

# Case Reports in Clinical Medicine



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# Reducing Hospital Stays for Patients Discharged to Nursing Homes

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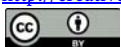
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## Abstract

This study described programs that support length of stay reduction in the metropolitan area of Syracuse, New York. It demonstrated that these initiatives could improve hospital efficiency by expediting the movement of patients from inpatient hospitals to nursing homes at the community level. The Subacute and Complex Care Programs have focused on hospital patients with some of the longest lengths of stay. The inpatient days associated with these patients have the greatest potential for moving from acute care to long-term care providers. The use of these programs has the potential for saving staff time in hospitals associated with nurses, as well as pharmaceuticals and testing. All of these resources have contributed to the high costs of inpatient acute care.

## Keywords

Hospitals, Nursing Homes, Hospital Utilization

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## 1. Introduction

Health care spending has historically been a challenging issue in the United States. Per capita health care costs have been higher than those of other nations throughout the twentieth and twenty-first centuries [1] [2].

A large proportion of these costs have been generated by acute hospitals. These providers are the largest sources of inpatient care in most communities. They account for the care provided to patients with the highest severity of illness [3] [4].

One approach to reducing health care spending is reducing utilization in acute hospitals. Limiting utilization reduces costs related to labor, pharmaceuticals, and testing.

One of the most effective methods of limiting inpatient utilization in hospitals is length of stay reduction. This means reducing the time for patients between inpatient admissions and discharges [5] [6] [7].

Available information suggests that reducing inpatient lengths of stay in hospitals has numerous benefits for providers and payors. The most apparent is probably related to improving efficiency. Based on relatively fixed payments for hospital discharges, providers that discharge patient sooner incur lower costs for labor, pharmaceuticals, and other resources.

Length of stay reduction has also been associated with positive outcomes of care in hospitals. It results in patients going home sooner. It has not been associated with increased rates of hospital readmissions.

Length of stay reduction in hospitals has the potential for making better use of nursing resources in hospitals. By moving patients to ambulatory care sooner, it can help address nursing shortages.

This study summarized a number of approaches to length of stay reduction in the metropolitan area of Syracuse, New York. It showed how these programs contributed to efficiency and outcomes at the community level [8].

## 2. Population

This study described programs developed to reduce hospital lengths of stay in the metropolitan area of Syracuse, New York. This area includes three acute hospitals, Crouse Hospital (17,715 inpatient discharges excluding well newborns, 2022); St. Joseph's Hospital Health Center (18,277 inpatient discharges, 2022); and Upstate University Hospital (28,106 inpatient discharges, 2022).

These hospitals provide primary, secondary, and tertiary acute care to an immediate service area of approximately 600,000. They also provide tertiary acute care services to the eleven county Central New York Health Service Area with a population of approximately 1,400,000.

## 3. Method

This study described programs developed to reduce hospital lengths of stay in the service area of the hospitals of Syracuse, New York. It focused on those that involved long stay patients as a means of improving acute care efficiency.

A large portion of the study involved hospital discharges to nursing homes. These patients accounted for most of the longest stays in the Syracuse hospitals.

These patients have frequently encountered long stays in hospitals for a number of reasons. Their medical diagnoses are more complicated than those who need short term rehabilitation. For this reason, they also frequently require high expenses for staff, pharmaceuticals, and testing.

In order to address these needs, the Syracuse hospitals developed the Difficult to Place Program and the Subacute and Complex Care Programs. Both of these initiatives were designed to address the needs of nursing homes at the community level in order to reduce lengths of stay between acute and long term care fa-

cilities.

The first component of the study was the Difficult to Place Program. It was developed to balance the caseload in the community between desirable patients and Difficult to Place patients referred to nursing homes from the Syracuse hospitals.

Nursing homes that admitted larger numbers of Difficult to Place patients from the hospitals received referrals of patients with lower care needs that were attractive to their utilization. This encouraged nursing homes to admit Difficult to Place patients.

