

**Report on Massachusetts Department of Mental Health
Service Recipient Mortality (1991-1993)**

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The Critical Incident Reporting Task Force

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I. HISTORY OF PROJECT

As a part of the settlement agreement in the case of *McBride v. Okin*¹, the Massachusetts Department of Mental Health (DMH) agreed to create a system for responding to complaints and incident reports received by the Department. In 1986, the Office of Internal Affairs was established to implement this system.

According to 104 Code of Massachusetts Regulations (CMR) 24.00 et seq., the DMH is responsible for receiving complaints and critical incident reports, coordinating and monitoring investigations, and producing final reports of all investigations. The DMH designated the Office of Internal Affairs to carry out these duties. The Director of the Office of Internal Affairs (OIA) reports to the Chief of Staff of the Department of Mental Health.

In order to implement these responsibilities, the DMH promulgated two policies directing Department officials to report certain critical incidents to the Office of Internal Affairs. The first of these was initiated by Commissioner Henry Tomes on October 12, 1990. This policy, entitled Policy 90-2, "Reporting Procedures for Deaths and Other Incidents Involving DMH Clients and Critical Communications," was meant to provide a mechanism to ensure consistent reporting by Area Directors of all incidents involving DMH clients, defined as persons who had received services within the last six months from state hospitals or the Department's Case Management system. The second policy, Policy 90-2 (Revised), approved by Commissioner Eileen Elias on September 30, 1992, broadened the reporting requirements. This policy called for reporting of all client deaths and serious incidents by the Area Director. The policy has been interpreted as requiring the reporting of all death of *anyone* who has *ever* received any type of service from the Department. The Internal Affairs database was created in 1990 to keep track of all client death reported to the Department. In 1993, the OIA began entering critical incidents reports not involving client deaths into the system.

A report from this system containing data on deaths and other critical incidents was obtained by the Boston Globe. In an article published on June 11, 1995, the Globe indicated that "while the caseload [for the DMH] has remained steady or decreased slightly, the number of people who die while under the care of the State Department of Mental Health has climbed dramatically in recent years" (Bass, 1995).

Following this article, the Department of Mental Health requested that the Evaluation Center@HSRI, given its mission to provide technical assistance in the evaluation of adult mental health systems change, establish, and provide technical assistance to, a Task Force "which is capable of an objective thorough, and valid review

¹ The complaint in *McBride v. Okin* (No. 81-0268-MA [USDC, D.Mass]), alleged that the Massachusetts Department of Mental Health had no system for dealing with grievances or incident reports received by the Department and that the lack of such a system violated certain constitutional rights of DMH clients.

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regarding the reporting and interpretation of DMH critical incident data on client deaths, suicides, injuries, cases of abuse, and client AWAs” (Elias, 1995). The Department also requested that this Task Force “develop policy recommendations which will clarify and/or correct existing and potential problems that are identified [by the Task Force]”.

After consulting with The Evaluation Center’s Federal Project Officer at the Center for Mental Health Services, the Director of the Evaluation Center agreed to establish and provide technical assistance to a Task Force that would have as its goals to:

- Determine what can be concluded about deaths and critical incidents involving recipients of Department of Mental Health services and the possible relationship of the deaths and critical incidents to system changes², and
- Suggest methods for improving data systems related to the reporting of critical incidents.

Once it has been agreed to establish the Task Force, Evaluation Center staff contacted a number of potential members representing a variety of stakeholder groups in the mental health system. These potential members were identified by the Evaluation Center, the Department of Mental Health, representatives of consumer and family organizations, provider representatives and researchers with relevant training and experience. Persons were invited to become voting members of the Task Force only if they had no current significant financial or other ties to the Department of Mental Health. Persons with such ties, but with expertise required by the Task Force, were invited to participate in Task Force proceedings as technical consultants. A list of voting Task Force members, technical consultants and Evaluation Center staff are contained in Appendix B.

The Task Force examined all available data related to client deaths and other critical incidents. Considerable data for the analysis of deaths were available from both the DMH and Department of Public Health (DPH) for the period 1991-1993. Data on other critical incidents were not entered into an electronic database until 1993. Therefore, the Task Force decided to focus on the deaths of DMH clients during the period 1991-1993.

The Task Force notes that in 1996 some services now provided by DMH will be provided through the Division of Medical Assistance (DMA), the state’s Medicaid agency. The Task Force urges DMH, DMA, and their contractors to work cooperatively in implementing the recommendations of this report.

The Task Force is also cognizant of the recent recommendations of the Governor to substantially reorganize the state’s executive agencies, including the Department of Mental Health. Inasmuch as the final form of such reorganization is unknown, the Task Force chose to direct its own recommendations to DMH as it is presently constituted. Nevertheless, the members believe their suggestions will be valuable to DMH, however it is ultimately constituted.

² For a list of identified system changes and events relevant to the DMH occurring during the period 1990 to 1995 see Appendix A.

II. IS THE ANNUAL DEATH RATE AMONG PERSONS SERVED BY THE DEPARTMENT OF MENTAL HEALTH CHANGING?

The Task Force began its deliberations by considering the best way to evaluate data on the number of deaths over time. Consistent with epidemiological science, the Task Force decided that the data on numbers of deaths over time could be evaluated only if these data were converted into *rates* that showed the number of deaths in a time period as a proportion of the number of persons served by the DMH who could have died in that same time period (the “mortality risk pool”) (Ricketts et al., 1994; Paulos, 1995). Task Force members stressed that this decision was not meant to imply that individual deaths could not be evaluated in terms of whether they were preventable or postponable, an issue which is discussed further in Section IV. However, rates would be necessary to determine the significance of changes in the numbers of deaths over time.

Based on this decision, the Task Force directed the Evaluation Center to obtain data on both the numbers of persons served by the Department of Mental Health who had died in the time period 1990-1995 and the number of person in the mortality risk pool for those years.

In response to this request, Evaluation Center staff identified two sources of data on the numbers of deaths of persons served by the Massachusetts Department of Mental Health: (1) the Office of Internal Affairs critical incidents database, which contains information on deaths reported to the OIA by Area Directors (and staff); and (2) a mortality research database, assembled by Dr. Bruce Dembling (Dembling, 1995), containing information on death of DMH clients occurring between the years 1990 and 1993.³ This latter database was constructed by matched two electronic databases: (1) the Department of Public Health (DPH) database containing records of all 218,000 deaths occurring in Massachusetts between 1990 to 1993 and (2) a combination of three databases, maintained by the DMH Central Office, that register clients treated in DMH inpatient, case management and/or residential services. These are referred to by the DMH as “legacy databases.” Together, these legacy databases contained information on 49,000 unduplicated clients registered between 1985 and 1993.

Note that registered clients are not necessarily currently in treatment. It was not possible for the Task Force to identify when persons were and were not in treatment since a person’s last known treatment status replaces (overwrites) any previous treatment status in the legacy databases. However, not distinguishing among persons based on their treatment status is consistent with the policy for reporting deaths to the OIA issued in 1992 and described in Section I. This point is discussed further, below.

Data on deaths from the OIA and mortality research databases for the years 1990-1993 were crosstabulated. These years were selected because data from Dembling were available only for this time period. The results are presented in Table

³ Because of his previous work in this area, Dr. Dembling was recruited as a technical consultant to the Task Force.

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1. As Table I suggests, these two data bases match only imperfectly. Cell A represents those 369 cases that are in both the OIA data base and the Dembling data base. These are individuals who at some time received more intensive DEMH services and whose deaths were reported to the OIA. Cell B, contains records of 305 deaths of clients who never received the more intensive DMH services but whose deaths were reported to the OIA. Cell C contains records of 884 deaths of clients who at some time received intensive DMH services but whose deaths were not reported to the OIA.

The columns of Table 1 show that persons who died can be placed in two groups. Group 1, the total of cells A and C, is the group of persons who were treated in DMH inpatient, case management and/or residential services. Group 2 consists of persons treated only in other services such as outpatient psychotherapy, emergency services and clubhouses. We do not know precisely which services, because there are no centrally maintained registries for these other services to match to death records.

Table 1 Cross Tabulations of Numbers of Deaths from 1990 to 1993 Recorded in Internal Affairs Database and in Dembling's Merger of DMH Legacy and Department of Public Health Databases

Status re: Internal Affairs (IA) Database	Group		
	Group 1 Treated in Inpatient, Case management and/or Residential Services	Group 2 Treated Only in Other Services, (e.g., Outpatient Therapy, Clubhouse, Emergency Service)	Total
In IA	369 (A)	305 (B)	674 (A + B)
Not in IA	884 (C)	? (D)	884 + ?
Total	1253 (A + C)	305 + ?	1558 (A + B + C)

For group 1 clients, persons treated in inpatient, case management, and/or residential services, the Evaluation Center was able to estimate the size of the mortality risk pool for the years 1991-1993 by obtaining information from the DMH legacy databases. These systems could not provide data for the period prior to 1991. Before using this information, the Evaluation Center reviewed the specifications for the legacy systems and the computer programs used by the DMH for merging them. The Task Force accepted the Evaluation Center's judgment that the information obtained was appropriate for the analyses to be conducted.

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For Group 2, the CMH was unable to provide any data to the Task Force for estimating the size of the mortality risk pool. This is because the legacy databases only records people treated in inpatient, case management and/or residential services. Based on these findings, the Task Force decided it had the data necessary to evaluate changes in deaths for Group 1, but not for Group 2. For the latter group, the Task Force decided it had neither a good estimate of persons who had died nor an estimate of the underlying risk pool.

The Task Force further noted that the distinction between Group 1 and Group 2 services (i.e., that centrally maintained registries exist for the former, but not the latter) reflects, at least in part, an ambiguity about who is and is not a DMH client. The Task Force also speculated that this ambiguity is probably reflected in the fact that not all deaths of Group 1 clients were reported to the OIA (these are the deaths in cell C).

The Task Force noted that performance monitoring (e.g., monitoring deaths) and other administrative activities depend on being able to define and count the number of DMH clients. Therefore, the Task Force recommends that the DMH resolve the ambiguity of who is a DMH client and implement systems for centrally registering and providing unduplicated counts of all such persons, including ones receiving Group 2 services, as soon as possible. Additional recommendations for these systems are presented in Section II.

In order to construct sufficient data points for longitudinal analyses, counts of Group 1 deaths were calculated for each quarter of the period 1991 to 1993. Data from the legacy data bases were used to calculate the size of the mortality risk pool for each quarter, making appropriate adjustments for deaths⁴ and estimated migration⁵. The details of these procedures are described below. These data were then used to compute quarterly “crude mortality rates.” A “crude” mortality rate is one that is not adjusted for risk factors, such as age, that are associated with rates of mortality. In the absence of detailed epidemiological data, simple studies of crude rates over time are informative for public policy decision making (Ricketts, et al., 1994).

The Task Force then requested that the Evaluation Center explore whether the Group 1 crude mortality rate should be adjusted for changes over time in the commonly considered risk factors, age, gender, and ethnicity in the underlying population at risk⁶.

⁴The DEMH legacy databases are cumulative and once an individual is “in” the database, s/he is there forever. That is, people are not removed from the databases due to either having discontinued services or having died.

