



NEW
HAMPSHIRE
TEMS  S

Trauma & EMS Information System

IMPLEMENTATION PLAN

*New Hampshire Department of Safety
Division of Fire Standards and Training and
Emergency Medical Services*

TABLE OF CONTENTS

DEDICATION	1
ACKNOWLEDGEMENT	1
EXECUTIVE SUMMARY	2
TASK SUMMARY	3
Task 1 - Define System Users	3
Task 2 - Hospital Computer Grant	3
Task 3 - Unit Computer Grant	3
Task 4 - Business Rules	3
Task 5 - Training for TEMSIS	3
Task 6 - Evaluative Testing for TEMSIS	3
Task 7 - TEMSIS Implementation Schedule	3
INTRODUCTION: THE POINT OF ORIGIN	4
PERSPECTIVE: CURRENT EMS INFORMATION SYSTEM IN NEW HAMPSHIRE	5
NEW SYSTEM: DESCRIPTION, CHARACTERISTICS, AND EDUCATION	6
DESCRIPTION	6
CHARACTERISTICS	6
EDUCATION	6
WHAT'S AHEAD: IMPLEMENTATION	7
System Users	7
Hospital Computer Grant	8
Unit Computer Grant	9
Options for Data Entry	9
Business Rules	9

Training for TEMSIS	10
Evaluative Testing for TEMSIS	11
TEMSIS Implementation Schedule	11
FUTURE OF TEMSIS	12
LIST OF TEMSIS PRESENTERS	13
APPENDIX A: EMS VISION, MISSION, AND GOAL	14
Vision	14
Mission	14
Goal 1 and Objectives	14
APPENDIX B UNIT COMPUTER GRANT APPLICATION	15
TEMSIS COMPUTER PRINTER COMBINATION REQUEST FORM	16
APPENDIX C: USER SURVEY	17
APPENDIX D: TEMSIS ORGANIZATIONS	19
APPENDIX E: TEMSIS MEMORANDUM TO EMS UNITS	20

DEDICATION AND ACKNOWLEDGEMENT

The Trauma and Emergency Medical Services Information System (TEMSIS) is dedicated to the residents and the visitors of the State of New Hampshire that travel our rural routes and highways daily. May they always be safe.

We also thank the TEMSIS committee for all their hard work in making this project a reality. We want to especially thank the New Hampshire Highway Safety Agency whom without its funding and support of the NH EMS system, TEMSIS would not have become a reality.

EXECUTIVE SUMMARY

The State of New Hampshire is served by a dedicated group of Emergency Medical Services Unit leaders, providers, physicians and users who are committed to providing the highest level of service to the public. To provide a high level of service, our EMS and Trauma System must be monitored and evaluated routinely. Gaps and shortfalls in delivery need to be identified that affect, positively or negatively, clinical and operational procedures in our state. Decisions to create and/or alter how we provide care today should be based on information that is collected, appropriately arranged and reported to those vital decision makers, Unit Leaders, Providers, Physicians and Nurses.

The New Hampshire Division of Fire Standards and Training and Emergency Medical Services (FST&EMS) has been charged by statute, RSA 153-A, II, section (g) with providing for this system to monitor and evaluate. Our present Trauma and Emergency Medical Services Information System (TEMSIS) is over ten years old, is not consistently linked to other vital healthcare databases and has outgrown the needs of its users. Access to current, high quality data is essential to the Division and its Advisory Boards (Medical Control, Coordinating, and Trauma and Medical Review Committee) in order to perform the duties we have been charged with in law and in life, guiding the provision of the best care possible.

Since 2003, FST&EMS has been engaged in a planning process to move the EMS Community from paper to an electronic system. A committee of stakeholders has been involved in a process that included education, development of system attributes, and general system development oversight. Funding was received from the New Hampshire Highway Safety Agency. Based upon the TEMSIS Committee's input, a vendor was selected. In February 2005, Governor and Council approved the contract, which was awarded to Image Trend of Lakeville, Minnesota.

During 2005 the effects of the TEMSIS project will become evident to the EMS community. Implementation will be accomplished during the completion of several critical tasks. Each task is listed on the following page with a current status as of April 2005.

TASK SUMMARY

TASK 1 - DEFINE SYSTEM USERS

The users of TEMSIS, including the EMS Community defined their levels of access to Protected Health Information. **Status:** Complete.

TASK 2 - HOSPITAL COMPUTER GRANT

To better facilitate TEMSIS, the Division of FST&EMS acquired desktop computer and printers for placement at New Hampshire Acute Care Hospitals for data entry. **Status:** Computers have been delivered to the Division and distributed to hospitals.

TASK 3 - UNIT COMPUTER GRANT

The Division of FST&EMS purchased a limited number of computer-printer combinations for eligible EMS Units to place in their agencies for use with TEMSIS through a grant. **Status:** Computers have been delivered and applications have been mailed to EMS Units.

TASK 4 - BUSINESS RULES

TEMSIS provides rapid feedback to EMS Providers entering chart information. The feedback is a result of assigning a value to different sections of the TEMSIS chart. **Status:** A subcommittee of the TEMSIS group has completed the task and the result has been delivered to Image Trend.

TASK 5 - TRAINING FOR TEMSIS

There are two components in the initial training for TEMSIS. The first component is the training for FST&EMS and the TEMSIS group. The second component is the Train-the-Trainer for those who will deliver the instruction to the EMS Unit Trainers. **Status:** Curriculum review is nearing completion, dates have been assigned for Train-the-Trainer instruction and regional training dates are to be announced.

