

# How UCSD Leverages ClearCheck for Quick, Standardized Plan Reports

## Introduction

Plan documentation is a key component of complete patient treatment records and is a requirement for billing purposes. In accommodating the various billing and department-specific elements, plan reports can often be lengthy, involving a number of manually-generated components (screenshots, PDFs, etc.)

The team at the University of California San Diego department of Radiation Medicine looked to improve this step in the treatment planning process. Their goal was to compare the time needed for chart finalization for their existing, manual approach to a more automated process using ClearCheck.

In an [abstract published in 2020 at the ASTRO annual meeting](#), their team analyzed the effectiveness of ClearCheck's automated plan documentation process and compared it to their previous workflow for potential time efficiency gains.

## Method

In their assessment, UCSD recorded chart production times for 131 external beam patients during a two week period. Of those patients, 40 were retroactively identified for further analysis and binned into categories based on the time required to complete their chart:

✓ ClearCheck

*Thorough, instant plan evaluation*

- Dose Constraints
- Structure Checks
- Plan Checks
- Prescription Checks
- Collision Checks
- One-Click Reporting

## Manual Patient Chart Reporting Times

🕒 ≤ 10 minutes	👤 6 patients
🕒 = 11-20 minutes	👤 10 patients
🕒 = 21-30 minutes	👤 10 patients
🕒 = 31-40 minutes	👤 10 patients
🕒 ≥ 41 minutes	👤 4 patients

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The team carried out plan documentation following a standardized manual chart finalization process that included prescription confirmation, quality assessment of treatment plan, independent MU verification, electronic chart preparation, and plan documentation. These 40 patients were then re-processed using ClearCheck to automate the plan document while preserving all other steps of the process. New times were recorded and compared to their previous manual workflow.

### Results

Using ClearCheck for automated plan report finalization reduced the time investment by 53.4% across the range of all patients, resulting in an average time savings of over 18 minutes per patient. For plans which required longer manual finalization times—those requiring 40 minutes or more using their existing techniques—the time savings amounted to 70.5% with the automation and workflow tools provided by ClearCheck.

To understand the impact for the department, the time savings for different patient categories was extrapolated using patient census numbers over a two-week period. Given a volume at the La Jolla site of 127 patients placed appropriately in their respective categorical bins, it was calculated that the **total time savings over a two-week time span using ClearCheck reporting was 1,567 minutes (26 hours, 7 minutes).**

Recorded Time for Patient Plan Report Finalization			
Chart Time Category	Manual Finalization Time (min)	Semi-Automated Finalization Time (min)	Overall Reduction of Time (%)
≤10 Minutes (6)	8.2	6.7	13.9
11-20 Minutes (10)	15.3	7.7	46.5
21-30 Minutes (10)	25.8	9.3	63.6
31-40 Minutes (10)	35.3	11.7	67.2
≥40 Minutes (4)	83.5	24.0	70.5
<b>All Patients (40)</b>	<b>28.7</b>	<b>10.6</b>	<b>53.4</b>

“ClearCheck is a game changer in our day-to-day workflows!”

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ClearCheck Reporting Time Savings Analysis for La Jolla Department				
Chart Time Category	Percentage of Workload	Number of Charts Over Period of Two Weeks	Median Time Reduction per Patient with ClearCheck (min)	Total Time Reduction with ClearCheck (min)
≤10 Minutes (6)	17.3%	22	1.5	33.0
11-20 Minutes (10)	40.9%	52	7.6	395.2
21-30 Minutes (10)	28.3%	36	16.5	594.0
31-40 Minutes (10)	10.2%	13	23.6	306.8
≥40 Minutes (4)	3.3%	4	59.5	238.0
<b>Total Time Savings for a Period of Two Weeks:</b>				<b>1,567 min</b>

### Promoting Standardization

Beyond time savings, UCSD's plan report experimentation has yielded additional benefits for the department. With simplicity in mind, they designed a single standard report template for all 3D and IMRT plans, streamlining their output for routine cases. However, within their standard report, they are able to easily customize the report on the fly by adding additional screenshots or PDFs. These comprehensive reports have helped billing specialists know what to expect and where to find it. And overall, they have noticed a reduction of errors in their plan reports.

### Conclusion

Using ClearCheck for plan documentation procedures produces standardized, clinically relevant documentation and can dramatically reduce overall time for plan finalization. This increased efficiency allows for focus on aspects of plan generation and review that require experienced clinical judgment.



**26 hours**

saved in 2 weeks with ClearCheck

#### Reference:

Pre-Clinical Validation and Efficiency Analysis of Semi-Automated Plan Documentation Process. Cornell, M., et al. International Journal of Radiation Oncology\*Biophysics - 2020