1012 A) 323 A 324 A 3	Trad Computions The comp optimization by 27 200 for the 2002 optimization by 27 200 for the 2002 250, their gas improprient it Computing the 2002 for the 2002 and 2002 for the 2002 and 2002 for the 2002 and 2002 for the 2002 for the the 2002 f	82.74%, ensuring safer dispensing processes. Greater Patient Engagement: Counselling time increased by 233.33%, signifying more personalized and supportive patient interactions.
Pharmacist Producti (Prescriptions Dispensed per Staff Hour)	Prescriptions dispersed per staff hour	$Pharmacist Productivity = \frac{Total Pre-rilgiding}{Total Staff library}$	Rate (Productivi	y	реоргоссийнд.	12.5	20.3	Increase by 62.40%	12.5	20.3	1.871	4.171	16.24166	8.758343	28.64266	11.957339	The Control of the Co	Tan Caraginan Pamorin Pamo	etentative the systematics phallicure areas of the subsection of t
Patient Interaction/Counseli Time (Minutes)	Average counseling time per parkent	$\label{eq:area_def} Areago Interaction Time [min] = \frac{Total \ kinesetton \ Time}{Total \ Countil \ tribute}$	Average Time (Counselin Time)	i Sour		2	6.67	Increase by 233.33%	2	6.667	0.894	1.211	3.788854	0.211146	9.088787	4.244546	The Company to Print Design and the store 2019 (2019)	The Companies of Part Companie	