TASK 6 - EVALUATIVE TESTING FOR TEMSIS

Information gathered during the first 30 to 60 days will include completeness of data entered into TEMSIS, users perceptions of the systems, structural issues and the value of information gathered through the system. **Status:** EMS Units have been selected from previous testing, as well as additional Units additional have been selected.

TASK 7 - TEMSIS IMPLEMENTATION SCHEDULE

Implementation of TEMSIS will occur on a regional basis. Each region will have training based upon its needs of the type of data entry into the system. **Status:** Order of regions and dates have been selected.

INTRODUCTION: THE POINT OF ORIGIN

This report examines the Trauma and Emergency Medical Services Information System (TEMSIS) process in New Hampshire since 2003 and an implementation plan for improvement. The New Hampshire Division of Fire Standards and Training and Emergency Medical Services (FST&EMS), Bureau of EMS' mission, goals and objectives are cited as reference in Appendix A.

The Bureau performed a survey of states that are comparable with New Hampshire. A framework was built around the premise that the current system was inadequate for the needs of EMS in New Hampshire. Further, the EMS Units and Providers would not accept the system unless they participated in the process and were able to utilize the data locally and regionally.

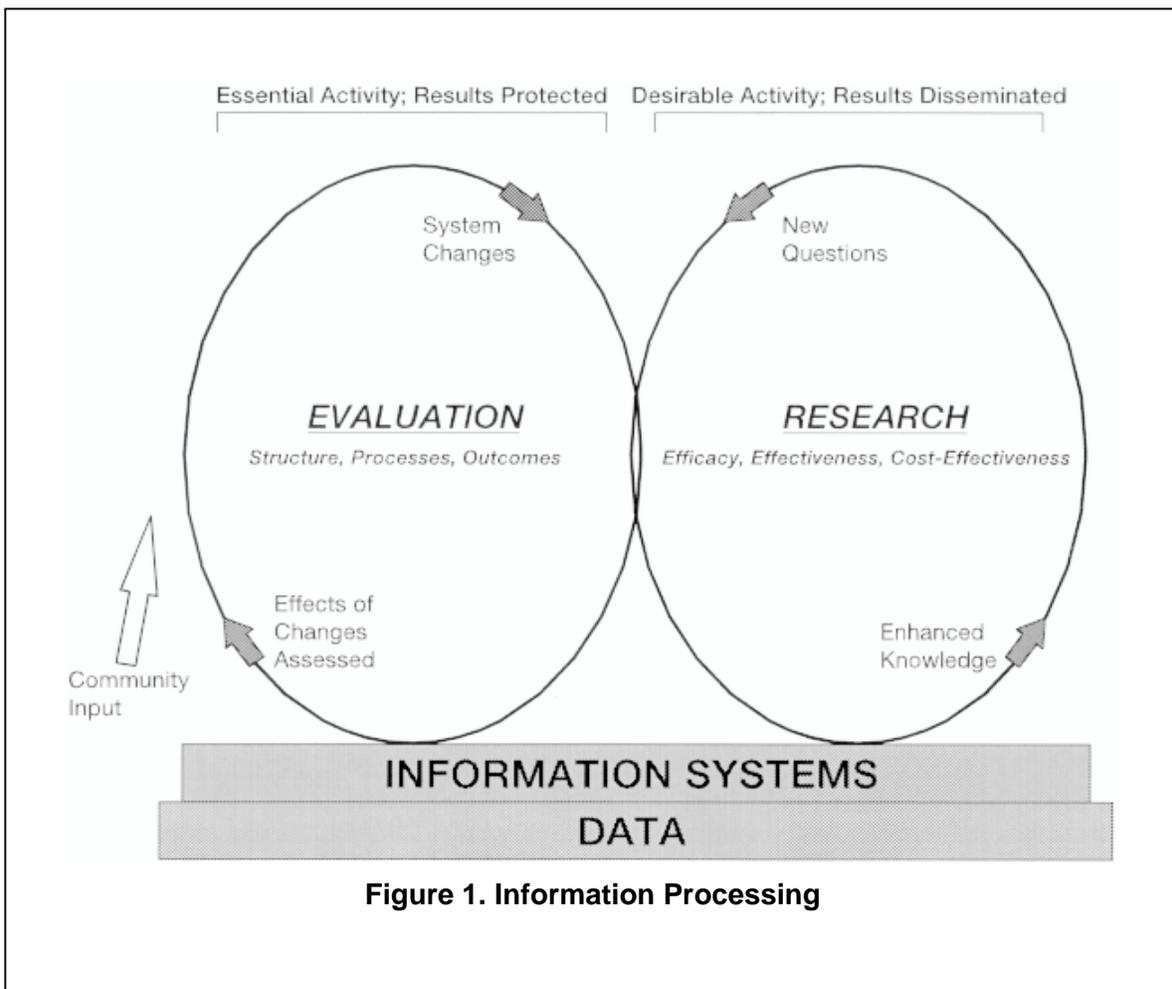


Figure 1. Information Processing

PERSPECTIVE: CURRENT EMS INFORMATION SYSTEM IN NH

The current New Hampshire EMS Information System (EMSIS) has multiple layers. There are variations in how data is collected and submitted to the Bureau, available data to review is one to two years behind and reports are generated by specific request, i.e. ad-hoc. The Bureau and its Advisory Boards recognize the need to use the pre-hospital database to make evidence-based decisions on protocol or policy. They often use data that is incomplete and not fully reflective of EMS activities. As an example, the Bureau received a request on patients with anaphylaxis, a severe allergic reaction. Based upon our current information, patients who had any kind of allergic reaction, mild or severe, were identified without any way to differentiate them. Patients were also identified whether or not they received a medication, but not which medication.