⁵Likewise, the legacy databases do not account for migration, that is, people moving out of state. It is important to note that out of state deaths are not captured in the DPH death database.

⁶In its response to the article in the Boston Globe, DMH suggested that the apparent increase in the number of deaths could be traced to the changes in the reporting requirements of the Revised Policy 90-2 (9/1/92). Since the Task Force

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Under the assumption that changes in the at risk population would be reflected in the pool of deaths, the Evaluation Center examined average age of death⁷, percent male deaths, and percent white deaths. Table 2 shows, for the years 1991-1993, the average age of death for persons in Group 1, the percent of Group 1 deaths that were males, and the percent that were white. The Task Force judged that the data in this table suggested that these risk factors changed minimally over the three years and that any adjustments to the crude mortality rate for Group 1 would be minor. Given this judgment and time limitations, the Task Force decided to base its deliberations on the crude mortality rates. However, the Task Force recommends that the Evaluation Center address these adjustments in future analyses.

Table 2 Sociodemographic Characteristics for Group One Persons Who Died (1991-93)

	Variable			
Year	Number	Average Age	Percent Male	Percent White
1991	263	53.6	60	90
1992	332	55.8	53	91
1993	329	54.2	62	93

Analysis of Crude Mortality Rates

In the following analyses: events in the numerator are counts of deaths occurring in the specified quarter to “DMH clients” registered in the centrally maintained DMH databases; the populations in the denominator are unduplicated counts of persons known to be alive in the specific quarter, who were recipients of DMH services during or before that quarter, reduced by 1% to correct for migration. This migration factor of 1% was chosen as a feasible assumption; changing this assumption would have no effect on the *relationships* presented below, although the actual magnitude of the crude mortality rate would change. Table 3 is a layout of the data, the number of deaths and the number of persons calculated to be in the at-risk population, for each of the seven areas and for the state overall.

relied on DPH as well as DMH data bases, it judged the change in reporting requirements irrelevant for the subsequent analysis.

⁷A table showing the distribution of deaths by age category and year is contained in Table 7 in Appendix C. This talbe shows the distribution of deaths by age category is essentially the same across the three years.

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Table 3 Number of Deaths, Size of Mortality Risk Pool, and Crude Morality Rates by Quarter: Statewide and by Areas CM, MB and MS (1991-1993)

Year and Quarter of Death	Total Deaths	Total Risk Pool	Total Death Rate (*1000)	Deaths CM	Risk Pool CM	Death Rate CM(*1000)	Deaths MB	Risk Pool MB	Death Rate MB (*1000)	Deaths MS	Risk Pool MS	Death Rate MS (*1000)
'91 Quarter 1	81	15217	5.3	18	1847	9.7	18	4366	4.1	3	1317	2.3
'91 Quarter 2	70	15966	4.4	8	1936	4.1	10	4628	2.2	6	1366	4.4
'91 Quarter 3	94	16761	5.6	11	2017	5.5	22	2848	4.5	4	1417	2.8
'91 Quarter 4	84	17573	4.8	10	2111	4.7	15	5072	3.0	7	1477	4.7
'92 Quarter 1	84	18385	4.6	16	2216	7.2	15	5276	2.8	5	1544	3.2
'92 Quarter 2	100	19301	5.2	10	2352	4.3	21	5478	3.8	6	1616	3.7
'92 Quarter 3	64	20147	3.2	13	2468	5.3	14	5709	2.5	4	1692	2.4
'92 Quarter 4	81	20815	3.9	8	2544	3.1	16	5893	2.7	8	1788	4.5
'93 Quarter 1	87	21557	4.0	9	2621	3.4	19	6058	3.1	11	1867	5.9
'93 Quarter 2	88	22362	3.9	16	2715	5.9	16	6226	2.6	6	1931	3.1
'93 Quarter 3	69	23088	3.0	8	2803	2.9	13	6422	2.0	5	1995	2.5
'93 Quarter 4	88	23853	3.7	14	2905	4.8	21	6620	3.2	5	2055	2.4

CM=Central Massachusetts

MB=Metro Boston

MS=Metro South

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Table 3 (cont'd) Number of Deaths, Size of Mortality Risk Pool, and Crude Morality Rates by Quarter: Statewide and by Areas CM, MB and MS (1991-1993)

Year and Quarter of	Death MW	Risk Pool MW	Death Rate MW (*1000)	Deaths NE	Risk Pool NE	Death Rate NE (*1000)	Deaths SE	Risk Pool SE	Death Rate SE (*1000)	Deaths WM	Risk Pool WM	Death Rate WM (*1000)
'91 Quarter 1	8	1246	6.4	9	2240	4.0	16	2622	6.1	9	1579	5.7
'91 Quarter 2	6	1280	4.7	10	2334	4.3	20	2763	7.2	10	1659	6.0
'91 Quarter 3	8	1353	5.9	16	2461	6.5	23	2957	7.8	9	1709	5.3
'91 Quarter 4	7	1407	5.0	12	2603	4.6	23	3113	7.4	10	1789	5.6
'92 Quarter 1	9	1466	6.1	9	2720	3.3	22	3305	6.7	5	1859	2.7
'92 Quarter 2	7	1518	4.6	18	2841	6.3	22	3526	6.2	16	1970	8.1
'92 Quarter 3	6	1576	3.8	10	2926	3.4	14	3745	3.7	3	2031	1.5
'92 Quarter 4	7	1614	4.3	16	3018	5.3	14	3875	3.6	11	2083	5.3
'93 Quarter 1	5	1671	3.0	11	3165	3.5	17	4013	4.2	14	2162	6.5
'93 Quarter 2	6	1734	3.5	9	3352	2.7	24	4163	5.8	11	2242	4.9
'93 Quarter 3	3	1758	1.7	13	3486	3.7	20	4309	4.6	7	2314	2.0
'93 Quarter 4	10	1804	5.5	12	3629	3.3	14	4464	3.1	11	2377	4.6

MW=Metro West

NE=North East

SE=South East

WM=Western Massachusetts

Statewide Crude Mortality Rate

Figure 1 shows the overall crude mortality rates per 1,000 service recipients beginning in quarter one of calendar year 1991 and ending in quarter 4 of 1993. As a measure of the precision with which the mortality rates were calculated, 95 percent confidence bands have been placed around the trend line. Assuming a linear relationship, these figures suggest a strong downward trend across time ($T=-3.70$; $p\text{-value}<.004$); a movement from approximately 5.5 deaths per 1,000 in 1991 to 3.5 deaths per 1,000 in 1993.⁸ The decline is estimated to be 4.1% per quarter. Considered alone, the passage of time (secular trend) explains 54% of the variation in the mortality rates observed.

Figures 2 to 4 show the crude rates of natural deaths, medicolegal deaths, and suicide, respectively, over the same time period. Medicolegal deaths are defined here as any death not resulting from natural causes (e.g. homicide, accident or injury, suicide). The incidence of medicolegal deaths and suicides is reported here per 10,000 service recipients. While the rates of death due to natural causes exhibit a downward trend, this trend was not statistically significant at the .05 level ($T=-1.8$; $p\text{-value}<.11$). (Given the variability in death rates for death rates due to natural causes, it is not possible to meaningfully assign starting and ending rates for deaths due to this cause.) Medicolegal death rates show a significant downward trend (from approximately 10 to approximately 4 deaths per 10,000) over the time period under study ($T=-3.836$; $p\text{-value}<.004$). The rate of suicide appears to be declining too, although to a less marked degree ($T=-1.616$; $p\text{-value}<.15$). Note that one data point, that for the fourth quarter of 1993, was excluded in this analysis, because it was grossly different from the other data points⁹. (As above, given the variability in death rates due to suicide, here also, it is not possible to assign meaningful starting and ending rates for deaths due to this cause.) The quarterly declines are estimated to be: 2.8% for deaths due to natural causes; 7.1% for medicolegal deaths; and 4.6% for suicides.

⁸In time series data, the error terms can be positively correlated. This can indicate the omission of one or more key factors that are themselves correlated with time. The effects of these factors are thus absorbed by the errors. In the analyses above, the Durbin-Watson statistic was used to measure the existence of such a problem. Where this raised any concern, a proper test for autoregression was carried out. In no case did the test yield a statistically significant result.

⁹Removal of a grossly different data point is accepted practice when the point truly distorts the magnitude of an estimated trend and when removing the point does not change the direction of the trend (Weisberg, 1985).

