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# Disease Management Overview

Disease Management (DM) is a system of coordinated healthcare interventions and communications for populations with conditions in which self-care efforts are significant. DM is becoming a higher priority for providers across the country.

For healthcare organizations that are paid on a fee-for-service basis, investing in disease management is one of the best ways to capture and retain patients. A well-structured program will deliver significant, regular benefits to patients. This builds loyalty and supports patient retention. It can also serve to attract prospective patients. Because these patients are heavy users of healthcare services, they contribute well above the average in visit volume and fee-for-service revenue.

For payors and providers in managed care environments, managing the health and utilization patterns of patients with chronic diseases can mean the difference between prosperity and bankruptcy. The emphasis of these DM programs is on managing disease aggressively where intervention will have the greatest impact – clinically and financially.

The growth and survival of DM programs depends on developing an effective combination of care, education and behavior modification. In the past, DM was implemented and documented in a “paper and pencil” environment. Early software programs facilitated single components of DM, but were not robust enough to manage a series of interrelated activities. LVM Systems’ Centaurus automates the series of interventions that comprise a DM program and support communications with all stakeholders. It allows providers the flexibility to manage their own DM pathways in a software system.

Once a patient is registered in the E-Centaurus Patient Care Plan Scheduler, the system will automatically schedule and track any tasks, surveys, mailings and follow-up contacts that need to be completed with each patient. Management reports can then analyze activities, outcomes and the effectiveness of your DM programs.

# Components of a Comprehensive Disease Management Program

## Patient Identification

- Self-referral
- Provider Referral
- Health Plan or Pharmacy Claims Analysis (import)
- Health Risk Assessment

## Patient Profiling and Stratification

- Intake Interview
- Risk Classification / Intervention Levels
  - I Intensive Care
  - II Intermediate Care
  - III Maintenance Care
- Plan: Goals, Objectives, Alerts, Reminders

## Medical Management

- Communications (phone, IVR, Internet, Mail)
- Clinical Decision Support
- Education
- Monitor Trends: Status / Symptoms / Data
- Program Change Recommendations

## Compliance

- Medications
- Behaviors
- Self Monitoring
- Utilization
- Barriers
- Enhancements to Care

