



# The Susquehanna Cancer Center

Developing an Optimal Process-Based Facility Design

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**SIEMENS**

**Customer:**

The Susquehanna  
Cancer Center  
Williamsport, PA

**Challenge:**

Renovate facilities to  
achieve a patient-  
centered, physician-  
focused design

**Solution:**

A process-based facility  
design that addressed  
patient experience and  
workflow issues  
developed by Siemens  
Global Solutions





# The Susquehanna Cancer Center

## Developing an Optimal Process-Based Facility Design

"Our experience is limited by what we know to be true here, it doesn't necessarily help us forecast for the future," says Karen Armstrong, senior vice president and chief information officer, Susquehanna Health.

Based in Williamsport, PA, the 282-bed Susquehanna Health includes The Williamsport Hospital, Divine Providence Hospital, and Muncy Valley Hospital. It is ranked as one of the nation's most wired hospitals by *Hospitals & Health Networks*, and, in 2006, launched a major initiative to renovate its campus facilities, among them the Susquehanna Cancer Center, which is located at Divine Providence Hospital.

## Patient-Centered, Physician-Focused

As part of the project, Susquehanna Health hired Granary Associates, Philadelphia, PA, an architectural firm that specializes in health facility design. “The architects’ experience with healthcare facilities was important to us but even with that we felt it would be best to get outside input regarding workflow,” says Armstrong. “We wanted the facility to be patient-centered and physician-focused.”

Susquehanna Health has long been a strategic business partner with Siemens and was, in fact, the first worldwide beta site for Soarian® Financials. Through that relationship, Armstrong and her colleagues were aware of Global Solutions’ abilities in process-based facility design. “If you have the right team with

the right clinical background and the right credentials to talk with physicians and workers at all levels, you can observe and make good solid workflow recommendations,” continues Armstrong. “We believed the Siemens consultants could really take the project to the next level.”

Collin Beers, senior vice president at Granary Associates, agrees that the Siemens consultants brought value to the project. “If our client is using a fairly contemporary approach to the space planning, we let it stand. But the Siemens consultants were able to ask tougher questions about why certain workflow processes were the way they were,” he says. “Because they were brought in to analyze efficiency, the dialogue took on a whole different angle.”



“The Siemens consultants were able to ask tougher questions about why certain workflow processes were the way they were.”



## Planning for Future Volume

Siemens consultants interviewed key stakeholders, observed current operations, reviewed proposed drawings and technology plans, and gathered available operational data on the existing 11,000-sq.-ft. Cancer Center. “One of the key elements they brought to the table was recommendations on the future incidence of cancer in our area so we could plan for potential future volume,” says Armstrong. “They looked at patient demographics and the types of cancer that are likely to occur in our area, and were able to project the size of the facility that would be necessary, and the number of chemotherapy infusion areas and exam rooms that we would need in the future.”

This potential volume evaluation resulted in an increase in the number of infusion rooms and chairs needed from 14 to 18, and a reduction in the number of exam rooms from 14 to 12. Further, based on the high utilization of their current equipment, the consultants recommended building shell space for a future linear accelerator. Planning and building for future technology saves construction costs and limits the disruptions to daily operations when the equipment is installed in the future. “Based on their data, they would suggest that certain areas be reduced in size and others be increased and we would work with them to determine what was architecturally feasible,” says Beers. “Once we had established a relationship with the Siemens consultants, we found that their feedback was beneficial.”

“We believed the Siemens consultants could really take the project to the next level.”



## Improved Efficiency & Outlook

The medical oncology and radiation oncology service areas currently reside in the basement of Divine Providence Hospital. And, the services were restricted from growth by other spaces—another service line above it and the earth itself around the basement. When the service line above the Cancer Center was relocated, the option to renovate this space and expand the Cancer Center became realistic. The new proposed space—at 34,000 sq. ft.—had the potential to offer significant improvements both in space allocation for existing services as well as new technology.

After reviewing the initial concepts for the two-floor Center, Siemens consultants helped develop a conceptual floor plan that was more conducive to the patient experience and the physicians’ and staff’s workflows. Patient flows were created for each patient type both in medical and radiation oncology (i.e., initial consult visit, new patient visit, follow-up doctor visit, chemotherapy infusion, and radiation therapy treatment). “Oftentimes, when physicians and nurses make suggestions for facility design, they do it with the convenience of the staff in mind,” continues Armstrong, “and while the staff’s productivity and efficiency are important elements in the design, we also needed to weigh that against what was best for the patient.”

## Experienced in Workflow Design

In fact, key adjacencies were another area the consultants evaluated. By relocating the lab to medical oncology and positioning the phlebotomy station next to the lab, patient wait times are expected to be reduced by 60 minutes. Consultants also recommended positioning the pharmacy between medical oncology and the chemotherapy infusion area to reduce the distance nurses and pharmacists travel to administer medications. And, to further enhance the patient experience, additional consult rooms were recommended so palliative care, pain management, home care and hospice, dietary, and physical therapy caregivers could come to the oncology patient rather than making the patient go to them.

"It's been a very positive experience, so much so that we've already engaged the consultants for a new patient tower at one of our hospitals. They are going to help us with the workflow among our major project lines," continues Armstrong. "The Siemens consultants are credible and professional, and have the credentials and experience that go a long way towards not only making our staff feel comfortable but also getting them to understand the rationale behind the recommendations. We know they will help us achieve good, efficient outcomes."

### Anticipated benefits to the new design:

- Improvements in space allocation for both existing services and new technology
- A floor plan that is more conducive to the patient experience and the physicians' and staff's workflows
- Reduction in patient wait times

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