Figure 1

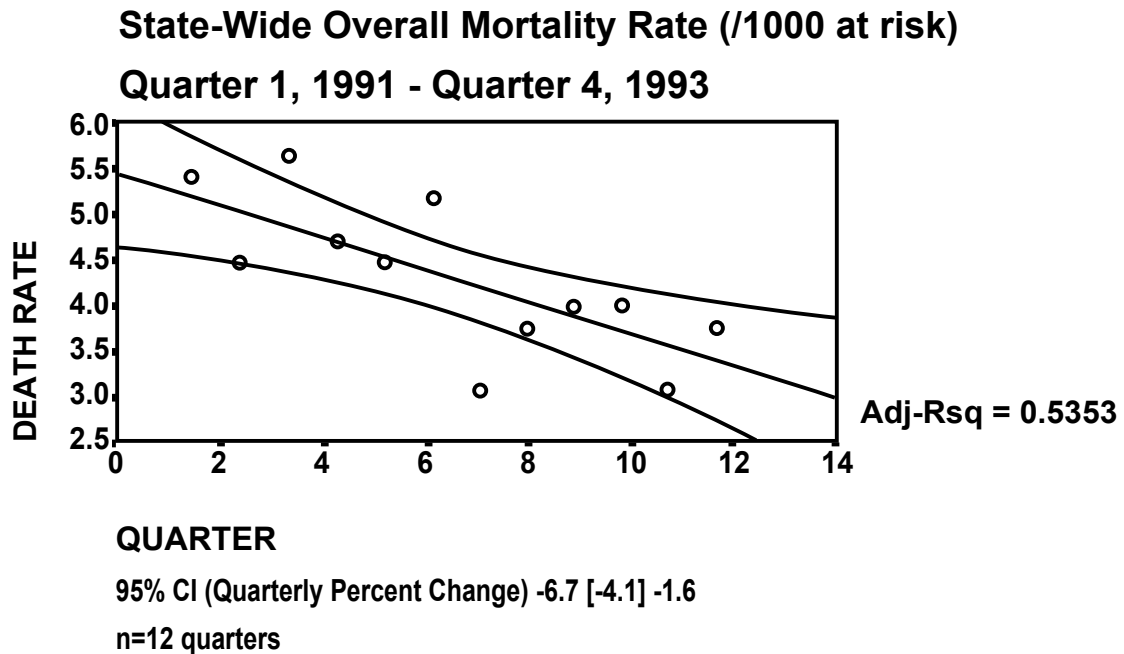


Figure 2

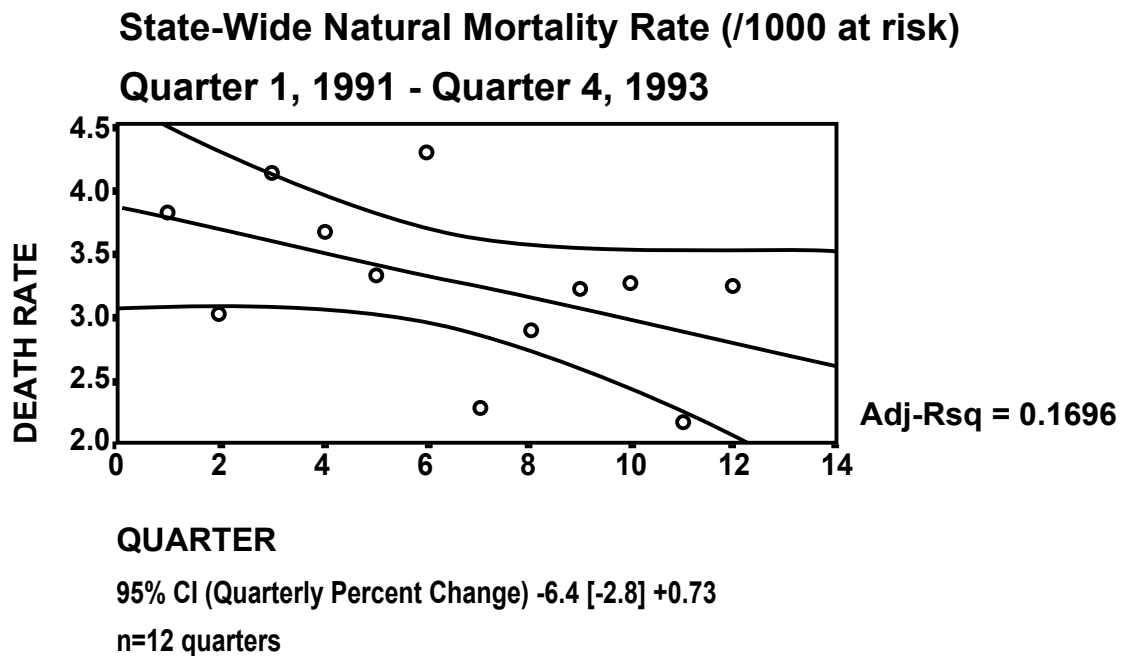


Figure 3

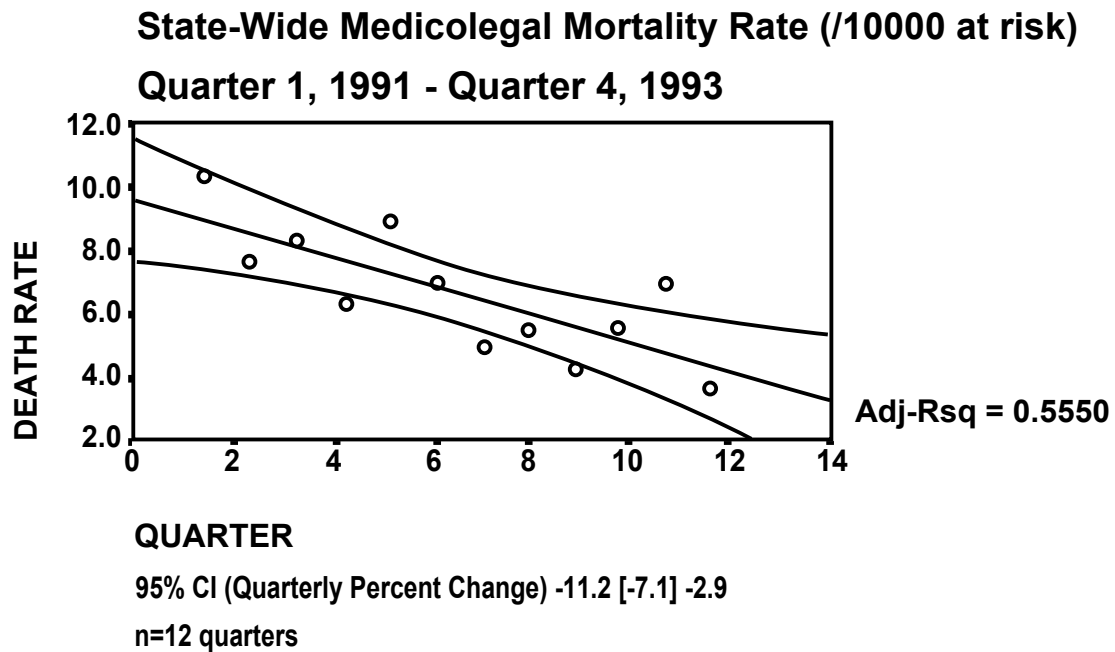
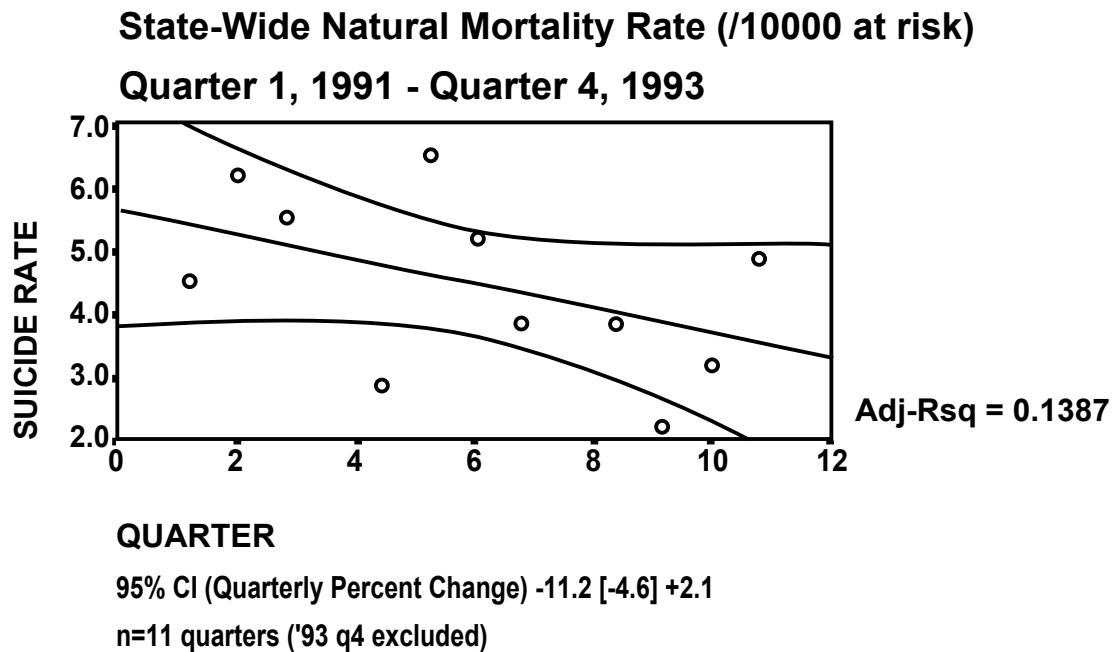


Figure 4



Area Level Analysis of Crude Mortality Rates

At the request of the Task Force, the Evaluation Center also analyzed crude mortality rates for the DMH's geographic areas. The amount of data available permitted meaningful interpretation only for deaths from all causes. Area-level analysis of overall rates resulted in the emergence of three area clusters. The first cluster — containing the Metro West and South East areas— shows a strong linear downward trend in rates for the period 1991 to 1993 ($T=-4.032$, $p\text{-value}<.0006$ and $T=-3.713$, $p\text{-value}<.004$ respectively). These relationships appear in Figures 5 and 6. The quarterly declines are estimated to be 6.9% and 6.5 respectively. It is important to note that two data points, those for Metro West 3rd and 4th quarters 1993, were removed in the final analysis. These points were removed because they were grossly different from the other points.¹⁰

Metro Boston and North East form the second cluster. Figures 7 and 8 show the relationships between mortality rates and time for these two areas. Downward linear trends are apparent, but they were not significant at the .05 level ($T=-1.501$, $p\text{-value}<.2$ and $T=-1.523$, $p\text{-value}<.2$ respectively). The quarterly declines are estimated to be 2.7% in Metro Boston and 3.6% in North East.

The three areas of Central Massachusetts, Western Massachusetts and Metro South form the third and final cluster. Figures 9 to 11 show the relationships between mortality rates and time for these three areas. Using simple linear models, the variability in the estimation of the time effect on the incidence of death in these areas is too great — the standard error of the estimate being greater than the estimate itself in each of the three cases — to warrant interpretation. Suffice is to say at this time, that slight downward trends are visible in all three cases. It must be noted, too, that the data point for Central Massachusetts 1st quarter 1991 was removed in the final analysis. This point was removed because it was grossly different from the other points (the removal of this point resulted in a 61% change in the estimated effect of time on mortality rates.¹¹)

In comparing the figures, the reader is cautioned that the death rate axis is slightly different in each graph. The straight line in each graph represents the linear trend over time. Since we cannot be certain of exactly where the line falls, the curved lines on either side of the straight line represent the likely upper and lower boundaries for the estimated line (95% confidence interval).

¹⁰This effected the magnitude, but not the direction of the trend observed. See note 6, supra.

¹¹This also effected the magnitude, but not the direction of the trend observed. See note 6, supra.