Hospitals referred patients to nursing homes using an online system. These patients were identified as Difficult to Place or Non Difficult to Place. Hospital case managers followed up with nursing home admissions staff to develop discharges to the nursing homes with both types of patients.

The Hospital Executive Council staff identified Difficult to Place and Non Difficult to Place patients with the case management departments on a monthly basis. They developed and distributed Difficult to Place Summaries based on this information. These Summaries were distributed to the hospital and nursing home staffs in the community. The Difficult to Place Summaries were employed by the hospitals and nursing homes to support their utilization activities and reduce hospital stays.

The second component of the initiatives included the Subacute and Complex Care Programs. These programs focused on developing admissions to nursing homes for hospital patients with complicated care needs in order to reduce lengths of stay in the hospitals.

The Subacute Program focused on reducing lengths of stay in hospitals for discharges to nursing homes that required stretcher transportation to health care facilities for treatments such as dialysis. This program reduced hospital stays by approximately four weeks per patient.

The Complex Care Programs involved patients who required expensive medications including Daptomycin, Meripenim, Ertipenim, and oxacillin. Daptomycin was addressed by the largest numbers of these patients.

The initiative included three specific programs for Complex Care. These programs addressed patients whose hospital stays would have been 1 - 2 weeks, 3 weeks, and 6 weeks if the program were not available.

The Subacute and Complex Care Programs were managed by the Hospital Executive Council staff. It was responsible for collecting program development funds from the participating hospitals and distributing them to participating nursing homes.

The program development funds supported the ability of participating nursing homes to admit patients who required the specific medications and other therapies. The Hospital Executive Council staff monitored use of the programs. The program development funding was distributed as grants to the participating nursing homes. Long term care providers which admitted at least four patients

were eligible for grant funding based on multiple patients.

#### 4. Results

The first component of the study included information from the Difficult to Place Program for the Syracuse hospitals. Relevant data are summarized in **Table 1**.

This information was based on the Difficult to Place Programs for the Syracuse hospitals between January-December 2022. The data were based on each of the nursing homes in the service area.

The data included numbers of Difficult to Place patients admitted to each of the nursing homes in the service area. The data were based on information provided by each of the Syracuse hospitals.

The data also included total new admissions to nursing homes and the rate of Difficult to Place admissions from the hospitals in the service area. The rate was based on the numbers of Difficult to Place admissions divided by total new admissions.

The study data indicated that 719 Difficult to Place admissions were admitted to nursing homes in the service area during the twelve month period. This total amounted to 10.3 percent of the 6970 Difficult to Place admissions in the community.

**Table 1.** Difficult to place nursing home placements, Syracuse hospitals, 2022.

Nursing Home	Difficult to Place Admissions	Total New Admissions	Rate
Elderwood Health Care Center	16	577	2.8
Central Park	56	340	16.5
Onondaga Center	20	249	8.0
Iroquois Nursing Home	23	405	5.7
Bishop Rehabilitation & Nursing Center	132	800	16.5
Menorah Park	7	141	5.0
Loretto	105	1154	9.1
The Cottages at Garden Grove	6	242	2.5
St. Camillus Health & Rehabilitation Center	17	679	2.5
Sunnyside Nursing Home	4	127	3.1
Syracuse Home Association	1	134	0.7
Van Duyn Home and Hospital	151	699	21.6
Out of County	181	1423	12.7
Total	719	6970	10.3

Difficult to place information based on different definitions by hospital. Rates are based on actual difficult to place admissions divided by total new admissions. Difficult to place admissions included returns for this period. Source: Hospital Executive Council.



The data indicated that the Van Duyn Center (151 Difficult to Place admissions), Bishop Rehabilitation Center (132 Difficult to Place admissions), and Loretto (105 Difficult to Place admissions) admitted the largest numbers of Difficult to Place patients. These nursing homes also admitted the largest total numbers of new admissions to nursing homes including Difficult and Non Difficult to Place patients.

