# Anatomy of a Disease Management Program

*Understand the key dimensions of this growing trend.*

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**ABSTRACT:**
*Learn the strategies and planning behind disease management programs. Initiation and success depend on nurse leaders, case managers, and information technology.*
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**A** comprehensive integrated approach to care and reimbursement based fundamentally on the natural course of a disease, with treatment designed to address the illness with maximum effectiveness and efficiency.[1]

Sound good? Many health plan administrators think so. This definition of a disease management program illustrates such programs' appeal: They incorporate care planning and outcomes measurement, targeted treatment, and cost-efficiency.

Other terms used to describe these programs emphasize the preventive and health-promotion aspects. Terms such as *wellness management*, *health management*, *patient management*, and *health risk management* all describe the same primary assumptions that underlie disease management:

◆ Approximately 20% of the population accounts for 80% of health care expenditures.

◆ Measures such as preventive and ongoing care that improve the patient's quality of life cost less than handling more acute illness down the road.

◆ A multidisciplinary team across the continuum of care can best manage complex medical conditions.

◆ An identified population currently experiences huge variations in treatment and outcomes.

◆ An optimal way to treat patients exists to decrease that variation, improve quality, and lower cost.

◆ Assertive, empowered consumers take a more active role in their care.

## Essential components

Some health plans and employers develop their own internal disease management programs. Others contract pharmaceutical companies, pharmacy benefit managers, home health care companies, patient education companies, consulting firms, or other vendors for such services. Whether an organization completes planning in-house or contracts with an outside source, planners must complete the following objectives to build a viable program:

- Select a focused disease state (including stage of the disease process and specific ICD-9 codes).
- Create a method of stratifying patients to identify candidates.
- Identify or develop the best practice protocols, clinical guidelines, and pathways that are disease-specific, evidence-based, rigorously tested, regularly modified to reflect current health knowledge, and drawn from reputable sources.
- Use sophisticated information systems to collect, store, manage, and analyze data.
- Monitor compliance.
- Educate patients and families about wellness, the disease process, and related topics so they can be active self-managers.
- Positively influence providers' behavior by educating them about key drivers of illness and the latest treatment options and outcome studies.
- Offer incentives and disincentives for patients and providers.
- Integrate the program across the continuum of care.
- Involve case management and utilization management.
- Maintain partnerships with the patients and families, payers, providers, and other clinicians such as pharmacists.
- Determine baseline data and benchmark results against this data.
- Support continuous quality improvement of the care process.

Disease management programs also must incorporate outcomes management initiatives. Outcomes management helps caregivers develop quality indicators and collect data that answer the following questions:
- What's the level of clinical quality from both the patient and provider perspectives, involving key indicators such as symptoms and physiologic parameters, complications, mortality, and key events?
- From a utilization perspective, has the program reduced encounters or limited them to a more appropriate care setting? Has the program lowered projected risk, costs of lost workdays (direct, indirect, and opportunity costs), or acuity levels?
- Does the program provide effective service, in terms of scheduling, response time, and program access mechanisms?
- How have the patients' functional status and quality of life changed, including self-care ability, compliance, and patient education level?
- Have satisfaction levels changed for patients and their families, the payers, employers, providers, other clinicians, and case managers?
- How appropriate is the program to its patient group, population size, measurable goals, logistics, communication means, and timing of data collection?

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## Targeting specific disease states

Chronic disease affects a significant number of people of all ages. Ninety million Americans suffer from at least one chronic condition, including one in four children under age 18. And 39 million suffer from more than one chronic disease.[2]

Although chronic disease strikes all ages, the elderly account for a disproportionate level of expenditures that will grow as the baby boomer population ages. With these demographic variations in mind, how can caregivers decide which disease states to target in a disease management program?