Figure 5

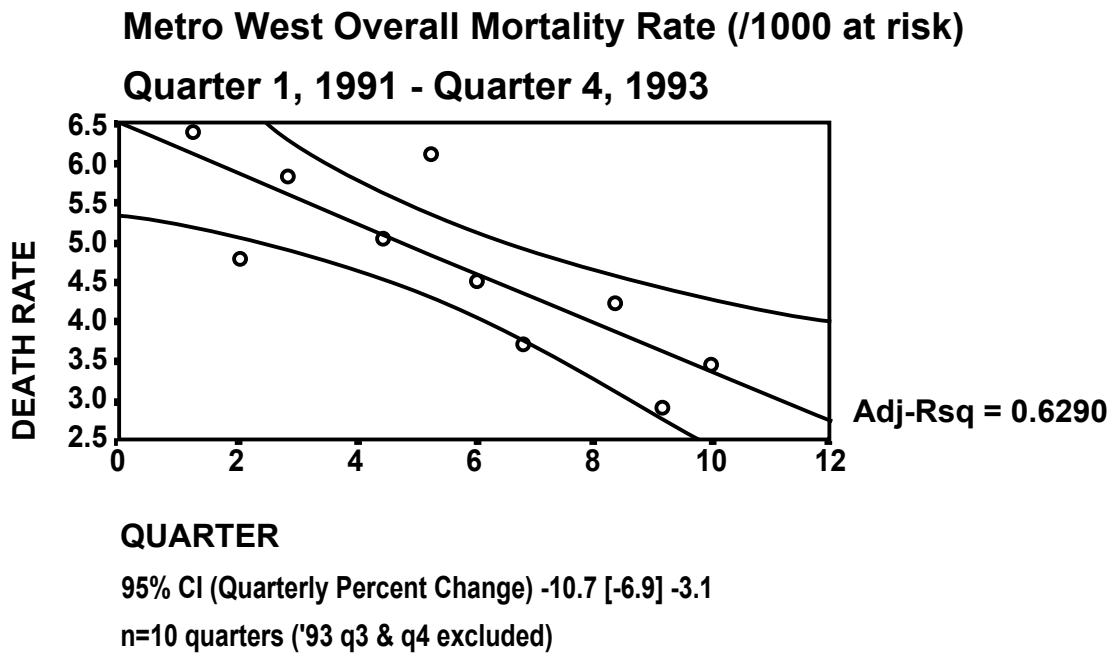


Figure 6

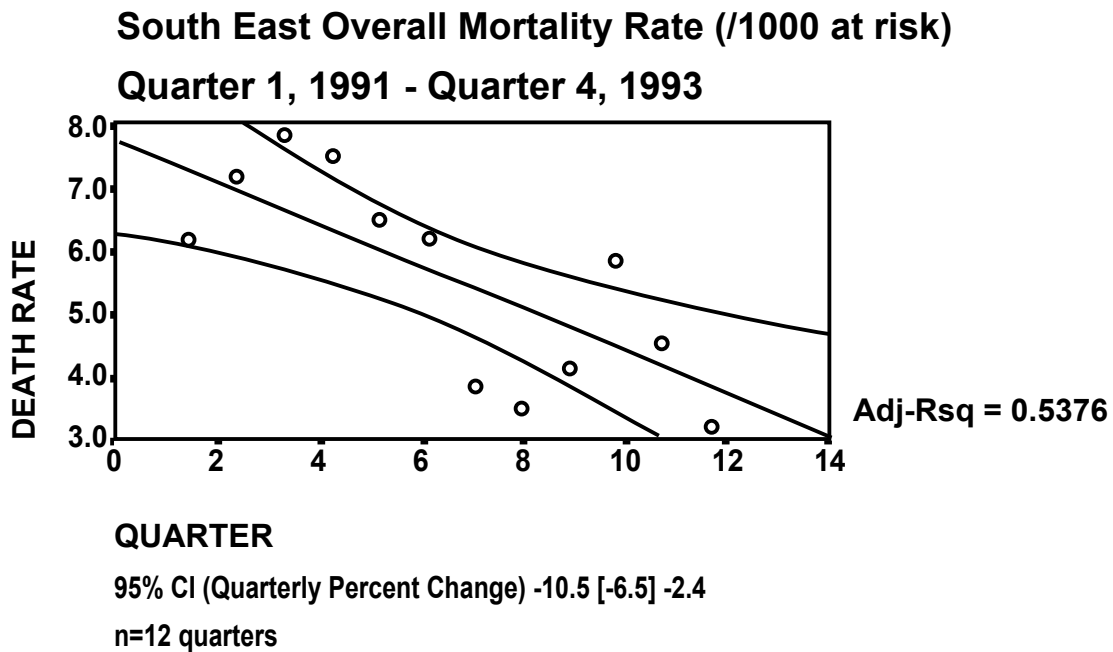


Figure 7

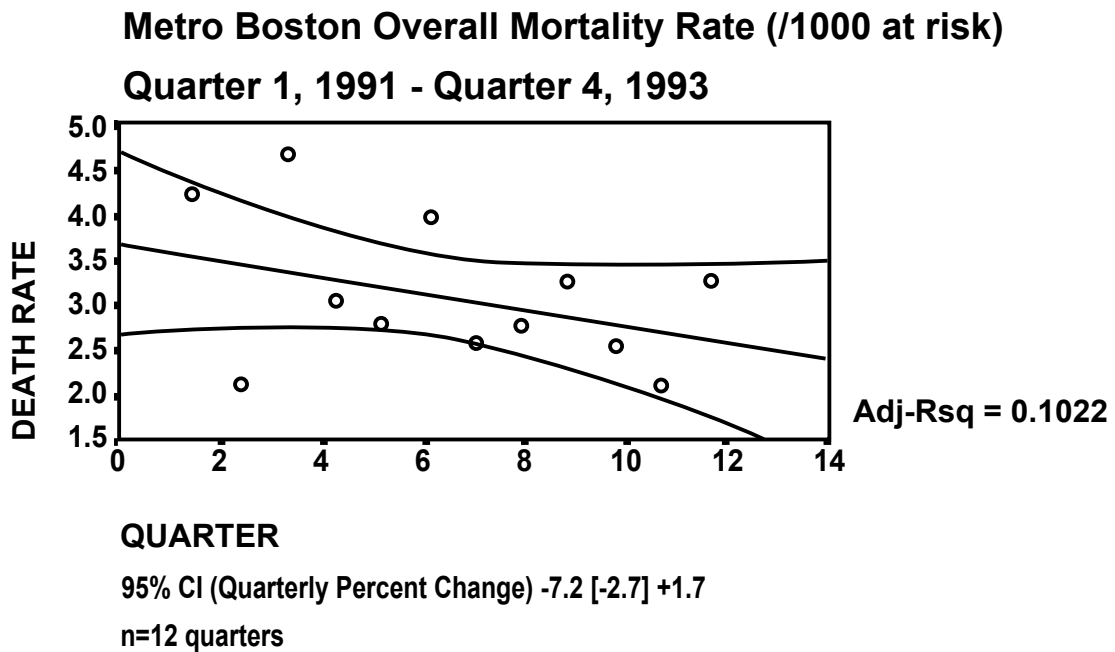


Figure 8

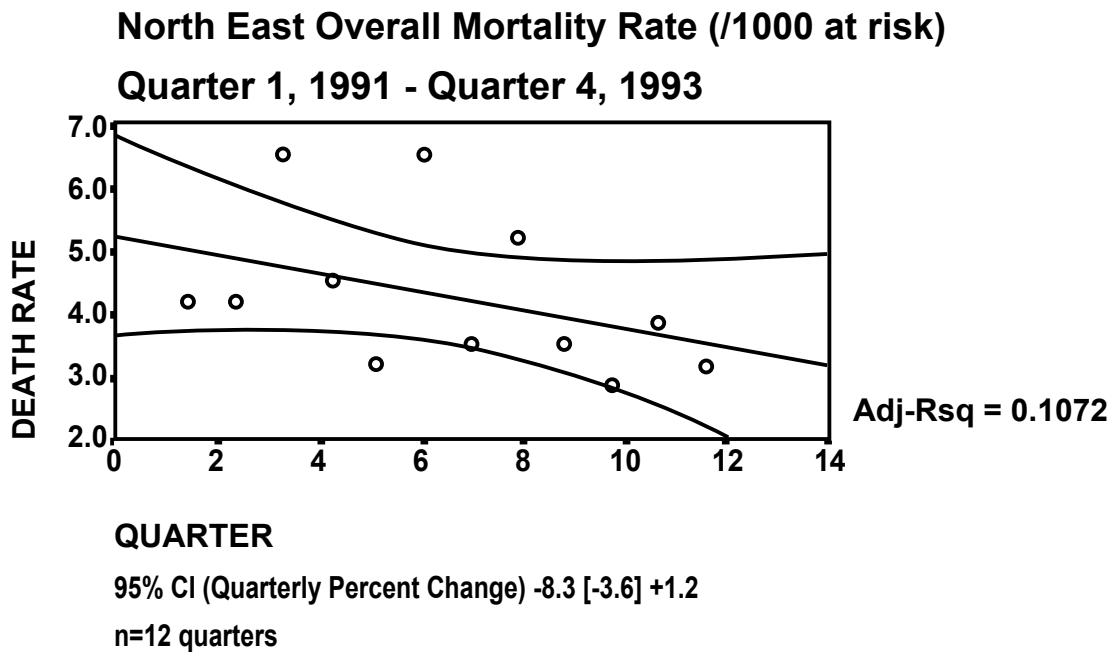


Figure 9

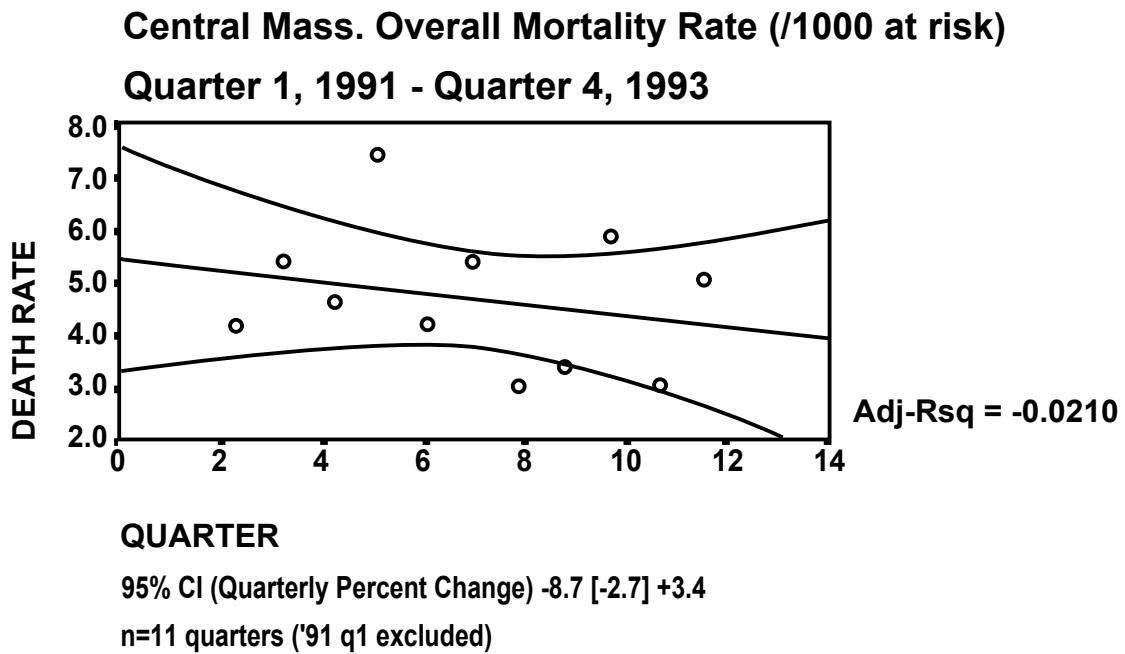


Figure 10

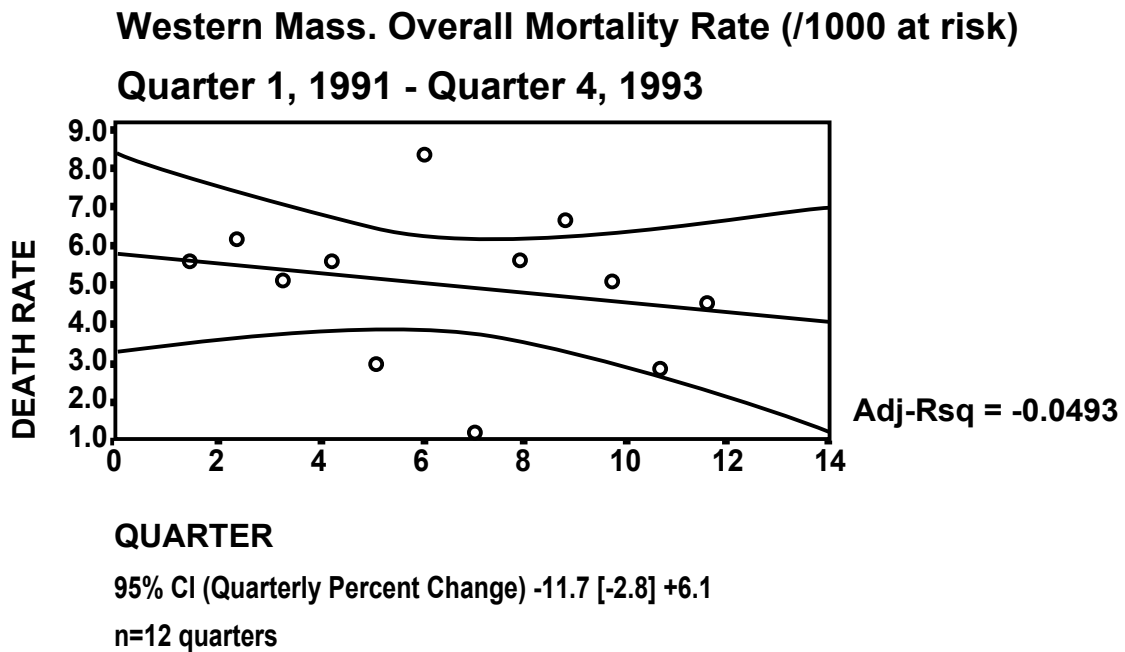
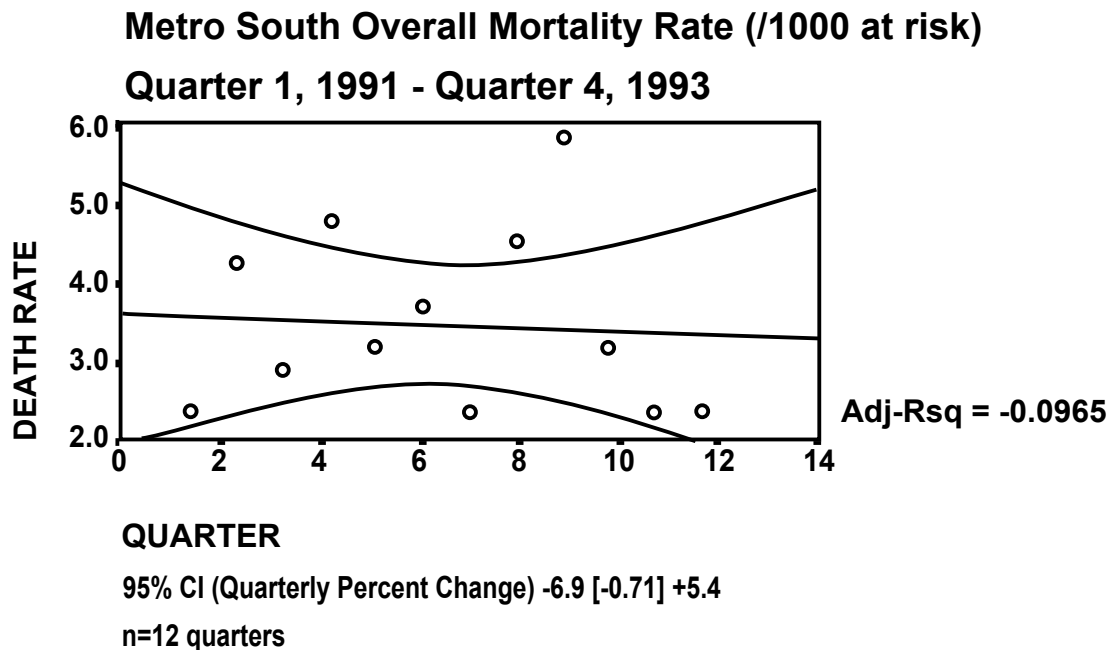


Figure 11



Comparative Data

An attempt was made to obtain comparable data on mortality trends from seven other states. Of the states contacted, none were able to provide such data. The Evaluation Center also considered computing comparable mortality rates for the general population. However, this was rejected because actual population counts for quarters and years do not exist.

A Note on Potential Causes of the Mortality Trends Observed

The Task Force discussed that it would be useful for planning future system changes to identify the causes of the apparent decline in Group 1 mortality rates. However, member agreed that this was not possible given limitations of time and data. At one level, we do know mortality rates declined because the number of deaths of persons in the Group 1 risk pool increased more slowly than the cumulative numbers of persons in the risk pool. But we do not know why this was the case. Perhaps the increase in numbers of deaths did not keep pace with the increase in the risk pool because of subtle demographic changes in the risk pool that were not revealed by analyses to date. Or, perhaps system changes in the 1991-1993 time period added to the longevity of persons in Group 1 services. A list of changes that might have influenced the observed mortality rates, compiled through interviews with mental health system stakeholders, is contained in the Table in Appendix B. The quarters shown in the left hand column of this table correspond to the quarters shown in the graphs, above. The Task Force agreed that these possibilities should be explored in further analyses.

Summary of Conclusions and Recommendations

Based on the methods and findings described above, the Task Force concluded:

- Crude mortality rates for persons in Group 1, computed using the information on the mortality risk pool in the legacy databases, appeared to decline from 1991-1993, particularly the rates for deaths from medicolegal causes and suicide.
- Given the data currently available, it is not possible to infer the relationship of this apparent decline to system changes.
- The trends for deaths from all causes for Group 1 clients were consistent across geographic areas.
- The data available were not adequate for drawing conclusions about Group 2 client deaths.

The Task Force also made the following recommendations:

- The DMH should resolve the ambiguity of who is and is not a DMH client and implement systems for centrally registering and providing unduplicated counts of all such persons, including ones receiving Group 2 services, as soon as possible.
- Further analysis should be conducted to address the influence on death rates of variables such as age, gender, and ethnicity.
- Further analysis should be conducted into the sources of area variation in mortality rates.

III. RECOMMENDATIONS FOR IMPROVING DATA SYSTEMS WITHIN THE DEPARTMENT OF MENTAL HEALTH

Mortality data, coupled with other information, can provide useful indicators of service system quality (Starr and Starr, 1995). These indicators can be used in performance evaluations to identify and inform the solution of system problems. They can also be used as outcome measures in research to evaluate the impacts of specific interventions. However, for these indicators to be useful, the data systems on which they are based must meet certain requirements. This section addresses the minimum requirements for data systems to generate interpretable mortality performance indicators. It also describes data system attributes that will contribute to system utility and efficiency.

The Task Force discussed the data systems used to analyze DMH deaths. These are the three “legacy” data systems and the OIA critical incidents death database. Major characteristics of these data systems are summarized in Table 4. Additional analyses of these data systems and recommendations for improving them are presented following the Table.

The Legacy Registration Systems

These systems contain information on DMH clients collected at the field level (DMH areas and facilities) and maintained in centrally operated databases at DMH. The data from the field are transferred, electronically or on disk, to the department at a minimum of once a month.

Inpatient Data System

This system contains a record for every inpatient admission to a Department of Mental Health facility (State Hospitals and Community Mental Health Centers) since July 1985, and all admissions to DMH Replacement Units since their opening. Replacement Units are privately operated facilities with which the DMH contracts. The primary function of the Replacement Units is to replace the acute care services that were being provided by State Hospitals. These data are supplied by the facilities on a monthly basis, and are transmitted electronically or on disk to the Central Office. Prior to 1994 most reports were transmitted to the DMH Central Office on computer disk. Since August 1994 the State Hospitals and four Community Mental Health Centers have drawn their data from the AIMS billing system, which records all inpatient enrollments at those facilities. Each record contains the admission date and the discharge date. The data is transferred to the centrally maintained system through a direct on-line link to the database or by transmitting a file with transaction records through a network cable or a computer floppy disk.

