



St. Jude Global Scholars Projects: Rawad Rihani



Strengthening the Local Health System to Streamline Patient Flow and Reduce the Need for Inpatient Care in Jordan

This prospective study aimed to explore hospitalization patterns and evaluate effective solutions to bed management in order to enhance the quality and efficiency of inpatient pediatric oncology services and ultimately improve outcomes for children with cancer at King Hussein Cancer Center (KHCC) in Jordan.

The project followed a systematic, data-driven, and multidisciplinary quality improvement framework grounded in process-mapping and quality improvement and continuous assessment methodology. A cross and inter-departmental multidisciplinary Pediatric Bed Management team was formed to identify inefficiencies, define measurable indicators, and co-create interventions that spanned clinical, administrative, and logistical domains.

This project has improved the timeliness and efficiency of pediatric oncology care by addressing operational, organizational, coordination, and communication barriers that previously delayed admissions and prolonged hospital stays. The project achieved measurable reductions in non-medical discharge delays and increased the proportion of early discharges. At a systems level, the project laid the foundation for sustainable quality improvement within KHCC's pediatric oncology service.

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Project Details



Location
Amman, Jordan



Setting
Single Center: King Hussein Cancer Center



Health Condition
Childhood Cancer



Focus Areas
Access, Equity, Quality, Timeliness



Target Age Group
All Pediatric Patients

Systems-Level Change

Participants

4,500 Children

300 Health Care Workers

7,500 Caregivers

UN Sustainable Development Goal

Goal 3: Good Health and Well-Being

Goal 9: Industry, Innovation and Infrastructure

Goal 10: Reduced Inequalities

Goal 17: Partnerships for the Goals



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The project demonstrates how practical, context-driven interventions can enhance patient flow, optimize hospital resources, and serve as a replicable and scalable model for other pediatric oncology units in similar resource settings.

Key Findings

The following are key findings from this Global Scholars Project which aimed to streamline patient flow and reduce the need for inpatient care at King Hussein Cancer Center.

- Early discharge performance improved across all patients on the floor, with 67.5% of discharge orders placed before 10 a.m. and with 66.7% of patients leaving before noon, reflecting better planning and coordination.
- The average length of stay (LOS) for all patients decreased between 2023 and 2025 (January-July); for chemotherapy admissions, the average LOS fell from 4.5 days in 2023 to 3.2 in 2025, and, for non-chemotherapy admissions, from 7.5 to 3.9 days.
- Bed turnover rate reached 7.9%, enhancing overall patient throughput and hospital capacity.
- Early discharge interventions led to a significant reduction in discharge delays – from 63.3% in 2023 to 8.3% by mid-2025.

Systems-Level Change

WHO Health System Building Blocks

Health information systems

Health service delivery

Health system financing

Health workforce

Leadership & governance

GIICC CureAll Projects

1. Analysis of cancer health system

3. Implementation of cancer workforce training packages

4. National network and referral pathway strengthening

7. Economic analysis and benefit packages review of cancer

8. Strengthening & linking cancer registries (population- & hospital-based)

9. Country dashboard for childhood cancer monitoring

10. Local/regional advocacy portfolios: case studies, awareness campaigns



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Key Findings

- Timely discharges for patients that are fit for discharge improved from 36.7% to 80%, with most patients leaving before noon.
- Discharge orders before 10 AM for patients that are fit for discharge increased dramatically from 35 % in 2023 to 90% in 2025, reflecting improved physician workflow and early planning.
- Pediatric bed availability improved from an average of 4 beds available in January 2024 to 6.5 beds in July 2025, allowing more timely admissions.
- Admission process and efficiency improved through implementation of a priority-coded admission list, real-time dashboards, and daily communication channels, reducing waiting times for new admissions.
- Enhanced Outpatient Chemotherapy Administration Process and more chemotherapy protocols (VDC, BEP, Rituximab R-COPADM, IGEV, etc.) were successfully shifted to the outpatient setting, resulting in substantial bed-day savings and reduced inpatient congestion.
- The development and implementation of standardized discharge bundles, checklists, and parent education materials and video strengthened care transitions and staff and family readiness.
- The integration of pharmacy coordination and discharge medication preparation further shortened patient stays and streamlined morning discharges.
- Data-driven tracking and weekly performance reviews fostered a culture of accountability and continuous improvement across multidisciplinary teams.



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