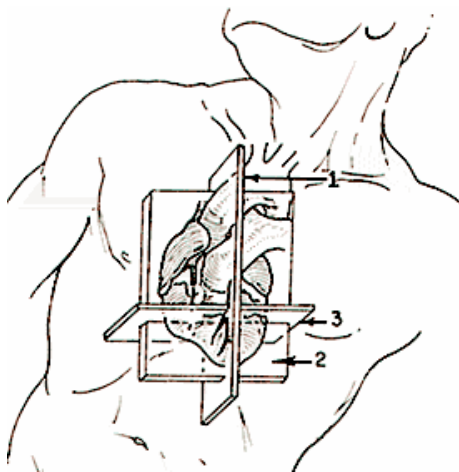


# Cardio-Fusion

by Medical Dynamics



Organized, Efficient STS  
Registry  
Recording



**Cardio-Fusion is a new and unique way to bring together patient data:**

Cardio-Fusion provides a "Data Warehouse" for all your information needs. A proprietary "Fusion" process monitors each department in the network. When cases are completed the patient's information is brought to a central point, interpreted into a common set of data elements (or data points). The information is also stored in it's original form. Storing the information in original form provides a perfect "audit trail".

Cardio-Fusion Provides the following functionality:

1. Accepts patient case files from Stress, ECG, Holter, Cath Thoracic Surgery, Rehab, Special Procedures, Inventory EP, and other departments. The case data must be provided in a common industry standard format and deposited in a location Cardio-Fusion can physically access (must be located on the Hospital Network and Cardio-Fusion must have permission to access it. File formats currently in production:
  - a. ASCII
  - b. XML
  - c. HL7
  - d. Binary
  - e. Direct SQL or MS Access communication
  - f. Excel, Lotus, Dbase and other standards.
  - g. Other formats created by IS departments may involve some custom programming
  
2. Accepts HL7 ADT messages held in a common pool for all departments on the Data Wheel to reference. Significant cost savings to the Hospital can occur by eliminating numerous HL7 ADT interfaces to the departments.

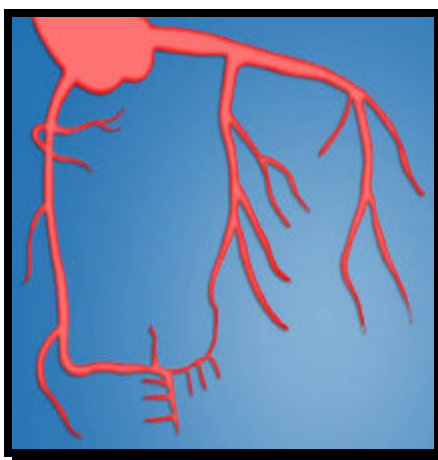


3. Interfaces developed over the last 10 years and in production include:
  - a. Quinton QCath CSV files
  - b. Quinton XML import for Stress is complete
  - c. Marquet/GE Maclab, Midas and Maclab 7000
  - d. Siemens
  - e. Mennen
  - f. Camtronics/ADAC
  - g. Witt
  - h. HL7 ADT, Reporting and others
  - i. Gould
  - J. Outbound interfaces include Hospital IS, HBOC Lawson, ACC, STS, and various State registries and associations.

### Cardio-Fusion Connectivity

The Cardio-Fusion Data Wheel provides the following connectivity:

1. **HL7**
2. **XML**
3. **ASCII**
4. **Binary**
5. **TCP-IP**
6. **Novell**
7. **Banyon**
8. **Microsoft**
9. **PDF**



### Cardio-Fusion Workflow

1. Departments perform a procedure or procedures on a patient. When complete they "Discharge" a file with case information to a location designated by IS or the Hospital. This usually occurs automatically under control of the instrument (Stress, QCath etc. they performed the procedure with.
2. Cardio-Fusion continuously "POLLS" all departments on the Data Wheel setup until a new file is found. When found, Cardio-Fusion initiates a special loader which analyzes the data and deposits it in the Cardio-Fusion SQL server in a common query accessible format.