The primary method by which data is collected is by paper. A small percent will submit their data electronically. Patient Care Reports (PCR's) are distributed by the Bureau. The PCR's are distributed through Field Offices to the Units and Hospitals. Once a completed PCR is generated, it is divided as follows: top copy to the EMS Unit, second copy to the receiving hospital, third copy is returned to the Bureau, and the fourth copy is sent to the Hospital EMS Coordinator for the Unit.

According to Saf-C 5902.07 (f) "The third copy of the PCR form (sent) in person or by mail (to the Bureau with patient information removed), by the 15th of the month following the month of the patient's arrival at the hospital/facility." This can cause a delay of up to forty-five days. If the Units are using a non-standard form, a unique number assigned by the Division.

The PCR's are sent to the Men's Prison in Berlin where the information is hand keyed into a database. Because the data entry staff are prisoners, no identifying of the patient can be recorded. After the data is entered, it is placed onto disks and returned to the Bureau to be imported into the existing database. As previously noted, the only reports generated are ad-hoc, without any regular feedback to the Units.

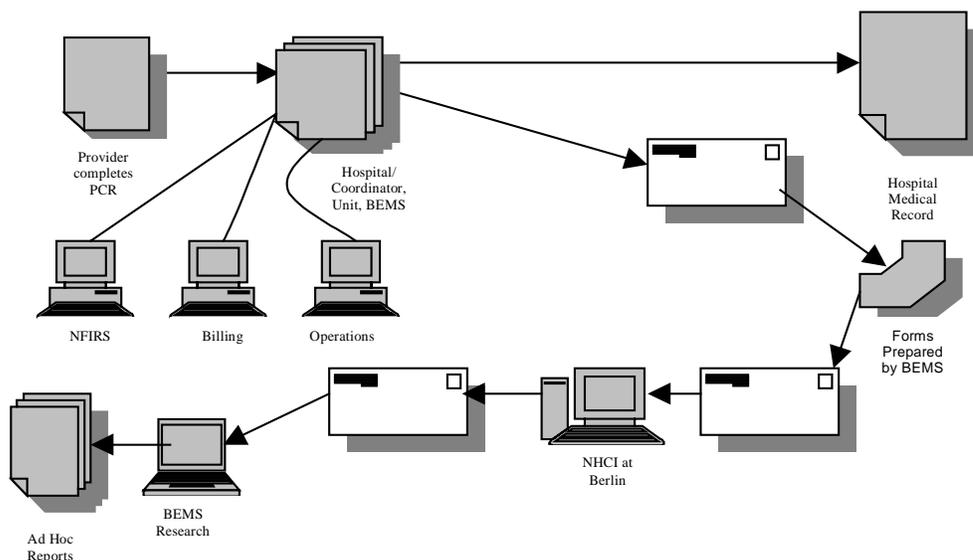


Figure 2. Present PCR System

NEW SYSTEM: DESCRIPTION, CHARACTERISTICS AND EDUCATION

DESCRIPTION

TEMSIS provided by Image Trend of Lakeville, Minnesota is based on a list of attributes created by the TEMSIS consensus group. It is server-based, which allows for sharing of data to Unit leaders, providers, local government officials, and to the public. The public accesses aggregate data only per RSA 126. Aggregating data is a method of combining information from many calls so that an individual cannot be identified. For the public site, a minimum of five patients and eleven cities or towns, and one year of data may be displayed.

In the server-based system, the TEMSIS software is housed in Minnesota. As long as provider have access to an Internet-connected computer, they are able to complete a form and send information to the vendor. Information is processed by Image Trend. Backup of TEMSIS is stored with similar information (i.e. Crash, Law Enforcement) at the Department of Safety (DOS). Reporting is generated through the Image Trend server. Reporting enables Unit leaders and other members to monitor the performance of their EMS system.

CHARACTERISTICS

Data Collection – The quality and quantity of data available from any electronic system is in theory unlimited. TEMSIS is designed to provide useful information back to the Units leaders, providers, local government officials, and the public as well as near real time data to track system or statewide illness or injury trends.

Convenience –TEMSIS will run on a wide variety of computer and Internet connections making it easy to access. Providers running a PC Windows-based computer with at least a dial-up Internet connection will be able to access TEMSIS.

EDUCATION

TEMSIS will be a significant departure from the current system and will take considerable effort to educate EMS personnel throughout the state. Specific attention will be paid to “computer challenged” providers. Education can be addressed within each EMS Unit through a Train-the-Trainer (TtT) process initiated by the Division of FST&EMS.