First, consider the key stakeholders in managing chronic disease, including patients and their families, integrated delivery networks, health plans and HMOs, providers, employers, the community, outsourcing and other partners, pharmaceutical companies, and other vendors. Next, consider key characteristics of the disease state or condition such as:
- high-cost acute events associated with the chronic disease
- high variation in cost or practice
- high prevalence or impact (lost work or school days)
- a disease course that's understood
- a realistic ability to alter the course of the disease through focused interventions
- alternative treatments and interventions that exist for the condition
- a relatively short time frame between expenditures and clinical improvement
- a reasonable ability to identify the cost drivers and capture costs
- a sound ability to monitor compliance and collect objective data
- patient management that crosses care settings
- the ability to determine standardized, measurable, and objective outcomes.

## Role of nurse leaders

Of course, nursing plays a key role in disease management programs. Many aspects of these initiatives rely on nursing's established strengths. Primarily, nurse leaders must help analyze data to identify candidates for the program, provide nursing resources as the program evolves, and select the appropriate information systems to capture nursing interventions and care.

Because nurses have unique patient assessment skills and we practice throughout the continuum of care, we're ideally suited to identify potential enrollees in the program. Nurses' training and experience enable us to analyze patient data from a very personalized perspective.

Complex data analysis helps identify patients who are at high risk or potential risk for developing a certain disease or who already have been diagnosed. For those at risk, programs emphasize prevention. Caregivers improve monitoring and health promotion activities to delay the onset, decrease the severity, and decrease the odds of the future diagnosis. Programs emphasize education for those already diagnosed, as well as monitoring and behavior modification to decrease symptoms and complications and improve patients' quality of life. Nurses then play a large role in evaluating effects of the plan of care.
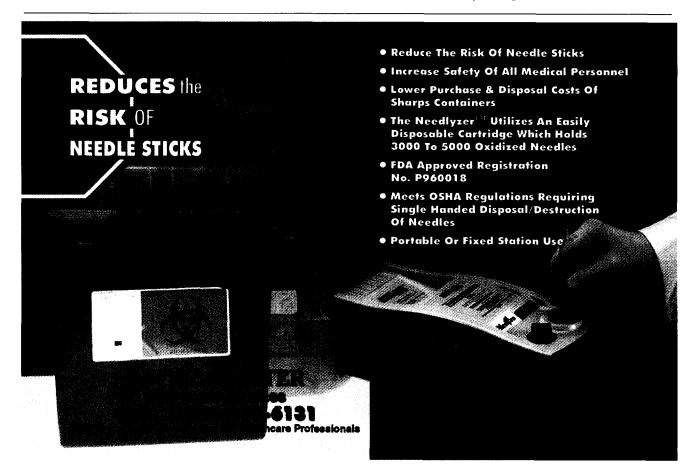
Since nurses care for patients throughout the entire disease management process—development, implementation, and ongoing improvement—nurse leaders need to supply and organize adequate resources. During the development and implementation stages, patients need professionals with specialty knowledge. Nurses must carefully coordinate quality management, case management, utilization review, clinical guideline development, and outcomes research to achieve success.

Finally, to select an information system that provides the functionality necessary to capture and integrate nursing data, nurses must be well represented at the planning table. Representatives understand the profession's clinical work flow, terminology, unique contributions, and documentation that need to be incorporated.

## Case management objectives

Case managers' in-depth understanding of clinical events, health care financing, patient education, and the coordination of multiple resources to achieve cost-effective care play a particularly important role in disease management programs. Their credibility extends to the consumer's established trust, and longstanding relationships with players in the managed care environment, which enables them to work as effective patient advocates and coaches.

In addition, case managers help patients cope with lifestyle changes and psychosocial concerns secondary to their condition. They help patients navigate through the health care system and communicate with providers and other direct care professionals. Case managers also are skilled in assessing cultural, psychosocial, and environmental factors relating to patient care, and in tracking the patient over an extended period of time instead of only through an isolated clinical event.

Education, a primary function of case managers, could include explaining details of the condition or the program's logistics, as well as how to use equipment and medications, take advantage of community resources, and identify signs and symptoms to prevent crisis events. Treatment plan and rationale reinforcement and continual encouragement and compliance monitoring are vital to the disease management program's success. Overall, case managers personalize the program. They provide that invaluable bridge between the population-based disease management process and a particular patient with unique circumstances.

