



Beth Israel Deaconess  
Medical Center



A teaching hospital  
of Harvard  
Medical School



Putting  
People  
First

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## Industry & Site Stats

This new **Beth Israel Deaconess Cancer Center & Surgical Pavilion** will consolidate BIDMC's west suburban cancer services into an innovative, comprehensive center in Needham, Massachusetts. Designed through a collaboration of BIDMC medical staff, patients, hospital facilities and JACA architects, the new three-story suburban center provides patient-centered surgery and treatment solutions closer to home. The three-story, 30,000-square foot center, completed in September 2014, is located on the footprint of BID-Needham's former administration building. Combining radiation and hematological oncology services on one floor, the new center offers patients an integrated, team-based treatment process. Additionally, state-of-the-art surgical pavilion is located directly above, on the center's third floor.

## Platform for Implementing Lean

- ▲ The BIDMC Lean transformation process is based upon three pillars:
  - Respect for People – the thinking of every person, provider and patient is valued
  - Process Closest to Staff – the best information comes from those closest to the process.
  - Getting Patients Involved – the voice of the customer is paramount to our improvement process.
- ▲ To plan the BIDMC West Suburban Cancer Center layout, a team of three dozen clinicians, administrators and facilities staff worked with patients and architects over a one-year period to develop a process focused on patient needs and care effectiveness. The team, supported by an executive steering committee, used a specific Lean process know as Production Preparation Process (3P).

## Approaches & Methods

Production Preparation Process (3P) is a hands-on model simulation process developed originally at Toyota to stimulate breakthrough thinking in new product and process design. Adapting this method to healthcare, the cross-functional BIDMC team first defined the current condition for cancer care and compared this to a Lean ideal condition based upon perfect care for the patient. Next, using a specialized process map, the team brainstormed improvements, translating these first to simple bubble diagrams and later to tabletop floor layouts for evaluation and critique. Finally, using cardboard and brown paper, the team built full-sized models of treatment bays, the radiation vault, nurses stations, and other key areas, simulating actual staff and patient movement. The resulting design is indeed a breakthrough in patient care.



## Results & Impacts

- ▲ Radiation and hematological care was consolidated to a single floor for creating more cohesive treatment and reducing patient walking by 75%
- ▲ The radiation vault, traditionally located in the basement, was elevated to the second floor, providing a sunny, welcoming environment for patients.
- ▲ Radonc and Hemonc disciplines, previously operated in separate locations, are now collocated for better coverage, teamwork and handoffs.
- ▲ Collaborative efforts included all services to the patient, from patient check-in, to phlebotomy, nursing, and tech, IT, ancillary services and facilities. The resulting breakthrough processes came from "the experts", the healthcare providers and administrative employees who are closest to the patient.
- ▲ Patient focus groups first provided input to initial design, and later validated and improved initial center design concepts.
- ▲ JACA Architects and BIDMC facilities provided technical advise from the very earliest stages of the process.
- ▲ Team involvement accelerated the design process and reduced later changes.
- ▲ A concurrent project to design a state-of-art surgical pavilion on the floor above the cancer center followed the same 3P method, creating a layout that in the word of one doctor "we would never have otherwise considered."
- ▲ The finished products have buy-in and enthusiastic support from all stakeholders.





Beth Israel Deaconess Medical Center



Beth Israel Deaconess Hospital Needham



Putting People First

JACA architects

# RESULT = A CANCER CENTER "BUILT FROM THE PATIENT UP"



LEVEL 2



LEVEL 1

- 1. ENTRANCES
- 2. WINDOWS OF HOPE
- 3. RECEPTION/WAITING
- 4. RESOURCE ROOM
- 5. GARDEN
- 6. CONSULT/MEETING ROOM
- 7. EXAM ROOMS
- 8. NURSE STATIONS
- 9. CONTROL ROOM
- 10. SUB WAITING
- 11. LINAC TREATMENT RM
- 12. INFUS. TREAT. BAYS (10)
- 13. INFUSION ISOLATION RM
- 14. OFFICE/ADMIN
- 15. STAFF LOUNGE
- 16. BLOOD DRAW
- 17. LABORATORY
- 18. CAFE
- 19. PHARMACY
- 20. PREOP/POSTOP BAYS
- 21. PACU ISOLATION ROOM
- 22. NEW OPERATING RMS
- 23. EXIST. OPERATING RMS
- 24. LOCKER ROOMS
- 25. STERILIZATION



GROUND FLOOR