WHAT'S AHEAD: IMPLEMENTATION

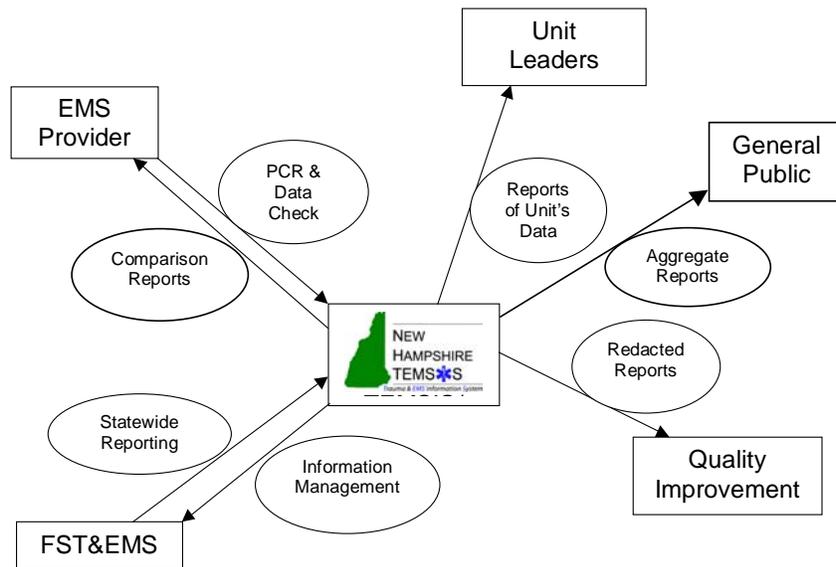


Figure 3. TEMSIS Information Processing

In order to implement TEMSIS, seven tasks must be accomplished. Each task is listed below with a description of the elements that need to be completed.

SYSTEM USERS

The users of the system are defined by their levels of security. The levels of security correspond to the functions found in the Health Insurance Portability and Accountability Act (HIPAA) of 1996. The levels are **Treatment, Payment, Operations and Exceptions**. Those who are covered under the Treatment level include EMS providers and staff at hospitals. Any person covered at this level must have direct patient contact. They are allowed to view any and all Protected Health Information (PHI).

Those covered under the Payment level are billing staff at EMS Units and companies hired to perform billing functions for EMS Units. There shall be a Business Associate Agreement (BAA) in place with these companies so that data can be shared with these companies as regulated by HIPAA. These personnel shall view only enough PHI to generate a bill.

Those covered under Operations include EMS Unit leaders, EMS Unit personnel, EMS hospital coordinators and Medical Directors. These personnel shall have access to only enough information to perform their functions. For example the EMS Unit leader may wish to make changes to staffing based upon need. Quality Improvement personnel may review chart and make changes to better patient treatment.

Those covered under Exceptions include Division of FST&EMS staff for administration of TEMSIS and research. Any functions by the Division of FST&EMS with TEMSIS fall under RSA 21-P:12-b II.(g): "Establish a data collection and analysis capability that provides for the evaluation of the emergency medical and trauma services

system and for modifications to the system based on identified gaps and shortfalls in the delivery of emergency medical and trauma services. The data and resulting analysis shall be provided to the bodies established under this chapter, provided that such use does not violate the confidentiality of recipients of emergency medical care. The provisions of RSA 126 shall be followed with regard to other uses of this data for research and evaluation purposes, and for protecting the confidentiality of data in those uses. All analyses shall be public documents, provided that the identity of the recipients of emergency medical care are protected from disclosure either directly or indirectly.”

Other users covered under Exceptions may include but are not limited to Public Health for syndromic surveillance and Law Enforcement. Law Enforcement is covered under Saf-C 5902.07 (I) Recordkeeping and Reporting (I): “All information contained in the PCR form shall be made available, upon request, to authorized law enforcement agencies investigating criminal activity relating to the patient care incident.”

HOSPITAL COMPUTER GRANT

To better facilitate TEMSIS, FST&EMS acquired desktop computer and printers for placement at New Hampshire Acute Care Hospitals through a grant from the New Hampshire Highway Safety Agency. The distribution of these computer-printer combinations was based upon need, which was determined through a survey generated by the EMS Coordinator’s group. The computers and printers were distributed in April and May 2005. The delivery of these computer-printer combinations was contingent on the hospitals providing Internet access and a place for the EMS providers to work. Table 2 describes the distribution of computer-printer combinations.

Hospital Name	EMS Region	Computers Received
Androscoggin Valley Hospital	5	1
Alice Peck Day Memorial Hospital	1	1
Catholic Medical Center	2	2
Cheshire Medical Center	2	2
Concord Hospital	4	2
Cottage Hospital	5	1
Dartmouth Hitchcock Medical Center	1	2
Elliot Hospital	2	3
Exeter Hospital	3	2
Franklin Regional Hospital	4	1
Frisbie Memorial Hospital	3	2
Huggins Hospital	4	1
Lakes Region General Hospital	4	2
Littleton Regional Hospital	5	1
Monadnock Community Hospital	2	2
New London Hospital	1	1
Parkland Medical Center	2	2
Portsmouth Regional Hospital	3	2
Southern New Hampshire Medical Center	2	3
Speare Memorial Hospital	4	2
St. Joseph Hospital	2	3
The Memorial Hospital	5	2
Upper Connecticut Valley Hospital	5	1
Valley Regional Hospital	1	1
Weeks Medical Center Hospital	5	1
Wentworth-Douglass Hospital	3	2
Total	-	45

Table 1. Hospital Computer Needs

UNIT COMPUTER GRANT

The Division of FST&EMS through a grant from the New Hampshire Highway Safety Agency purchased a limited number of computer-printer combinations for eligible EMS Units to place in their agencies for use with TEMSIS. Eligible EMS Units must demonstrate financial need, secure Internet access and provide a place for EMS providers to chart in TEMSIS. It is anticipated the computer-printer combinations will be delivered prior to the regional system rollouts. See Appendix B for the memorandum and application.

OPTIONS FOR DATA ENTRY

During discussions in the TEMSIS groups, a determination was made to keep data entry as flexible as possible within the confines of the Image Trend's capability. Within that capability, there are three options for entering data into TEMSIS. The options are web based (Service Bridge), mobile based (Field Bridge), and Upload from a third party vendor. Each EMS Unit will need to decide which version they are going to use by June 15, 2005. It is anticipated that the majority of EMS Units will use the Service Bridge.