## Information technology requirements

Due to the complexity of information needed to support a disease management program, information technology is an essential enabling tool. It enables caregivers to identify potential participants, monitor and track clinical information, educate clients, present detailed protocols to clinicians, track progress against the plan of care, and perform detailed analyses for outcomes and other studies.

*Participant identification.* Information systems identify potential enrollees through a variety of internal and external means, including mining comprehensive databases. These systems help caregivers analyze:
♦ utilization data from care settings within the delivery network
♦ actuarial data
♦ marketing data and research both by employers and the health plan
♦ medical and pharmacy claims
♦ survey data
♦ case manager referrals
♦ provider referrals
♦ employers' health risk appraisals, lost work time, and educational offerings
♦ patient feedback and self-referrals
♦ chart reviews.

*Patient monitoring.* A number of new technologies enable caregivers to monitor the patient's physical condition—even remotely. Telemonitoring and virtual home visits can supplement traditional home visits, telephonic case management, and scheduled reminder calls. Patients can use sophisticated interactive telephone and voice-mail systems to call their providers with subjective clinical updates, while cameras installed in their home transmit relevant information such

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as skin condition. Sophisticated E-mail, auto faxing, and intranet systems will further enhance communication with the virtual care team.

*Education.* A new term, *consumer health informatics,* refers to the use of technology to further enhance health care's educational processes. This includes videotapes, audiotapes, and CD-ROM applications, as well as more sophisticated interactive software and Web-based applications tailored to the disease and literacy needs of specific patients.

Also, 24-hour call centers help triage patient inquiries and provide education regarding specific conditions. Call centers direct patients to the most appropriate care settings as dictated by the nature and severity of the complaint.

*Clinical guidelines.* To successfully manage disease states, programs must incorporate practice guidelines, clinical pathways, and other tools. Some conditions require fairly simple or low-tech interventions, while others have more complex requirements.

A variety of clinicians and others working with the patients need to access information contained in these systems in real time. Users should have the ability to incorporate timely and accurate clinical alerts, reminders, trending data, and bulletins easily into the workflow. Remote access and mobile input devices such as pen-based or handheld units also promote interaction with the system.

Caregivers need to collect and analyze variances from expected interventions and outcomes. The system must identify, organize, and report data to caregivers in a useful manner. Follow-up options for these variances such as simply noting the variance, generating additional orders, or generating additional documentation should be presented for ongoing decision making.

*Outcomes analysis.* For a health plan to justify a disease management program's costs and to contract for services successfully, administrators must analyze the program's success in the eyes of all stakeholders. Plans also require this analysis to manage relationships with disease management outsourcing contractors.

Health plans monitor critical quality indicators with careful consideration of the reporting required. Information needs vary by stakeholder, disease state, and required detail. Quantified evidence of progress can provide a significant motivational factor in patients' and families' compliance, as does an understanding of their relationship to the patient population.

Additionally, relational databases and query tools, statistical and financial models, and an intuitive and workflow-

friendly user interface are essential to mine the volume of information collected for the disease management program. Information enters the system via handheld devices, stationary workstations, and interfaces with other applications; the system then needs to extract information from the database and convert it into useful formats for a variety of audiences including patients and families, nurses, physicians, and administrators.

Furthermore, the system must aggregate comparative financial and administrative data for nonparticipating patients in the same cohort as those in the program. This enables health plans to evaluate significant differences in outcomes and establish baseline participant and physician prescribing/ordering patterns.

## The future of disease management

As disease management evolves as an approach to patient care, growing interest and some trends emerge. One trend favors more community-based care and less acute, hospital-based care. Another underscores the continuing sophistication of programs that address common comorbidities by integrating related data instead of using single, disease-specific programs.

In the future, improved clinical decision support tools will help users proactively identify high-risk patients. Information systems will support further integration between case, quality, and utilization management and financial applications. Overlapping these trends is the growing use of information technology to enhance the link between administrative, clinical, and financial data.

Disease management programs provide greater opportunities to positively impact patients' health and improve their experiences with the health care system. Managed care organizations can also use these programs to retain current enrollees and expand services to others by leveraging valuable resources like nurse leaders and case managers while implementing state-of-the-art information systems. ▲

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