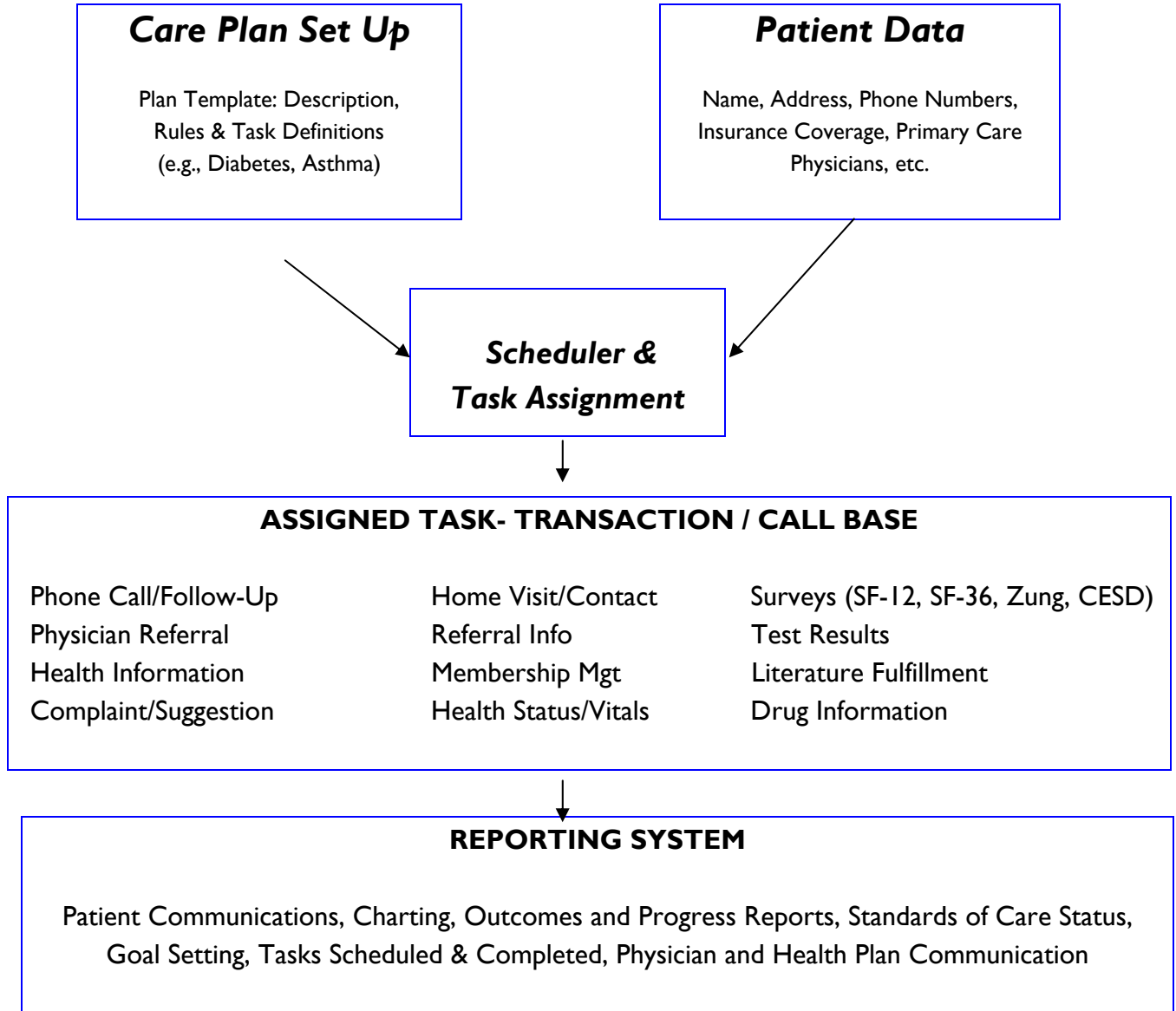
## Outcomes

- Human / Financial / Clinical

Care Plans may encompass all, or just a subset, of these components. They may be geared to manage risks of entire populations, or focus on patient compliance to a single medication.

E-CENTAURUS software supports the spectrum of activities you choose and coordinates them in the sequence that fits your goals and objectives.

# System Flow Chart



*“In the present health care environment, one is required to objectify, quantify, and illustrate the ongoing effectiveness of all programs. By utilizing the E-CENTAURUS program and with the excellent assistance provided by LVM Systems, we have been able to accomplish this goal. By offering our clients, multiple disease management programs, all created through CENTAURUS, we are able to demonstrate positive impact on our client's functioning and generate data to validate those claims.”*

Jody Thurston

Community Coordinator of Disease Management  
Sun Health System--Sun City, AZ

# Care Plan - Setup

The Care Plan is the “blue print” of the disease management program. Each DM program is set up as a series of related task/steps. Each task/step is completed in relation to the other tasks. Tasks can include phone calls, education and goal setting, approvals, reports, faxes or letters, information collection via surveys, drug utilization, physician and program referrals, and other activities.

**Patient Care Plan - Enrollment Steps - Setup**

Care Plan Id  (Care Plan OR Enrollment Steps)

Care Plan Name

Care Plan Type 
 Sub Type 
 Author 
 Enrollment Steps

Version # 
 Don't Use 
 For Hosp

X1user1 
 X1user2 
 X1user3

X1user4 
 X1user5 
 Added

Changed

Care Plan Description  
 Maximize

Program has a one year duration and includes periodic mailing of educational material and patient participation in educational activities such as group classes, videos, etc.  
  
 The program level is stratified according to patient needs and their NYHA classification (I, II, III, IV). Patient diagnosis is determined by the PCP upon enrollment into the program.  
  
 The program is divided into two phases: acute and maintenance. The acute phase lasts six months and consists of home visits and/or telephonic follow up. The maintenance phase consists of telephonic support sessions.

X1 Record: None Exclusive NUM 15:34:31

# Care Plan – Patient Scheduler

The patient is registered into the scheduler along with the given Care Plan. The system then ensures that the Care Plan is followed for each patient. Each patient’s progress is tracked throughout the program, including status, program delays and attrition. Management reports show the various activities performed and effectiveness of the program.