Service Bridge or the web-based version is the entry level provided at no cost to EMS Units. The only requirements are a computer running Windows, Internet Explorer 5.5 and a dial-up Internet connection at a minimum.

Field Bridge or the mobile version requires a ruggedized mobile computer or tablet and the purchase of the software from Image Trend. The initial cost is \$1,000 plus \$400 a year for support. The Division of FST&EMS has a limited number of licenses covering the initial \$1,000 cost for those EMS Units with hardware already in place. Information is gathered using the laptop or tablet and then uploaded to TEMSIS through a wireless or hardwired connection.

The third option for an EMS Unit is to use a third party vendor and upload the information into TEMSIS. Image Trend has written interfaces with many different types of software and those who do not have interfaces, Image Trend will write them. The different types of software include Firehouse, Amazon by Sweet, Scan Health, and Pinpoint. Requirements for the upload version are the ability to collect a majority of the data elements and an ability to connect to the TEMSIS site.

In late May, a survey will be distributed to all EMS Units. This survey will explain the different options for data submission to TEMSIS. EMS Unit leaders will be asked to select an option for their Unit. The decision will provide a guideline on which type of courses to offer during the project implementation. A copy of the survey instrument is listed in Appendix C.

BUSINESS RULES

TEMSIS has the ability to provide rapid feedback to EMS providers entering chart information. Feedback enhances positive documenting skills for EMS providers. The feedback will be in the form of a score from 0 to 100 based on the completeness of the chart. The EMS provider will be notified while documenting if a section of the PCR is missing an element(s) and will be provided a score accordingly. This rapid feedback or

notification is a result of assigning a value to different sections of the TEMSIS chart. The assignment of these values was completed by a TEMSIS subgroup consisting of a Division of FST&EMS liaison, an EMS coordinator, a Unit leader, and EMS-C representative and a technology representative.

Section Description	Percent of Total Fields	Group Scoring
Medical Device Data	8.0%	0
Narrative	0.4%	1
Intervention	0.4%	1
Billing	2.8%	2
Miscellaneous	2.8%	2
Unit/Unit Information	7.6%	3
Medical History	3.2%	3
Assessment/Injury	4.4%	3
Disposition	4.8%	3
Unit/Personnel Information	1.2%	4
Scene	4.8%	4
Situation	5.6%	4
Situation/CPR	3.6%	4
Assessment/Exam	9.6%	4
Times	5.2%	5
Patient	6.4%	5
Situation/Trauma	3.6%	5
Assessment/Vital Signs	12.4%	5
Intervention/Medication	4.4%	5
Intervention/Procedure	5.2%	5
Record Information	0.4%	Automated
Outcome and Linkage	0.4%	Automated
Agency General Information	2.4%	Automated

Table 2. Business Rules Scoring

Table 3 represents the scoring assigned by TEMSIS subgroup. The first column describes the section and type of information being scored. Each section is made up of multiple data elements. The second column is the percentage of total information available to be collected. The third column is the score the subgroup assigned for each section. Each section was scored on a rating from one to five with one being less value and five being more value. The subgroup came to consensus on each section. For example, the sections concerning times, patient information and treatment were of importance and were given high values. Record information, outcome and linkage and agency general information were not assigned a value as the information will automatically be entered from the software vendor. The first section was assigned a zero, as there are no medical device manufacturers providing information for inclusion in this section.

TRAINING FOR TEMSIS

There are two components in the initial training for TEMSIS. The first component is the training for FST&EMS and TEMSIS Group (see Appendix D). The second component is the TtT for those who will be delivering the instruction to the EMS Unit Trainers.

The Training Curriculum designed by Image Trend and Division of FST&EMS staff addresses the needs of the TEMSIS Users. Instructors for this training were identified as those who are computer knowledgeable and have an ability to stay within

the bounds of the curriculum. They have been contacted and asked to participate. If they participate in the training, they will become State Specialty Instructors for TEMSIS.

The training for both FST&EMS and the instructors is slated to occur late May 2005. The training is 16 hours. There should be a minimum of five TEMSIS instructors in each region. Additional constituents invited to this training should include EMS Unit trainers from participating Evaluative Testing Units and the larger Units in the state (more than 100 active EMS providers).

EVALUATIVE TESTING FOR TEMSIS

Evaluative testing for Image Trend TEMSIS will begin late June 2005. The test EMS Units will include the originals plus those interested in testing the additional methods. Table 4 lists Units involved in the evaluative testing program by testing method.

Unit	Type
Concord Fire Department	Mobile
Derry Fire Department	Upload
Diluzio Ambulance	Web
Swanzey Fire Department	Web
Frisbie Memorial Hospital EMS	Web
Portsmouth Fire Department	Web
Newport Fire Department	Mobile
Upper Connecticut Valley Hospital	Web

Table 3. Evaluative Testing Program

Information gathered during the first 30 to 60 days will include completeness of data entered into TEMSIS, users perceptions of the system, structural issues and the value of information gathered through the system. Testing of the completeness of data will be the responsibility of the FST&EMS Research Section. Perceptions of the users including any structural issues will be identified using a survey instrument developed by the Division of FST&EMS and Image Trend using the Knowledge Base module purchased for TEMSIS. The value of information will be gauged from other users of the system through a similar survey instrument.