The data demonstrated that the Van Duyn Center, Bishop Rehabilitation Center, and Loretto also admitted the highest rates of Difficult to Place admissions divided by total new admissions in the community. The rates of Difficult to Place admissions for these nursing homes were Van Duyn Center (21.6 percent); Bishop Rehabilitation (16.5 percent); and Loretto (9.1 percent). These three nursing homes were responsible for 54 percent of the Difficult to Place admissions in the community during the twelve month period.

The second component of the study reviewed recent data concerning the Subacute and Complex Care Programs. Relevant data are summarized in **Table 2**.

This information demonstrated that during 2022, 45 patients were admitted to these programs from the Syracuse hospitals to nursing homes in the community. Unlike the Difficult to Place Program, the Subacute and Complex Care Programs focused on individual patients.

More than half of these patients (26) were admitted to the patient transportation program. Through these patients, the Syracuse hospitals saved approximately 676 patient days or \$405,600.

The Complex Care Programs were involved with 19 hospital patients during 2022. Within this group, four were supported by the basic Complex Care Program, seven by the Tier 1 Program, and eight by the Tier 4 Program.

The savings for the Complex Care Programs were based on the estimated costs of late stay patient days (\$600). For the basic Complex Care Program, 4 patients saved approximately 24 patient days at a cost of \$14,400. For the Complex Care Tier 1 Program, 7 patients saved 140 patient days at a cost of \$84,000. For the Complex Care Tier 4 Program, 8 patients saved 320 patient days at a cost of \$192,000. All of these data were based on the assumption that these patients would have remained in the hospitals if the programs had not been available.

**Table 2.** Subacute and complex care program utilization, Syracuse hospitals, 2022.

Program Name	Number of Patients	Number of Days Saved Per Patient	Total Hospital Days Saved
Subacute Transportation	26	26	676
Complex Care	4	6	24
Complex Care Tier 1	7	20	140
Complex Care Tier 4	8	40	320
Complex Care Subtotal	19	66	484
Total	45	92	1160

Source: Hospital Executive Council.

## 5. Discussion

This study described programs that support length of stay reduction in the metropolitan area of Syracuse, New York. It demonstrated that these initiatives could improve hospital efficiency by expediting the movement of patients from inpatient hospitals to nursing homes at the community level.

The Coronavirus and seasonal influenza have emphasized the need for efficiency in hospitals. Financial limitations have added to the need for efficiency in health care. The nursing shortage has added to this issue in many communities.

The Subacute and Complex Care Programs have focused on hospital patients with some of the longest lengths of stay. The inpatient days associated with these patients have the greatest potential for moving from acute care to long-term care providers.

The use of these programs also has the potential for saving staff time in hospitals associated with nurses, as well as pharmaceuticals and testing. All of these resources have contributed to the high costs of inpatient acute care.

The study demonstrated that the Difficult to Place Programs, as well as the Subacute and Complex Care Programs, were relatively simple initiatives that could save health care costs at the community level. The Difficult to Place Programs focused on aggregate savings, while the Subacute and Complex Care Programs involved savings for individual patients.

In the Syracuse hospitals, these savings were developed by the acute hospitals. These programs were funded collectively as initiatives based on community-wide grants administered by a small organization, the Hospital Executive Council.

The structures of the Difficult to Place, Subacute, and Complex Care Programs suggest that these initiatives could be replicated elsewhere. The acute hospitals of Monroe County in Rochester, New York developed programs with similar structures in cooperation with local nursing homes late in 2022. Like the Syracuse programs, these efforts were developed to reduce extended lengths of stay generated by patients in acute hospitals.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

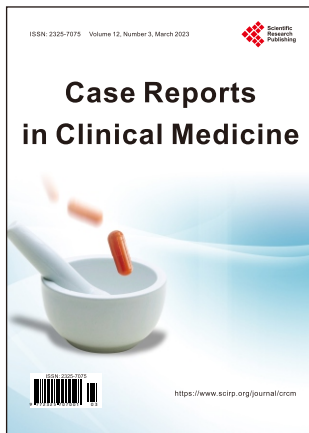
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