“With LVM’s E-Centaurus product, we can view and reach individuals across programs. The survey module and its test results screens are especially helpful, since we gather data through imports, chart reviews and via written questionnaires. E-Centaurus presents all the data in a useful format for supporting our care programs.”

Julie Carzello  
 Senior Business Analyst  
 Health New England  
 Springfield, MA

# Test Results

Important visits and test results for each patient may be gathered during a telephone contact or imported from other software systems, such as lab, electronic medical record and insurance claims data. The Test Results module aggregates key data into a central area for easy tracking, review and outcomes reporting. Reports indicating changes in healthcare utilization, reductions in length of stay or an improvement in primary care utilization are critical to measuring program impact.

Test Results Information
✕

Add
 Consumer
 Find
 Next
 Previous
 Reports
 Save
 Utilities
 EXIT

Results For <input type="text" value="BROWN, CAROL"/>	#Recs <input type="text" value="1"/>	TE Id <input type="text" value="A6000001"/>
Test Date <input type="text" value="09/01/2000"/>	For Hosp Id <input type="text"/>	CS Id <input type="text" value="SGH00105"/>
		TR Id <input type="text" value="14000335"/>

Information Tab   1	Information Tab   2	Information Tab   3
---------------------	---------------------	---------------------

Type <input type="text" value="A"/>	SubType <input type="text"/>	Lead Id <input type="text"/>	Inactive <input type="checkbox"/>
Weight <input type="text" value="155"/> lb. <input type="text" value="70"/> Kg	Dry Weight <input type="text"/>	Critical Weight <input type="text"/>	Height/Inches <input type="text" value="65"/>
Glucose/BS <input type="text" value="130"/> Method <input type="checkbox"/>	Blood Pressure <input type="text" value="140"/> / <input type="text" value="88"/>	IDDM <input type="checkbox"/>	Inhaler/Steroid <input type="checkbox"/>
Temperature <input type="text" value="98.8"/> Method <input type="radio"/>	Respiration <input type="text" value="55"/>	Peak Flow Met. <input type="text"/>	Pulse <input type="text" value="74"/>
LDL <input type="text"/>	HDL <input type="text"/>	Cholesterol <input type="text" value="252"/>	Triglycerides <input type="text"/>
Diabetic/Type <input type="text" value="II"/>	Diabetic/Level <input type="text"/>	Asthma/Level <input type="text"/>	Ejection Fraction <input type="text"/>

Follow-Up <input type="checkbox"/> <input type="text" value="//"/> : <input type="text" value=":"/>	Flup Time <input type="text"/>	By <input type="text"/>	FI/Status <input type="text" value="A"/>	Attempts <input type="text"/>
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Te	Record: 1/1	Exclusive	NUM	15:50:43
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# Test Results – Recent Utilization

Following this same logic, important events, such as hospital admissions, office visits, and dates of recent lab work can be pulled from interviews and surveys. These dates, along with the associated metrics and codes, are tracked on Tab 2 of the Test Results module. Reports indicating changes in healthcare utilization, reductions in length of stay or an improvement in primary care utilization are critical to measuring program impact.

The screenshot shows a software window titled "Test Results Information" with a menu bar containing icons for Add, Consumer, Find, Next, Previous, Reports, Save, Utilities, and Exit. Below the menu bar, there are several data entry fields:

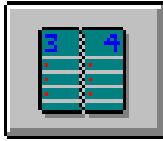
- Results For: BROWN, CAROL
- #Recs: 1
- TE Id: A6000001
- Test Date: 09/01/2000
- For Hosp Id: GS
- CS Id: SGH00105
- TR Id: 14000335

Below these fields are three tabs: "Information Tab | 1", "Information Tab | 2", and "Information Tab | 3". The "Information Tab | 2" is currently selected and contains the following sections:

- Hospital Admission**
  - Hospital Id: 171927384
  - ER Used:
  - Admit Date: 03/20/2002
  - Discharge Dt: 03/24/2002
  - LOS: 4.00
  - Amount:
  - Related Diag:
  - ICD-9:
  - DRG: 086
- Office Visit**
  - Visit Date: 03/27/2002
  - CPT4:
  - Provider Id: 01000105
  - PCP Id: 01000105
  - Reference#:
  - Diagnosis: CHF
- Other Test**
  - Test Id:
  - Char Result:
  - Num Result:
  - Abnormal Result:
  - Last Taken: // : :
  - Next Scheduled: // : :
  - Inactive:
  - Test Completed:

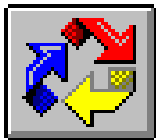
At the bottom of the window, there is a status bar showing "086 - Pleural Effusion <70", a "NUM" button, and the time "16:06:35".

# Supporting Modules



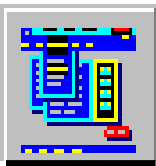
## Care Plan Setup

This module defines the tasks for the process of patient care management. Patient Care Plan Setup defines the proposed sequence, or blueprint, of your disease management program. In other words, it defines the who, when, where, why and how the tasks will be completed.



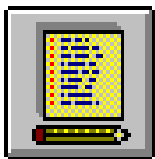
## Care Plan Scheduler

The scheduler assigns a Patient Care Plan to a particular patient. It maintains the process in accordance with the pre-determined series of activity. Patient enrollment information is captured in the Scheduler module and associated with tasks, which are automatically generated by the software in the appropriate sequence.



## Survey/ Health Risk Assessment

E-Centaurus provides the SF-12 and SF-36. Additional intake surveys, health risk appraisals and knowledge inventories may be developed in this module and deployed as steps of the Patient Care Plan. The survey tool will accommodate true/false, multiple choice, checkbox, table-driven, numeric and/or short text answer-type questions. Also, surveys can work in conjunction with Test Results for optimal data gathering, trend analysis and outcomes reporting.



## Test Results

Important visits and test results for each patient may be gathered during a telephone contact or imported from other software systems, such as lab, electronic medical record and insurance claims data. The Test Results module aggregates key data into a central area for easy tracking, review and outcomes reporting. Reports indicating changes in healthcare utilization, reductions in length of stay or an improvement in primary care utilization are critical to measuring program impact.



## Health Information

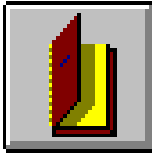
To support a greater understanding of self-care management, clients often develop their own patient education materials or import / link to existing topics to be printed on demand. The health information module, in this case **patient education** topics, retrieves information to be discussed with or sent to program participants. The AAFP Health Library of more than 750 patient education topics is available

for program use. E-Centaurus also furnishes direct links to MedlinePlus Health Topics, an online library of information for more than 650 diseases and conditions. Documentation and reporting on use of MedlinePlus is automated as with any other LVM info file.



### **Drug Information**

Disease Management counselors typically document their patients' medications. This module facilitates the capture of information, such as: drug type, dosage amount, prescription re-fills, allergic reactions, drug information, patient memo alerts, and pharmacy information. Reports can be generated to compare medication use across a patient population and /or medication utilization per patient to reveal program impact.



### **Literature/Brochure Fulfillment**

Records any request/distribution of preprinted patient education materials or brochures. The patient's record will note that information has been sent out. This module works in conjunction with the *Literature / Brochure Setup* module. An internal inventory auditing system tracks how many brochures have been used and when it is time to re-order.



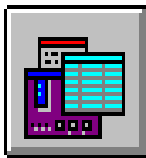
### **Insurance / Managed Care**

Stores information about the payer sources associated with the physicians and consumers. The module will list plan benefit schedules and will attach to the patient record. This information may include contact information, benefit schedule, exclusions, pre-certification, and other contract requirements. The insurance information will also link to the physician database.



### **Service Referral**

Patients enrolled in disease management may also benefit from programs and services outside of the Care Plan activities. This module facilitates referral to various services (medical or non-medical) based upon individual needs and selection criteria, such as type, insurance, location, etc.



### **Reports**

The Disease Management software includes hundreds of standard reports. During implementation, LVM further supports each client by developing custom reports to meet their individual program needs. The robust report-writer allows selection on multiple data criteria to fulfill individual patient, or population-based, reporting requirements.