TEMSIS IMPLEMENTATION SCHEDULE

An introduction to TEMSIS Memorandum was sent to each EMS Unit leader in March 2005. The Memorandum notified leaders that FST&EMS had been granted approval to move forward with the TEMSIS project. Implementation of TEMSIS will occur on a regional basis, and each region will have training based upon its needs of the type of data entry into the system. For example, if more EMS Units are using the Field Bridge than the Service Bridge they will be receiving more training session on the Field Bridge. There will be two types of training. The first type will be directed at EMS Unit leadership and EMS Providers; it will cover the basic use of TEMSIS including entering charts on the State Bridge or Field Bridge and uploading charts using third party software. It will also include some basic reporting concepts for Unit leaders. This type of training will take at least 4 hours per session. There should be a minimum of four of these trainings per region per type (State or Field). The second type of training will cover advanced reporting and will take 2 hours per session. There is an anticipated need of four of these trainings per region.

FUTURE OF TEMSIS

It is the expectation of the TEMSIS group that each EMS Unit send a minimum of one trainer to these sessions and within one month, train the other EMS providers in the Unit.

Regional Order	Regional Training Begins	Data Collection Begins
Region 3	7/18/05	8/8/05
Region 4	8/15/05	9/5/05
Region 1	9/12/05	10/3/05
Region 5	10/10/05	11/07/05
Region 2	11/14/05	12/05/05

Table 4. Regional Implementation Order

Table 5 describes the regional implementation order. The order was selected based on a TEMSIS group meeting in January 2005. Region 3 volunteered to be the first to implement as they have a concentrated population and four hospitals. Region 2 is large with a high concentration of EMS Units and providers, and they volunteered for the final implementation.

FUTURE OF TEMSIS

As the TEMSIS process evolves, decision making in New Hampshire will be based more on evidence and less on anecdote. Information flow will move through the local EMS Unit level, on to the Medical Resource Hospitals and the EMS regions to a statewide system perspective. Improvement of quality in both clinical care and EMS operations will become more standardized using the information gathered from TEMSIS.

Several national level organizations including the National EMS Management Association and the American Public Health Association have stressed that decisions should be made upon the analysis of available evidence. The National EMS Management Association mission is “to catalyze improvements in the management and performance of EMS processes, organizations and systems.”ⁱⁱⁱ The American Public Health Association’s theme for this year’s annual meeting is evidence-based practice.ⁱⁱⁱ

New Hampshire, as a state and collection of EMS systems will be able to make decisions based upon evidence. Unit Leadership will make operational decisions with reports from TEMSIS. For example, budget priorities can be identified using indicators reported by TEMSIS such as response time. Physician Medical Directors and EMS Hospital Coordinators will be able to complete retrospective Quality Management (QM) activities with the use of the QM module reports in TEMSIS. Regional Councils will have a better grasp on the activities in their areas. The public will be able to access aggregated information subject to the provisions of RSA 126.

The Division of FST&EMS will continue to remain the coordinator of TEMSIS activities. They will provide support to the users of TEMSIS and liaison to Image Trend, the vendor. TEMSIS will allow for regular reporting to the New Hampshire EMS Boards and EMS Units. This will enable policy and protocol to be developed using national level literature and most importantly, New Hampshire based data and studies.

TEMSIS PRESENTERS

Lawrence H. Brown III, Clinical Associate Professor

Department of Emergency Medicine
State University of New York at Syracuse
Syracuse, New York

J. Michael Dean, MD, MBA Professor and Vice Chairman of Pediatrics

National EMS-C Data Analysis Research Center
University of Utah
Salt Lake City, Utah

Leonard Inch, Regional Executive Director

Sierra Sacramento EMS Agency
Rocklin, California

Susan McHenry, EMS Specialist

National Highway Traffic Safety Administration
Washington, District of Columbia

Greg Mears, MD Project Director

North Carolina PreMIS
University of North Carolina at Chapel Hill
Chapel Hill, North Carolina

Ron Parrillo, MD, MHSA, FACEP, Associate Professor of Emergency Medicine

Medical College of Wisconsin
Milwaukee, Wisconsin

Rob Petrucci, Acting Director

Santa Clara County EMS Agency
Santa Clara, California

Aarron Reinart, Executive Director

Lakes Region EMS
Worth Branch, Minnesota

Don Rice, MD Medical & Technical Consultant

Data Collections, Trauma, & Bioterrorism Surveillance
State of Nebraska Health and Human Services EMS Division
Lincoln, Nebraska

Mike Schnyder, NREMT-P

National EMS-C Data Analysis Research Center
Salt Lake City, Utah

APPENDIX A: NEW HAMPSHIRE BUREAU OF EMS VISION, MISSION, GOAL AND OBJECTIVES

VISION

To be a model of excellence in the delivery of Emergency Medical Services.

MISSION

To continuously improve our comprehensive statewide EMS system in order to ensure excellence of out of hospital emergency medical care to all persons within the state of New Hampshire.

GUIDING PRINCIPLES

- We are committed to the highest standards of care possible for the sick and injured.
- We are committed to scientifically and technically sound, data driven, and cost efficient care.
- We are committed to providing care regardless of demographics or geographical location.
- We are committed to the highest quality standards and protocols for EMS providers.
- We are committed to relevant quality education. We encourage advancement of educational skills throughout the state.
- We are committed to an open dialogue with the EMS community.
- We seek out collaborative relationships with other organizations committed to the health and safety of the public.
- We are committed to the prevention of injury and illness.
- We embrace the value of volunteerism throughout the EMS System.
- We will maintain organizational flexibility to meet the changing needs of the future.