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Table 4 Summary of Database Characteristics

	Data Systems			
	Inpatient Database	Residential Billing System Extract Database	Case Management Client Registry Database	Internal Affairs (Death Database)
Date of Database Origin	Jul 1985	Oct 1990	May 1992	Jan 1990
Population in Database	Inpatient admissions to State Hospitals CMHC's, Replacement Units	DMH Community Residences	Case-Managed DMH clients	After Oct. 1992 included anyone who had ever received a DMH service and whose death was reported to OIA
Where collected?	Inpatient site	Extracted from Residential Billing System which is conducted at the area level	Area level	Collected by Area Directors and staff
How entered at Central Office?	Direct link through on-line network or file with transaction records (updated monthly)	Extract taken from billing system. Updated monthly.	Sent to Central Office by areas on a monthly basis on a floppy disk or through a network link.	Reports sent by Area Directors and staff in paper format by fax or mail.
Status Codes? (i.e. active client or not active)	Discharge Status field	Termination of Residence field	Active or inactive status field	No code for active or inactive prior to death

Residential Data System

The records in this system represent placements in community residences operated by DMH or by other entities pursuant to a contract with DMH. These data are collected in the Area Offices, and are entered into the DMH residential billing system by area staff. The data are complete from October 1, 1990 and contain placement dates and termination dates. Registrations information is extracted from the billing system for the legacy system on a monthly basis.

Case Management Client Registry System

The records in this system consist of a history file of changes in case management status since May 1, 1992. Any current record as of that date are included, but cases terminated or changed prior to that date are not available. All records are entered in the Client Registry at the Case-Management Sites in the Areas, based on documents provided by the Case Managers. This file contains the date of assignment to a case-manager or waiting list, and the date of termination or transfer. Area offices supply either a monthly feed or a computer disk to the Central Office. Data are then uploaded into the Case Management Client Registry.

Recommended Actions

Based on the analyses presented in Section II, the Task Force concluded that the DMH needs to make both better use of available data and implement new systems. Its recommendations for both existing and new systems are presented below.

Existing Systems

The DMH should regularly integrate the data in its three separate legacy data systems. Each of these systems utilizes a common identifier which is unique to the consumer and records the date that an individual consumer is registered. The system also record client date of birth, gender, ethnicity, diagnosis, and are of responsibility (the DMH area office which has primary responsibility for the client's services). This makes it possible to generate reports on the cumulative numbers and characteristics of consumers being served as well as the numbers and characteristics of new arrivals by time period (e.g., per quarter). These data should be linked to Department of Public Health death records at least annually, and ideally more frequently. This will enable the DMH to evaluate mortality data for Group 1 clients (those who were treated in inpatient, case management and/or residential services).

The existing systems should be modified to track dates and locations (programs and areas) of all treatment episodes so that mortality rates can be tracked for persons in "active" treatment.

New Systems

As soon as possible, the Task Force recommends that the DMH implement a comprehensive data system for registering and tracking persons treated in Group 2 services (i.e., persons treated only in services other than inpatient, case management, and/or residential care). Until such a system is in place, it will not be possible to evaluate the mortality data for persons treated in these services. Deaths of persons who were treated in Group 2 services represented almost 50% of deaths reported to the OIA. Once developed, the Group 2 data system also should be linked to Department of Public Health death records at least annually, and ideally, more frequently.

If the implementation of a comprehensive data system will take substantial time, the Task Force recommends that the DMH implement an interim system that collects the minimum information necessary for evaluating mortality data. This information is listed below.

