

# THE CONSULTANT PHARMACIST

THE JOURNAL OF THE AMERICAN SOCIETY OF CONSULTANT PHARMACISTS

MARCH 1993/VOL. 8, No. 3



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## PSYCHOACTIVE DRUG USE IN GEORGIA NURSING HOMES: EFFECTS OF AGGRESSIVE INTERVENTION

Armon B. Neel, Jr., Joe C. Pittman,  
Richard A. Marasco, and  
Brenda K. Trimmer

**Objective:** To quantify the clinical and economic outcomes from aggressive consultant pharmacist intervention with respect to antipsychotic and psychoactive drug therapy.

**Design:** Concurrent and retrospective analysis of data gathered as part of normal consultant pharmacist activities.

**Setting:** Georgia nursing homes served by a single consultant-only pharmacy in 1990.

**Patients:** 9,000 nursing home residents.

**Interventions:** Consultant pharmacists used a variety of interventions to reduce antipsychotic drug use during 1990. The foundations of the program were in-service programs to facility nurses and physicians and consistent comments about potentially inappropriate use during drug-regimen review. Nursing facility administrators also were briefed about the clinical problem and the new regulations in one-on-one presentations by the consultant pharmacists.

**Main Outcome Measures:** Overall frequency of use of these agents; relevant clinical outcomes; and the economic impact of dosing changes.

**Results:** The percentage of residents receiving psychoactive agents declined from 78.3% in January 1990 to 47.3% in December 1990. The analogous percentage of patients receiving antipsychotic drugs declined from 31.5% to 19.5%. At a mean cost in Georgia of \$17 per Medicaid drug order, monthly drug costs were reduced by \$76,738. Other potential savings could have resulted from decreased need for patient care; improved nutritional status; decreased falls, hospitalizations, restorative care, and professional intervention.

**Conclusion:** The impact of consultant pharmacists on unnecessary psychoactive drug use in nursing facility residents can be considerable.

**Key Words:** Consultant pharmacy services, Drug use, Health Care Financing Administration, Nurses, Nursing homes, Psychotropic agents.

**Abbreviations Used:** OBRA '87: Omnibus Budget Reconciliation Act of 1987; HCFA: Health Care Financing Administration; IPC: Institutional Pharmacy Consultants; QAAC: Quality Assurance and Assessment Committee; ADLs: activities of daily living.

Consult Pharm 1993; 8:245-8.

**A**s part of the Omnibus Budget Reconciliation Act of 1987 (OBRA '87), the United States Congress identified substantial misuse of psychoactive drugs in residents of the nation's nursing homes. Of particular interest in Congress's mandates were those agents classified as antipsychotic drugs.

The Health Care Financing Administration (HCFA) implemented OBRA '87 through a series of regulations. On October 1, 1990, nursing homes that receive Medicaid and/or Medicare reimbursements were required to assess each resident for the use of inappropriate or unnecessary chemical restraints. A chemical restraint is any agent that, as a part of its intended pharmacologic effect, will purposely sedate the resident as a means of discipline or convenience.

To implement these mandates, the consultant pharmacists of our firm integrated the data collection and evaluation of patients receiving psychoactive and antipsychotic drugs into the routine duties of our consultant pharmacists. In this report, we provide an analysis of the clinical and economic impact of our interventions.

### METHODS

During 1990, Institutional Pharmacy Consultants (IPC) provided consultant pharmacy services to more than 9,000 long-term care residents throughout the state of Georgia. A full-time staff of six consultant pharmacists traveled each week, Monday through Thursday, to visit the homes and other facilities. Each Friday, the consultants met at the Griffin office for conferences and continuous quality improvement sessions and to file reports.

For this report, the term psychoactive drug is defined as agents whose pharmacologic actions place them in the following drug categories:

- Antipsychotic agents
- Antianxiety agents
- Hypnotics
- Antidepressants
- Lithium
- Central nervous system stimulants

**INTERVENTIONS.** The newly instituted

ARMON B. NEEL, JR., is President of Institutional Pharmacy Consultants, Griffin, GA.

JOE C. PITTMAN is Vice President of Institutional Pharmacy Consultants, Griffin, GA.

RICHARD A. MARASCO is Director of Clinical Services of Institutional Pharmacy Consultants, Griffin, GA.