GOAL 1

EMS Evaluation System: Research Capabilities for the Purposes of Prioritization of Resource Utilization, Policy Determination, Technology Assessment and Performance Improvement.

Objective 3: Develop a patient care reporting (PCR) system that can be linked with a statewide database.

Objective 4: Establish a mechanism to monitor EMS clinical and operational trends and integrate advances into statewide protocols, policies, and procedures.

APPENDIX B: UNIT COMPUTER GRANT APPLICATION

MEMORANDUM

TO: EMS Unit Leaders

FROM: Fred von Recklinghausen, Research Coordinator

DATE: May 10, 2005

RE: TEMSIS Grant Computers

In November 2004 the Division of Fire Standards and Training and Emergency Medical Services received a grant from the New Hampshire Highway Safety Agency (NHSA) to cover the initial costs of the Trauma and Emergency Medical Services Information System (TEMSIS). As a part of this grant the Division has available up to 40 computer-printer combinations to place at EMS Units who do not have a dedicated computer workstation.

The TEMSIS project is a fundamental change in the way we document EMS calls. Rather than continuing with the paper Patient Care Report (PCR) we will change to an electronic web based PCR. This means the PCR can be filled out at any computer connected to the Internet. Documentation can be completed at the hospital (PC's will be made available), at the station, or from any computer with Internet access.

The TEMSIS planning group is made up of those groups involved in EMS or in EMS data collection and represent all areas of EMS. During the November meeting of the TEMSIS planning group the definition of a "eligible EMS Unit" and additional prerequisites were determined. The TEMSIS planning group determined an eligible EMS Unit is defined as (1) New Hampshire Licensed EMS Unit, (2) Can demonstrate they do not have the funds available to purchase computer-printer through budget or savings, (3) Document funding mechanism for their EMS Unit (government, private, donations).

Based on this criterion, an application has been developed and attached. If your EMS Unit is qualified and the need is present, please complete the application and provide the requested documentation. Please attach a copy of your last two budgets, documentation of financial status, complete the capital equipment sheet and submit with your application.

If you are approved to receive a computer-printer combination you will be expected to provide an internet connection (broadband or dial-up), provide required supplies (paper and printer cartridges), provide maintenance (after the warranty expires), participate actively in the TEMSIS process, and not sell or give the computer/ printer away.

The deadline for these applications is June 15, 2005. Any applications, received after that date, will not be considered for funding.

TEMSIS COMPUTER PRINTER COMBINATION REQUEST FORM

**New Hampshire Department of Safety
Bureau of Emergency Medical Services**

EMS Unit: _____ Unit License Number: _____

Contact person and title within the EMS Unit: _____

Phone Number: _____ Fax: _____

Mailing Address: _____

E-mail address: _____

Reason for request: _____

Does the organization currently have a computer? YES / NO
If YES, Type (486, Pentium 1, 2, 3, 4)? _____

Is the entity able to accept financial responsibility for the computer printer combination?
(i.e. paper, ink cartridges, after warranty maintenance, etc.) YES / NO

Will you provide a connection to the internet (broadband or dial-up) YES / NO

Provide documentation of your EMS Unit's financial status (current bank statements,
etc.) _____

Please enclose your EMS Unit's actual Budget for the last 2 years. (Copy Attached)

Street address where computer printer combination will be located

City/Town _____ State _____ Zip _____

Number of EMS Providers: _____

Signature: _____ Date: _____

Title: _____

Please return to Department of Safety
Division of Fire Standards and Training & Emergency Medical Services
33 Hazen Drive Concord NH, 03305
or Fax to: 603-271-4567

Attention TEMSIS

APPENDIX C: USER SURVEY

TEMSIS ENTRY SURVEY

<http://FreeOnlineSurveys.com/rendersurvey.asp?id=95217>

This TEMSIS survey should take only a short amount of your time.

During discussions in the TEMSIS groups, a determination was made to keep data entry as flexible as possible within the confines of the system's capability. Within that capability, there are three options for entering data into TEMSIS. The options are web based (Service Bridge), mobile based (Field Bridge) and Upload from a third party vendor.

Service Bridge or the web-based version is the entry level is provided at no cost to EMS Units. The only requirements are a computer running Windows, Internet Explorer 5.5 and a dial-up Internet connection at a minimum.

Field Bridge or the mobile version requires a ruggedized mobile computer or tablet and the purchase of software from Image Trend. The initial cost is \$1,000 plus \$400 a year for support. The DFST&EMS has a limited number licenses covering the initial \$1,000 cost for those EMS Units with hardware already in place. Information is gathered using the laptop or tablet and then uploaded to TEMSIS through a wireless or hardwired connection.

Third Party Software or the third option for an EMS Unit is to use a third party vendor and upload the information into TEMSIS. Image Trend has written interfaces with many different types of software and those that do not have interfaces, Image Trend will write them. The different types of software include Firehouse, Amazon by Sweet, Scan Health, and Pinpoint. Requirements for the upload version are ability to collect a majority of the data elements and an ability to connect to the TEMSIS site.

1) What is your Unit Number?