1. A unique patient/client identifier
2. Date of Birth
3. Gender
4. Race
5. Legal Status
6. Locations (both Programs and Areas) and Dates of All Treatment Episodes
7. Diagnosis

Database That Tracks Critical Incidents Within The Department

Internal Affairs Death Database

The first critical incidents database, the Public Log (104 CMR 24.00 complaint) database, was developed in 1989. This database was created as the result of numerous inquiries directed to the office from within and outside of the DMH regarding the number of complaints filed and the Area/Facility where they occurred. This was a simple database developed to track formal complaints only.

In 1990 the client mortality database was developed. Fields were continuously added and the database was changed over the years as additional information demands were made. In 1993 the mortality database was modified to include information on other critical incidents. The data in this database represent complaints, incidents and deaths reported to the Office of Internal Affairs under the critical incident reporting policy and complaints filed under DMH Regulations 104 CMR 24.00. These reports are submitted by the DMH's Area Offices.

The current system tracks only those deaths that are reported to the Internal Affairs office. As noted above, comparing the IA database with the Dembling mortality research database suggested that a large number of deaths go unreported

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to the DMH. Dembling found that only 369 or 29% of the deaths in the mortality research database were also recorded the Internal Affairs database.

Recommended Actions

The Task Force recommends that the IA database be routinely linked to the one resulting from the merger of the Department of Public Health database and the Group 1 and 2 databases. This will indicate the completeness of the IA database and identify other deaths that have gone unreported. The Task Force also recommends the following changes to the IA database:

- A field for recording the state in which persons died should be added. This will make it easier to accurately count the number of persons dying outside Massachusetts.
- Numeric codes for all data fields should be used. This will make reporting for the Department more accurate and timely and facilitate computer analysis. For example, the field that represents type of service received ("involve") is coded using abbreviations (i.e. "cm" for case management, "ip" for inpatient). However, the abbreviations are not always consistent and it requires recoding and some manual entry of data to prepare this field for data analysis. It would be easier for routine data analysis if the field were given a numeric representation with a text value label.
- Separate fields should be used for multiple entries. For reporting reasons it is best to keep separate pieces of information in different fields. The same field discussed above (involve) includes multiple entries in the same field. This too would require manual data entry to separate the abbreviations and perform data analysis. Therefore, a field with potential multiple entries should be expanded to several fields (i.e. "involve", "involve1," "involve2" etc).

Starr and Staff (1995) have noted that "the rise of integrated health plans, growing emphasis on accountability for the outcomes of care, and development of health information networks and electronic data interchange are changing the organizational context of the vital statistics process." (pg. 110) As noted above, the Task Force recommends the DMH align itself with these changes by modifying its existing systems and developing new ones, and linking these systems to DPH death records. The Task Force also recommends that DMH and DPH work cooperatively with DMA and its contractors in those area where data systems overlap or where shared data bases will provide information which would provide useful information regarding service system quality. Additionally, the Task Force recommends that new system be designed and existing systems be redesigned following epidemiological and evaluation principles.

Finally, the Task Force strongly recommends that all actions taken to develop and enhance data bases be undertaken with the utmost respect for the privacy rights of the individuals about whom information is collected. The stigmatizing

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nature of mental illness makes privacy protection efforts even more important here than in other areas of data collection.

IV. AN ADDITIONAL FINDING FROM THE DPH DATA: THE ISSUE OF PREVENTABLE AND POSTPONABLE DEATH

Without regard to the recent trends in the crude mortality rate of the Massachusetts DMH client population, the Task Force expressed significant concern about premature mortality among DMH clients. Strong evidence was presented to the Task Force by Dr. Bruce Dembling that DMH clients die from most causes (natural and medicolegal) at a younger age than do other Massachusetts citizens. These data are presented in Table 5.¹²

The Task Force recognized that such findings are not unique to the Massachusetts public mental health system or to the time period reviewed. There is a long and consistent history of scientific literature, briefly described below, which suggests that person with mental illness die younger than the overall population. Nevertheless, the Task Force expressed strong concern that there are many years of life being unnecessarily lost and that there are steps which could be taken to at least partially remedy this situation.

Studies of the mortality of persons with psychiatric illness were done as early as 1942 when Alstrom studied a group of inpatients (Alstrom, 1942). Since then, numerous studies have been conducted (see Table 6) adding evidence to the early hypothesis that persons with mental illness have a higher mortality rate than the overall population. The most common method by which researchers have quantified increased mortality risk is by using a standardized mortality ratio (SMR). The SMR is defined as the number of observed deaths in a population to the number of expected deaths based on an overall population controlling for, at least, age and sex (Segal and Kotler, 1991 controlled for income as well). For example, if we observe 30 deaths in a population of hospital clients and we only expect to see 12 deaths in a comparable sample of the overall population, the SMR would be 2.5. This is to say that the population being studied is dying at two and half times the rate of the overall population. The SMR's calculated in studies of psychiatric patients have varied considerably but despite substantial differences in the types of subjects (inpatients, outpatients, elderly, sheltered care, non-help seeking) and the locations (California, Iowa, New York, Missouri, Sweden), without exception researchers have found the SMR for persons with mental illness to be considerably greater than one. Even with the dramatic changes in mental health systems and the clinical practices over the last 50 years, excess mortality has not disappeared. Despite deinstitutionalization, the discovery of effective medication, and the development of community based treatment recent studies indicate that differential mortality risk for persons with mental illness still exists.

Dembling analyzed his data for Massachusetts for the period 7/91-12/93. He identified 840 observed deaths while only 575 were expected yielding an SMR of 1.46. Although it is well within the range reported in other studies (e.g., Haugland, 2.29; Martin, 1.74; Segal and Kotler, 2.85) this statistic was of concern to the Task Force.

¹² Rates and means have not been standardized for differences in the age and sex distribution of the DMH and general populations.

Table 5 Massachusetts DMH Consumer and General Population Mortality in Massachusetts 1990-1991 (Dembling, 1995)

Cause of Death and Excess Mortality in Seriously Mentally Ill Populations (draft protocol) June 23, 1995

B. Dembling

Table 2: DMH Consumer and General Population Mortality in Massachusetts 1990-1991

Underlying Cause	Total Deaths		DMH Deaths		DMH Excess Mortality*	
	count	mean age	count	mean age	years	share
Heart Disease	69,965	77.4	300	61.6	3,153	14.2%
Malignant Neoplasms	56,509	70.5	159	61.4	1,718	7.7%
Other Natural	39,564	71.4	223	60.6	2,643	11.9%
Cerebrovascular	13,390	80.2	33	61.6	408	1.8%
Influenza & Pneumonia	10,027	82.0	69	67	374	1.7%
Chr Obstr Pulmonary	8,685	75.9	51	62	553	2.5%
Diabetes	4,067	74.0	31	58.6	428	1.9%
Accident	4,050	46.0	55	41.5	1,634	7.3%
HIV Related	2,595	38.2	59	36.3	1,991	8.9%
Chronic Liver	2,502	61.3	28	42.1	797	3.6%
Suicide	2,066	43.3	121	35.9	4,268	19.2%
Atherosclerosis	1,549	84.4	3	65	19	0.1%
Unexplained	1,482	36.5	101	37	3,419	15.4%
Homicide	1,029	30.4	20	30.6	848	3.8%
	218,560	72.8	1,253	54.2	22,253	100.0%

Table 6 STUDIES INDICATING EXCESS MORTALITY FOR PERSONS WITH MENTAL ILLNESS (Complete citations are provided in the References)

Author(s)	Date	Location of Selected Studies
Alstrom	1942	Sweden
Odegard	1952	Norway
Malzberg	1953	New York
Forssman & Jansson	1960	Sweden
Hoening & Hamilton	1966	England
Babigian & Ordoroff	1969	New York
Innes & Millar	1970	Scotland
Rorsman	1974	Sweden
Levine & Levine	1975	
Avery & Winokur	1976	
Tsuang & Woolson	1977	Iowa
Koranyi	1977	Canada
Tsuang & Woolson	1978	Iowa
Sims & Prior	1978	Britain
Weeke	1979	
Tsuang, et. al.	1980	Iowa
Craig & Lin	1981	New York
Eastwood, et. al.	1982	Canada
Coryell, et. al.	1982	Iowa
Haugland, et. al.	1983	New York
Rorsman, et. al.	1983	Sweden
Black, et. al.	1985	Iowa
Martin, et. al.	1985	Missouri
Winokur & Black	1987	Iowa
Segal & Kotler	1991	California
Dembling	1995	Massachusetts

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Dembling also calculated “DMH excess mortality,” which he defined as, “the sum of all years calculated for each death as the deviation from the mean age at death for all causes by sex in general population.” As is shown in Table 5, above, the total number of years of excess mortality for the 1253 deaths was 22,253 reflecting the nearly twenty year difference in life expectancy between the DMH population and the overall Massachusetts population. The excess mortality was also calculated by cause of death. This revealed some dramatic results. Dr. Dembling reports that not only do DMH clients show excess mortality for suicide and other unnatural deaths as one might expect, but for deaths by all natural causes. For example, the average age of death among the overall Massachusetts population from heart disease is 77.4 years. For the DMH cohort, average age of death from heart disease was 61.6 years. Considering that the 300 of the 1253 deaths occurred due to heart disease, this adds 3,153 years “lost” among the DMH client group. The deaths from natural causes together account for over half of the total excess mortality.

The Task Force believes that excess mortality due to natural cause deaths can be reduced if physical health care provision for the DMH population is improved. This belief is supported by literature indicating the comorbid medical and psychiatric conditions are problematic and health care for psychiatric patients is oftentimes lacking (Mulkern, et al., 1985). Farmer (1987) reported that 53 percent of subjects from an intensive community support program had undiagnosed medical problems and 36 percent had known medical problems not receiving required treatment. Similarly, Koranyi (1979) found nearly half of a population of psychiatric consumers to have an undiagnosed physical illness. A retrospective study of VA inpatients suggests that patients with combined psychiatric and medical diagnoses presented with a greater severity of illness than those with either psychiatric or medical diagnoses alone (Dvoredsky and Cooley, 1986). Mental illness can, thus, be viewed as a risk factor for mortality through medical disease.

In this context, the Task Force makes the recommendations listed below as measures to reduce client excess mortality. The Task Force recognizes that this list is only a starting point and that other measures will be necessary.