BRENDA K. TRIMMER is Pharmacokinetic Coordinator of Institutional Pharmacy Consultants, Griffin, GA.

ADDRESS FOR REPRINTS: Armon B. Neel, Jr., 816 Everee Inn Road, Griffin, GA 30223.

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**TABLE 1. PSYCHOACTIVE DRUG USE IN 9,500 LONG-TERM CARE RESIDENTS, JANUARY THROUGH DECEMBER 1990**

Month	No. Patients Receiving Psychoactive Agents	% of Total
January	7,438	78.3
February	7,277	76.6
March	7,163	75.4
April	7,039	74.1
May	6,973	73.1
June	6,916	72.8
July	6,916	72.8
August	4,750	50.0
September	4,684	49.3
October	4,617	48.6
November	4,551	47.9
December	4,493	47.3

requirements of OBRA '87 provided additional support for an aggressive intervention challenge we had long wanted to tackle: the inappropriate and seemingly excessive reliance on chemical restraints among nursing home physicians and staff. IPC staff began efforts to reduce psychoactive drug use as soon as OBRA '87 was passed by the U.S. Congress. But the endeavors were largely in vain—physicians were not sufficiently sensitized to the problems associated with misuse or overuse of these drugs.

By the beginning of 1990, our staff realized that only well-planned and soundly developed efforts would make a substantial impact. The following interventions were reinforced consistently by IPC staff as 1990 progressed:

■ To educate the physicians about the regulations and prepare them for the pharmacists' suggestions, IPC encouraged each administrator to set up a special meeting with the attending physicians. At these meetings—usually over a meal—an IPC pharmacist reviewed the regulations, the clinical reasons behind them, and the efforts IPC would be making in the upcoming months.

■ Special attention was placed on the proper use of antipsychotic agents. Procedures were implemented to monitor behaviors and potential side effects from these agents. The consultant pharmacists provided in-service educational programs for the nurses and nursing assistants at each facility concerning psychoactive drugs in general and antipsychotic drugs in particular,

their adverse effects, and the requirements of OBRA '87.

■ During routine drug-regimen reviews and in-service programs, our staff consultant pharmacists consistently repeated the following points:

1. Use of antipsychotic agents required that the physician have adequate clinical information to enter a diagnosis of psychosis or other condition for which antipsychotic agents are approved and indicated in the products' labeling.

2. The use of as-needed (p.r.n.) antipsychotic agents is inconsistent with rational treatment of psychosis. All such p.r.n. orders should be evaluated and discontinued.

3. The nursing staff must be aware of the serious side effect potential of antipsychotic drug therapy. Nursing notes must include descriptions of those side effects that occur and any palliative or corrective actions taken.

4. For those residents who do require antipsychotic drug therapy, the lowest effective dose must be maintained to minimize adverse effects.

IPC consultants also targeted nursing home administrators as a key group requiring education. One-on-one presentations were made to all administrators about needed interventions, the medical and legal repercussions of failing to intervene, and the specific interventions being made by the IPC staff.

**DATA COLLECTION.** To measure the effects of these interventions, data were collected

**TABLE 2. ANTIPSYCHOTIC DRUG USE IN 9,500 LONG-TERM CARE RESIDENTS, JANUARY THROUGH DECEMBER 1990**

Month	No. Patients Receiving Antipsychotics	% of Total
January	2,993	31.5
February	2,926	30.8
March	2,831	29.8
April	2,745	28.9
May	2,670	28.1
June	2,584	27.2
July	2,517	26.5
August	2,080	21.9
September	2,014	21.2
October	1,947	20.5
November	1,881	19.8
December	1,852	19.5

from routine IPC reports during 1990. A special form was developed by the consultant pharmacists to document information on inappropriate behaviors and side effects.

The data collected were the number of days per month that a breakthrough behavior or any side effect was observed and documented. Each consultant pharmacist used the data, the nurse documentation of what precipitated the behavior, the consultant's actual observation and hands-on assessment, and a risk-benefit analysis to determine the clinically appropriate intervention recommendation.

Computer programs were written that produced various drug-use reports. These were provided to the facility administrators and the physicians. Quarterly reports to the facility showed the number of drug orders for both psychoactive and antipsychotic agents per patient. Data were compiled on a monthly basis, and the average monthly change in the number of drug orders was calculated for 1990.