2) Unit Information

- Unit Name
- Street Address
- City
- State
- Zip
- Contact Name
- Contact Email
- Training Officer Name
- Training Officer Email

***3) Which data entry option would you like to use?**

- State Bridge
- Field Bridge
- Third Party

***4) Does your EMS Unit have a computer?**

- Yes
- No

***5) If yes, what kind of computer does your EMS Unit have?**

- 486
- Pentium 1
- Pentium 2
- Pentium 3
- Pentium 4

***6) What kind of Internet connection do you have?**

- Dial Up
- DSL
- Cable
- None

APPENDIX D: TEMSIS ORGANIZATIONS

- ◆ Dartmouth School of Medicine Injury Prevention
- ◆ EMS for Children Project at Dartmouth
- ◆ EMS Region 1
- ◆ EMS Region 2
- ◆ EMS Region 3
- ◆ EMS Region 5
- ◆ New Hampshire Ambulance Association
- ◆ New Hampshire Association of Fire Chiefs
- ◆ New Hampshire Department of Health and Human Services Epidemiologist
- ◆ New Hampshire Department of Health and Human Services Injury Prevention Program
- ◆ New Hampshire EMT Association
- ◆ New Hampshire Hospital Association
- ◆ New Hampshire Hospital EMS Coordinators
- ◆ New Hampshire Paramedic Association
- ◆ New Hampshire State Bureau of Emergency Communications (9-1-1)
- ◆ New Hampshire State Emergency Medical and Trauma Services Coordinating Board
- ◆ New Hampshire State EMS Medical Director
- ◆ New Hampshire State Fire Marshal's Office
- ◆ New Hampshire State Fire Standards Commission
- ◆ New Hampshire State Highway Safety Agency
- ◆ New Hampshire State Trauma Medical Review Committee
- ◆ Paid Fire Provider
- ◆ Paid Provider Leader
- ◆ Professional Firefighters of New Hampshire
- ◆ Small Private Provider
- ◆ Volunteer Provider
- ◆ Volunteer Provider Leader

The Division of FST & EMS would also like to thank the following individuals for their hard work and dedication to the TEMSIS project:

- ◆ Steve Achilles, New Hampshire Association of Fire Chiefs
- ◆ Bob Brown, Bureau of Emergency Communications
- ◆ Mike Doolan, Sunapee Fire Department and EMS
- ◆ Dave Dubey, New Hampshire Ambulance Association
- ◆ Jeanne Erickson, Speare Memorial Hospital
- ◆ Rob Farley, New Hampshire State Fire Marshal's Office
- ◆ Fred Heinrich, Professional Firefighters of New Hampshire
- ◆ Janet Houston, EMS for Children Project at Dartmouth
- ◆ Sylvester Karasinski, Swanzey Fire Department
- ◆ Frank Keslof, American Medical Response
- ◆ Tom McEntee, Rockingham Regional Ambulance
- ◆ Rich O'Brien, Rye Fire Department
- ◆ Scott Taylor, New Hampshire Hospital EMS Coordinators

APPENDIX E: TEMSIS MEMORANDUM TO EMS UNITS

MEMORANDUM

TO: Unit Leaders

FROM: Sue Prentiss, BA, NREMT-P
Chief, Bureau of EMS

Fred von Recklinghausen, MPA, NREMT-P
Research Coordinator

DATE: March 14, 2005

RE: TEMSIS Update

On behalf of the Division of Fire Standard and Training and Emergency Medical Services (FST and EMS), I am pleased to announce that the Trauma and Emergency Medical Services Information System (TEMSIS) project has entered a new phase. On February 25, 2005, Governor and Executive Council voted to approve a contract with Image Trend of Lakeville, MN. Image Trend has statewide EMS information systems in place in three other states including Minnesota, Nebraska and Missouri. We have also been able to secure grant funds through the Governor's Highway Safety Office to cover the start-up costs associated with a project of this magnitude.

The overall system design was developed by 26 representatives from the EMS, public health and public safety communities. The groups represented in this process included volunteer, paid, fire, municipal, private and hospital based providers. Additionally, EMS Unit leaders and representatives from hospitals, EMS regions and the EMS Advisory Boards comprised the TEMSIS core group. They began their work in March 2003 and have been actively meeting since that time.

TEMSIS will change how patient care is documented. With this system, there will be a change from a paper based Patient Care Report (PCR) to an electronic report. The system will require a connected Internet capable computer for PCR entry or reporting. Using the startup grant funding, there will be desktop computer-printer combinations available at each hospital and a number of computer-printer combinations for eligible EMS Units.

The rollout of the TEMSIS project will begin with a small pilot test to solve any issues before the statewide implementation begins. Next, a Train-the-Trainer program will be held to prepare Educators to deliver training of the new electronic system locally. Finally, individual regional rollouts will begin, which will occur over a six to eight month period. The plan is to have all regional training completed by the end of 2005. Each EMS Unit will be requested to designate one or more members within their Unit to attend these regional training sessions. They will be the point person(s) within their Unit to orient members with the use of the new electronic PCR.

If your Unit is using an electronic PCR presently, please notify the Division of FST and EMS. We will work with Image Trend to load your information into the system. Also, if you have purchased or plan to purchase mobile laptops in the near future, the Division has a limited number of reduced cost licenses for a mobile version of the TEMSIS software.

It's important that each EMS Unit be made aware that we now have the funds and the vendor to put this plan into action. TEMSIS is a major system change and advancement, not just for the Division, but for all levels in the EMS community. The gathering and tracking of data, member skills, QA/QM activities and the ability to interface with billing programs are just a few of the advantages this enhanced system offers. Your support and cooperation will be vital with making this implementation process successful.

As always, do not hesitate to contact Fred or myself with any questions that you may have at (603) 271-4568.

ⁱ <http://www.gencourt.state.nh.us/rules/saf-c5900.html>

ⁱⁱ <http://www.nemsma.org/about.htm>

ⁱⁱⁱ <http://www.apha.org>