- Much of the excess mortality is due to deaths from natural causes. In order to improve the medical care for DMH clients, all willing DMH clients should receive physical examinations at appropriate intervals (Winokur and Black, 1987; Farmer, 1987). If clients cannot secure examinations on their own, then the DMH should provide these exams or assist clients in obtaining them. If medical conditions are present, the DMH should take responsibility for assuring the integration of mental health and physical health care and ensure that referrals to appropriate medical caregivers are made. DMH caregivers should follow-up on these referrals to increase the probability that they will be completed. DMH caregivers should also attend to issues of medication compliance for physical illnesses.
- Alcoholism and drug addiction contribute highly to “postponable” deaths. Care givers should be rigorous in looking for the presence of these

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conditions in DMH clients and take active steps to help clients recover from addiction. (Martin, et. al., 1985)

- Case managers should be specifically trained to recognize and respond to their clients' physical health care needs. (Farmer, 1987)
- Care givers should be particularly cognizant of physical health problems associated with psychotropic medication and should educate clients about the possible side effects.
- There is evidence that a significant portion of the excess mortality of persons with mental illness may be due to poor health habits/behaviors. DMH should take a proactive stance in educating and promoting positive health practices. (Segal and Kotler, 1991; Farmer, 1987)
- Smoking is the most clear example of a poor health habit which is overrepresented in the DMH population. It deserves particular attention. DMH providers should encourage reduction in smoking in an educational format which is appropriate to the client. (Farmer, 1987; Hughes & Frances, 1995)
- The Department of Mental Health currently has no policy with regard to Do Not Resuscitate (DNR) order for DMH clients in community facilities to which DMH refers clients. The Department should develop a policy or standard protocol to ensure that the rights of their clients are protected with regard to DNR orders.

V. THE PROCESS OF INVESTIGATING DEATH

Recommendations by The Task Force for the Improvement of the Investigations of Deaths by DMH

A subcommittee of the Task Force was formed to discuss and recommend improvements to the investigative process regarding complaints and critical incidents involving DMH service recipients. The subcommittee discussed issues concerning the purpose of investigations, the independence of the investigative body, and the nature of the investigative process. The subcommittee focused on the investigative process as it is currently being practiced by the DMH. The following are the final recommendations endorsed by the subcommittee and subsequently by the Task Force.

Purpose of Investigation

Subcommittee members expressed the opinion that DMH investigations did not have clear purposes. It was also the subcommittee's view that at present, the DMH does not make reports sufficiently available to families and significant others of the deceased person. Additionally, the subcommittee described the investigative process as not often enough resulting in actions which improve services. The subcommittee recommends that the purpose of an investigation should be to arrive at an objective, accurate statement of what happened to the client. It also concluded that investigations should include statements of the questions which families and other agencies wished to be answered. The subcommittee further agreed that, within the framework of legally mandated client rights to privacy and confidentiality, information from reports should be more accessible to concerned parties. And it recommends that each report receive an "effectiveness review" to determine if the report addressed the necessary issues and if the information in the report was used to improve services.

In summary, the subcommittee and Task Force recommend that the purpose of investigations should be:

- To arrive at an accurate, objective statement of what happened to the client.
- To identify and answer important questions for family members, significant others, and other agencies.
- To provide important information to DMH for improving the quality of services offered.
- Within the framework of client rights to privacy and confidentiality, to make information available to the families and significant others of the deceased person.

Independence

The OIA currently reports to the Commissioner's Chief of Staff. The subcommittee recommends that the DMH unit for investigating deaths should report directly to the Commissioner and not be responsible to any other DMH official. The subcommittee further recommends that the investigative unit should have adequate resources (both human and monetary) to conduct its own investigations. It also recommends that the investigative unit should be responsible for the oversight of all investigations, and should produce regular progress reports for the Commissioner.

However, if the DMH is not able to meet these recommendations, the subcommittee recommends that another agency be found to take over investigations of deaths and other critical incidents.

In summary, with respect to the independence of investigations, the subcommittee and Task Force recommends that the DMH establish an organization unit to investigate deaths that:

- Is responsible only to the Commissioner, and to no one else in the Department.
- Has adequate resources, both human and monetary.
- Maintains oversight over all investigations.
- Provides regular and timely progress reports to the Commissioner.

Process

The subcommittee made several recommendations concerning the process of investigations. The first issue discussed was the need for DMH to develop a separate set of standards for investigations of deaths (as opposed to investigations of other types of complaints). The subcommittee recommends that these standards specify what types of deaths should be investigated.

In addition, subcommittee members judged the current timeline regulations for reports to be unrealistic. This was supported by Evaluation Center analyses of 42 randomly selected investigations. The regulations for client death investigations require an appointment of an investigator to be made no more than 5 business days after the report of death, interviews to be completed no more than 15 business days after appointment, and a completed report to be filed no more than 30 business days following appointment. Of the 42 reports reviewed, only 18 indicated that the appointment was made in the time required. Additionally, 30 reports specified a date that interviews were completed. Only 5 of these reports indicated completion dates judged to be within the required time. Finally, only 4 of the 42 reports reviewed were recorded as complete and received by Central office within the 30 days allotted (5 reports did not indicate a completion date).

In summary, with respect to the process of investigations, the subcommittee and Task Force recommends that the DMH:

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- Develop a set of standards specifically for investigations of deaths (as opposed to other complaints), specifying which types of deaths should be investigated.
- Revise regulations so that they contain realistic timelines for the investigative process.
- Monitor investigations to insure that they are completed in a timely manner.
- Specify that extensions should only be granted by the Commissioner when absolutely necessary. No “indefinite extensions” should be granted. Specifics of the extensions must be included in the report.
- Maintain control over all investigations and include this authority in its contracts with other providers.
- Provide investigators with training including the protocol for writing a final report.
- Train investigators to interview consumers and family members and incorporate these stakeholder perspectives in their reports.
- Have an “effectiveness reivew” of each report. The goal of this should be to analyze the quality of the report and to determine if findings were used to improve services.

VI. CONCLUSIONS AND SUMMARY OF RECOMMENDATIONS

Conclusions Regarding Trends in DMH Client Death Rates

- Crude mortality rates for persons in Group 1, computed using the information on the mortality risk pool in the legacy databases, appeared to decline from 1991-1993, particularly the rates for deaths from medicolegal causes and suicide.
- Given the data currently available, it is not possible to infer the relationship of this apparent decline to system changes.
- The trends for deaths from all causes were consistent across geographic areas.
- The data available were not adequate for drawing conclusions about Group 2 deaths.

General Recommendations

1. The DMH should resolve the ambiguity of who is and is not a DMH client and implement systems for centrally registering and providing unduplicated counts of all such persons, including ones receiving Group 2 services, as soon as possible.
2. Further analysis should be conducted to address the influence on death rates of variables such as age, gender, and ethnicity.
3. Further analysis should be conducted into the sources of area variation in mortality rates.

Recommendations for Data Systems

General Recommendations

4. The Task Force also recommends that DMH and DPH work cooperatively with DMA and its contractors in those areas where data systems overlap or where shared data bases will provide information which would provide useful information regarding service system quality.
5. Additionally, the Task Force recommends that new systems be designed and existing systems be redesigned following epidemiological and evaluation principles.

Existing Systems

6. The DMH should regularly integrate the data in its three separate legacy data systems.

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7. These systems should be linked to Department of Public Health death records at least annually, and ideally more frequently.
8. The existing systems should be modified to track dates and locations (programs and areas) of all treatment episodes so that mortality rates can be tracked for persons in “active” treatment.
9. The OIA database be routinely linked to the one resulting from the merger of the Department of Public Health database and the Group 1 and 2 databases.

The Task Force also recommends the following changes to the OIA database:

10. A field for recording the state in which persons has die should be added.
11. Numeric codes for all data fields should be used.
12. Separate fields should be used for multiple entries.

New Systems

13. As soon as possible, the Task Force recommends that the DMH implement a comprehensive data system for registering and tracking persons treated in Group 2 services (i.e., persons treated only in services other than inpatient, case management, and residential care).
14. Once developed, the Group 2 data system also should be linked to Department of Public Health death records at least annually, and ideally, more frequently.
15. If the implementation of a comprehensive data system will take substantial time, the Task Force recommends that the DMH implement an interim system that collects the minimum information necessary for evaluating mortality data. This information is listed below.
 - A. A unique patient/client identifier
 - B. Date of Birth
 - C. Gender
 - D. Race
 - E. Legal Status
 - F. Locations (both Programs and Areas) and Dates of All Treatment Episodes
 - G. Diagnosis

The Issue of Preventable and Postponable Death

The Task Force made the recommendations listed below as measures to reduce client excess mortality. The Task Force recognized that this list is only a starting point and that other measures will be necessary.

16. In order to improve the medical care for DMH clients, a serious workup for medical illness should be mandatory for all DMH clients (Winokur and Black, 1987; Farmer, 1987). If medical conditions are present, referrals to appropriate medical caregivers should be made. DMH caregivers should follow-up on these referrals to increase the probabilities that they will be completed. DMH caregivers should also attend to issues of medication compliance for physical illnesses.
17. Care givers should be rigorous in looking for the presence of alcoholism and drug abuse in DMH clients and take active steps to help clients recover from addiction. (Martin, et. al., 1985)
18. Case managers should be specifically trained to recognize and respond to their clients' physical health care needs. (Farmer, 1987)
19. Care givers should be particularly cognizant of physical health problems associated with psychotropic medication and should educate clients to these side effects.
20. DMH should take a proactive stance in educating and promoting positive health practices. (Segal and Kotler, 1991; Farmer, 1987)
21. DMH providers should encourage reduction in smoking in an educational format which is appropriate to the client. (Farmer, 1987; Hughes & Frances, 1995)
22. The Department of Mental Health currently has no policy with regard to Do Not Resuscitate (DNR) orders for DMH clients in community facilities to which DMH refers clients. The Department should develop a policy or standard protocol to ensure that the rights of the clients are protected with regard to DNR orders.

The Process of Investigating Deaths

In summary, the subcommittee and Task Force recommends that the **purpose** of investigations should be:

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- 23. To arrive at an accurate, objective statements of what happened to the client.
- 24. To identify and answer important questions for family members, significant others, and other agencies.
- 25. To provide important information to DMH for improving the quality of services offered.
- 26. Within the framework of clients rights to privacy and confidentiality, to make information available to the families and significant others of the deceased person.

With respect to the **independence** of investigations, the subcommittee and Task Force recommends that the DMH establish an organizational unit to investigate deaths that:

- 27. Is responsible only to the Commissioner, and to no one else in the Department.
- 28. Has adequate resources, both human and monetary.
- 29. Maintains oversight over all investigations.
- 30. Provides regular and timely progress reports tot he Commissioner.

With respect to the **process** of investigations, the subcommittee and Task Force recommends that the DMH:

- 31. Develop a set of standards specifically for investigations of deaths (as opposed to other complaints), specifying which types of deaths should be investigated.
- 32. Revise regulations so that they contain realistic timelines for the investigative process.
- 33. Monitor investigations to insure that they are completed in a timely manner.
- 34. Specify that extensions should only be granted by the Commissioner when absolutely necessary. No “indefinite extensions” should be granted. Specifics of the extensions must be included in the report.
- 35. Maintain control over all investigations and include this authority in its contracts with other providers.
- 36. Provide investigators with training in which they learn the protocol for writing a final report.
- 37. Train investigators to interview consumers and family members and incorporate these stakeholder perspectives in their reports.
- 38. Have an “effectiveness review” of each report. The goal of this should be to analyze the quality of the report and to determine if findings were used to improve services.