**ECONOMIC ANALYSIS.** Finally, the economic impact of interventions was estimated using state Medicaid drug-cost data. The number of stopped drug orders for psychoactive, routine antipsychotic, and p.r.n. antipsychotic drugs was calculated based on the change from January to December of 1990. The cost of an average drug order in December 1990, \$17.00, was obtained from the Georgia Department of Medical Assistance.

## RESULTS AND DISCUSSION

**IMPACT ON PATIENT CARE.** As shown in Tables 1-3, the impact of IPC efforts was substantial. The percentage of residents receiving psychoactive agents was reduced from 78.3% in January to 47.3% in December. Simultaneously, antipsychotic drug therapy declined from 31.5% to 19.5%. And the use of p.r.n. antipsychotic drug use was reduced from 5.4% of residents to 0.9%.

As shown in Tables 1-3, the number of patients receiving each classification of drug therapy declined substantially in July, compared with the preceding and following months. The antipsychotic agents, for example, decreased at a rate of 68/month from January to July and 45.6/month from August to December. The decline from July to August was much greater—437.

The substantial decline can be attributed to several factors. Of the patients who underwent initial antipsychotic reductions in the early part of the year, many were reduced to the point that a trail discontinuance was due in July. Also, the administrator and physician education sessions were held in late June and throughout July, and the quarterly Quality Assurance and Assessment Committee (QAAC) meetings were held during July.

Through these meetings, the importance of the psychoactive and antipsychotic reduction programs were presented and finally understood by the physicians and administrators. At this point, these individuals finally "bought into" and

**TABLE 3. AS-NEEDED ANTIPSYCHOTIC DRUG USE IN 9,500 LONG-TERM CARE RESIDENTS, JANUARY THROUGH DECEMBER 1990**

Month	No. Patients Receiving P.R.N. Antipsychotics	% of Total
January	513	5.4
February	437	4.6
March	418	4.4
April	380	4.0
May	313	3.3
June	285	3.0
July	247	2.6
August	180	1.9
September	152	1.6
October	123	1.3
November	95	1.0
December	85	0.9

supported the program much more so than previously. This support enabled our consultants to accomplish a remarkable impact on therapy.

Also important was the decrease in drug dosage of the patients remaining on antipsychotic agents. Of the patients continuing on antipsychotic agents, 52% had a 34% or greater reduction in drug dosage from their January dosages.

Several other observations were made during 1990 about the impact of these efforts on patients' quality of life and on the patient's overall condition. Patients whose antipsychotic or psychoactive drug dosages were stopped or decreased tended to demonstrate the following altered behaviors:

1. Increased self-performance of activities of daily living (ADLs), which is associated with increased self-esteem;
2. Increased participation in facility activity programs;
3. Increased activities with family members, including day or evening trips from the facilities;
4. Increased overall independence;
5. Decreased the number of falls by 80% from the previous year for residents who underwent an antipsychotic dose reduction or drug elimination in five homes that were analyzed;
6. Increased weight gain and reduced need for supplemental feedings (in one analysis of 50 homes, supplemental feedings were reduced by 7%); and
7. Decreased problems with bowel and/or bladder incontinence (13% fewer in an analysis

of 32 homes), resulting in improved skin condition.

**ECONOMIC IMPACT.** The identifiable reduction in monthly drug therapy cost was \$76,738 for 1990. Psychoactive drug therapy decreased from January to December by 2,945 drug orders, accounting for \$50,065 in reduced monthly drug costs (at \$17 per drug order). Antipsychotic drug use decreased by 1,141 drug orders for routine orders and 428 for p.r.n. orders, accounting for, respectively, \$19,397 and \$7,276 per month.

Other potential savings should be noted, although these could not be quantified. Care of patients who were no longer incontinent of bowel and/or bladder is less expensive, and an improved nutrition status results in better health. Also, decreased falls reduced the need for hip surgeries, hospitalizations, restorative care and supplies, and additional professional intervention.

## CONCLUSION

The impact of consultant pharmacists on unnecessary psychoactive and antipsychotic drugs for nursing facility residents can be considerable. Using standardized methods of educating nurses, through in-service programs, informing facility administrators of changes in therapeutics and federal regulations, and obtaining physician authorization for needed changes in drug therapy, consultant pharmacists can successfully reduce drug costs and iatrogenic morbidity and improve the quality of patient life for nursing home residents.