## Reports

Using common products like Microsoft Access, Crystal Reports or a visit to Medical Dynamics Advanced Report Generation classes will provide you with virtually unlimited reporting capability. We realize many prefer using the comprehensive set of canned reports furnished with the standard offering. Some of the reports available are:

### Some Reports

1. Mortality
2. Mean Age
3. Gender
4. Weight Distribution
5. Diabetes Presentation
6. Pre-Procedure Cardiac Status
7. Chronic Lung Disease Presentation
8. Peripheral Vascular Disease presentation
9. Cerebrovascular Disease Presentation
10. Cerebrovascular Accident
11. Renal Failure
12. Previous Cardiac Interventions
13. Procedure Status (Emergent or Salvage)
14. Pre-Procedure Status MI
15. Pre-Procedure Status MI 0-7 Days Prior
16. Pre-Procedure IABP Usage
17. Triple Vessel Disease from Cath Data
18. > 50% Stenosis in Left Main
19. Ejection Fraction < 40%

3. The collected data is then checked for "Re-Distribution" needs. If required, the data is then "DISTRIBUTED" to other databases or Hospital locations using various "DATA DISTRIBUTORS (Cardio-Fusion components).
4. Reports can be generated using the reporting facility. The complete patient experience with all departmental encounters can be displayed. Various PDF final reports along with various image files may be displayed and reported on.

### **Additional Comments**

- ? Cardio-Fusion needs nothing more than a high-end workstation to perform polling and loading processes.
- ? Access by network to all departments should be available
- ? Each department must be capable of discharging an industry standard case file to the prescribed network location. Custom file imports are available if needed.
- ? A Cardio-Fusion compatible loader will be available for loading each department's files. Many of these are standard Medical Dynamics offerings. Others are available as options.
- ? The Hospital IS department can provide SQL Server licensing (Available from Meddyn if necessary), a properly functioning network, a Server with sufficient capacity for Cardio-Fusion, and daily data backups.

### **Overall Outcomes Analysis:**

Cardio-Fusion provides the capability of merging any medical data furnished in numerous diverse formats (see below) into a common data collection and querying database. It uses the Medical Dynamics "Data Wheel" concept to "Poll" various interfaces. If data is found, the central data warehouse is updated. References to DICOM, PDF and XML files associated with case data are maintained when referenced in the patient case file. Once the Data is in the Cardio-Fusion Data Warehouse it can be sent to other departments (QA, Purchasing, Reporting) by a unique data distribution process. You can tell the Data Distributor (through a simple setup process) to send selected patient information or summary information from the central hub to various Hospital databases. Usually this is done with simple network transfers but can be in the popular HL7 format.

20. Mortality by Age
21. Mortality by Gender
22. Mortality presentation status
23. Mortality by Incidence
24. Complications, any major
25. Total length of stay
26. Total length of stay by MD
27. Post procedure length of stay
28. Length of stay under 6 days
29. Length of stay over 2 weeks
30. Same day elective admissions
31. BSA presentations
32. Morbid obesity
33. Hypertension
34. Hypercholesterolemia
35. History of CAD
36. Smoking history
37. Chronic Lung disease
38. Congestive Heart failure
39. NYHA Classification breakdown
40. Peripheral Vascular Disease
41. Cerebrovascular disease
42. CVA
43. Renal Failure
44. Immunosuppressive Treatment
45. Previous Cardiac Surgery
46. Previous PTCA/Athrectomy
47. MI
48. Thrombolysis
49. Cardiogenic Shock
50. IABP
51. Resuscitation
52. Angina
53. Arrhythmia
54. Meds: Aspirin
55. Meds: Anti-Coagulant
56. Meds: Digitalis
57. Meds: Beta Blockers
58. Meds: Nitrates
59. Meds: Diuretics
60. Meds: Intropics
61. Meds: Steroids
62. Number of Diseased Vessels
63. Left Main Disease
64. Ejection Fraction
65. Pulmonary Hypertension
66. Aortic Stenosis
67. Mitral Insufficiency
68. In-Hospital Mortality
69. Overall Complications

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- 70. Pulmonary Complications
- 71. Renal Failure Complications
- 72. Vascular Complications
- 73. Other Complications
- 74. Short Stay < 6 days
- 75. Long Stay > 6 days

See the Medical Dynamics web sites ([meddyn.com](http://meddyn.com) or [medical-dynamics.net](http://medical-dynamics.net)) for more advanced report descriptions.

<p>70. Pulmonary Complications 71. Renal Failure Complications 72. Vascular Complications 73. Other Complications 74. Short Stay &lt; 6 days 75. Long Stay &gt; 6 days</p> <p>See the Medical Dynamics web sites (<a href="http://meddyn.com">meddyn.com</a> or <a href="http://medical-dynamics.net">medical-dynamics.net</a>) for more advanced report descriptions.</p>	