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APPENDIX A

Timeline of Events Effecting the Public Mental Health System (1990-95)

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Quarter	Date	Event	Approximate date of impact	Source
	FY 88-91	Budget Crisis, 55 Million dollars pulled out of DMH budget		DMH Personnel
	Fall 1990	Four Western Massachusetts Areas (Berkshire, Springfield/Westfield, Holyoke/Chicopee, Franklin/Hampshire) collapsed into one Central Western Massachusetts Regional Area.		DMH Personnel
1	February 26, 1991	Governor William Weld signed Executive Order 301, which established the Governor's Special Commission on Consolidation of Health and Human Services Institutional Facilities	February, 1991	DMH Personnel
2	June, 1991	Eileen Elias was appointed commissioner of the Department of Mental Health	June, 1991	DMH Personnel
2	June 19, 1991	The Commission submitted its recommendations to the Governor for approval, at which point the systematic reorganization commenced.		DMH Personnel
3	July, 1991	The Department established its 90 day discharge follow-up process	?	DMH Materials
5	January, 1992	Managed Mental Health care began in Massachusetts	January, 1992	Evaluation of the Massachusetts Medicaid Mental Health/Substance Abuse Program, 1994
5	January, 1992	Metropolitan State Hospital Closed	January, 1992	DMH Materials
5	1992	Development of Standards for Services; part of Total Quality Improvement Initiative	1993	DMH Personnel

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Quarter	Date	Event	Approximate date of impact	Source
6	June, 1992	Danvers State Hospital Closed		DMH Materials
7	September 30, 1992	The Gaebler's Children Center Closed	?	DMH Personnel
7	July, 1992	MHMA began managing services	July, 1992	Evaluation of the Massachusetts Medicaid Mental Health/Substance Abuse Program, 1994
8	October 1, 1992	Change in Client Death Reporting	October 1, 1991	DMH Personnel
8	Fall, 1992	Change in Regulations surrounding investigations procedures.	?	DMH Personnel
11	August, 1993	Northhampton State Hospital Closed	August, 1993	DMH Materials
	1994	Pacheco Bill was passed. This was an anti-privatization bill.	?	MAMH Personnel
	1994	CCSSs (Comprehensive Community Support Systems) developed in 33 natural geographic areas.	?	DMH Materials
	1995	Updating DMH data-base		
	1995	Change in investigation policy. Only those at the central office can be in charge of investigations	Expected to be completed by the end of October, 1995	DMH Personnel
	1995	The Department is continuing the restructuring of service delivery system in the Metro Boston Area in an effort to reduce a 7.7 million dollar budget deficit.	?	DMH Materials

APPENDIX B

Task Force Voting Members, Technical Consultants and
Technical Assistants

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APPENDIX C

Age Category by Year of Death (1991-1993)

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Table 7 Age Category by Year of Death

	Year of Death			
Age category	1991	1992	1993	Row Total
13 - 22	6	8	9	23
	6.5	8.3	8.2	2.5%
	2.3%	2.4%	2.7%	
23 - 30	32	17	23	72
	20.5	25.9	25.6	7.8%
	12.2%	5.1%	7.0%	
31 - 64	144	193	190	527
	150.0	189.4	187.6	57.0%
	54.8%	58.1%	57.8%	
65+	81	114	107	302
	86.0	108.5	107.5	32.7%
	30.8%	34.3%	32.5	
Column Total	263	332	329	924
	28.5%	35.9	35.6%	100%

p < .094

APPENDIX D

Response to the Task Force Report by the
Commissioner of the Department of Mental Health

Report on Massachusetts Department of Mental Health
Service Recipient Mortality (1991-1993)

Appendix

Eileen Elias, Commissioner, DMH

I accept the comprehensive, wide-ranging report of The Critical Incident Reporting Task Force on mortality among Department of Mental Health consumers. I enthusiastically embrace the majority of the findings, thank the task force members and The Evaluation Center@HSRI staff for taking on the project and for the many hours devoted to it, and applaud the Center for Mental Health Services for funding the independent epidemiological study that will undoubtedly serve as a model for other states.

Although there were news reports based on raw data that deaths and suicides rose between 1991 - 1993 and beyond, the bottom line is that the task force reported a decrease for the three years studied based on a statistical comparison to the mortality research database compiled by Dr. Bruce Dembling. The findings show that comparing three DMH databases to the Department of Public Health (DPH) statistics for the same period produce quarterly decline estimates of 2.8% for deaths due to natural causes, 7.1% for medicolegal deaths and 4.6% for suicides. The analysis does not support the published claim that deaths increased, but rather finds the opposite trend.

Since the task force has afforded DMH the opportunity to reply to points raised in the study, I offer the following in response to some of the findings:

Standardized Mortality Ratio

- Dr. Dembling's analysis for Massachusetts for the period 7/91-12/93 identified 840 observed deaths while only 575 were expected, yielding a Standardized Mortality Ratio (SMR) of 1.46. The increase in the mortality rate over the expected rate is noted as "well within the range reported in other studies" — 1.74 - 2.85 The Massachusetts rate of 1.46 is actually substantially lower than the data reported from the other studies rather than within the range cited.

Group 1 Client Deaths

- It was not unexpected that the task force found a higher number of deaths among people with mental illness in the DPH statistical comparison since the Department's protocol between 1991 - 1992 sought information on any person who had received specific services within the past six months. The revised protocol of September 30, 1992, shows an expansion of reporting requirements for deaths of DMH consumers and more clearly specifies how and when reports are to be filed with the Office of Internal Affairs (OIA). As a result, Area Directors are expected to report all deaths, regardless of the date of last contact with the Department. Having said this, I note that the task force does not state that Internal Affairs should have received all of the data. It is extremely difficult to track deaths of individuals who are not active DMH consumers or live out-of-state. Rather, the task force appropriately recommends that the most accurate way to get the information is to use the DPH database. During this year, information from DPH will be integrated with the DMH Data Warehouse, which was implemented last June, and blends statistics from three separate legacy data systems.

Improving the Data Systems

- DMH is in the process of resolving the ambiguity of who is in the DMH consumer population by nearing a date to sign a contract to install a computerized Registration and Enrollment System (RES). It will capture statistical information on people with severe mental illness and emotional disturbance who receive outpatient psychotherapy, emergency services or participate in day treatment or clubhouse programs in addition to those who are case managed, in inpatient settings and/or residential programs. RES will achieve the desired results and remedy the main shortcoming in our data gathering. In addition, a Consumer Accounting and Billing System (CABS), which is also being

developed, will track services and statistics for fiscal purposes. RES and CABS will be linked for management reporting purposes.

- The DMH Eligibility Pilot Project, under way at seven sites across the states, will enable the Department to develop a uniform set of standards and procedures when determining who is eligible to receive continuing care services. After the project is completed on February 23, 1996, and evaluated, the Department will adopt uniform statewide eligibility standards and procedures.
- The Office of Internal Affairs database is being enhanced. One feature will permit the entry and tracking of corrective actions for all complaints. In addition, several other features which will be provided in the enhancement project, which has been under way since February 1995, address concerns of the Task Force. One of the central reasons for starting the project was to allow Internal Affairs to access data maintained by Advanced Information and Technology (AIT), such as the registries referred to in the task force report. This will allow any statistical reports issued by Internal Affairs to contain comparison and contextual information that will allow, among other things, for trend analysis.
- The recommendation that separate fields be added for such data as service type or involvement has been addressed by AI and Internal Affairs and will be a feature of the enhanced database. A field to reflect the state where a client died also will be added. Numeric codes for all data fields will be assigned by the computer system in accordance with another of the task force's recommendations. The data entry operator will enter abbreviations that can be assigned numeric codes to allow for more accurate and efficient analysis
- Direct entry of complaint data into the database by Area offices also is on the horizon. This will allow for rapid entry of up-to-date data, rather than the current practice of Area offices forwarding to Internal Affairs, often some time after the actions recorded have occurred, photocopies of public logs and complaint related documents for entry by Internal Affairs staff. Monitoring of regulatory timelines will then be done in the Area level and by the Office of Internal Affairs.

Medical Needs

- DMH has established the position of Area Medical Director to provide clinical and medical oversight at the local level to all programs operated or funded by the Department of Mental Health.
- The Department and the Division of Medical Assistance (DMA) have entered into an agreement to provide a single, integrated system of publicly funded mental health services that coordinates and streamlines the care provided to the neediest citizens of the Commonwealth, including those with severe mental illness. Recognizing that an individual with mental illness also has physical health needs, DMH and DMA have established standards to require communication, coordination, and referral between mental health providers, including DMH case managers, and physicians participating in DMA's primary care clinician program. These standards are incorporated into the Interservice Agency Agreement between DMA and DMA and were included in the RFP that was issued by DMA in October for its Mental Health/Substance Abuse program.
- All community program operated or funded by DMH must comply with Department regulation 104 CMR 15 03(6)(b)2. This regulation requires that all consumers on psychotropic medications have

annual physical examinations. Results must be reviewed by physicians prescribing the psychotropic medications. Compliance with this regulation in DMH operated or funded residential programs is assessed by the Department's licensing staffing when conducting licensing surveys of residential programs.

- Incorporated in FY'96 residential contracts were a comprehensive set of program standards that govern the operation of all DMH operated and funded community residential programs. These standards require that a comprehensive assessment be completed for each consumer upon admission to a residence. The provider is mandated to obtain comprehensive information on each consumer's health status, including results of physical and dental examinations and other evaluations, as appropriate, of the consumer's medical condition. The assessment also must evaluate the level of assistance needed by the consumer to manage health and medication issues. These residential standards also require that an assessment of each consumer's medical and dental status be conducted annually. All areas, including physical health needs, must be addressed in a consumer's treatment plan. DMH also conducts yearly comprehensive record reviews of each residential program to ensure compliance with its residential standards. If deficiencies are identified, the provider is required to submit a corrective action plan to DMH.
- In the spring of 1994, DMH instituted a Medication Administration Certification program for all individuals working in DMH operated or funded residential programs. Individuals receive 16 hours of training. The training curriculum is not limited to psychotropic medications and addresses the side effects associated with all medications including over-the-counter medications. A comprehensive examination is administered at the conclusion of the 16 hours of training. More than 2,000 residential house staff have been trained to-date.

The Process of Investigating Deaths

- Governor Weld's plan to restructure state government calls for all support services, including investigative, to be managed centrally under the Secretariat of Family Services.
- The task force noted several concerns regarding the investigations of deaths. However, it is not clear whether the task force confined its examination of the investigation process and individual investigations to the same 1991-1993 timeframe used in its examination of DMH client deaths. The purpose of the investigations is to arrive at an objective, accurate assessment of what occurred. The investigation is followed by a Decision Letter that contains directives for corrective actions based upon the findings in the investigation report. These corrective actions range from discipline of staff, provision of training, development of policies and practices, and provision of services to consumers. The Decision Letter is the vehicle by which need identified in the investigation reports are implemented. A review of 90 completed death investigation reports shows the following corrective action resulting from the investigations: disciplinary action in 6 cases; provision of training in 13 cases; policy development, review or change in 38 cases; treatment plan review in 12 cases. Policies are currently being developed to establish a wider audience within DMH to receive investigation reports and to review Decision Letters.
- Another policy development calls for the review of completed investigations of client deaths and corresponding Decision Letters by, among others, the Critical Incidents Committee. The committee is made up of clinicians, human rights, legal and Internal Affairs. It reviews client deaths and recommends specific areas and topics to be addressed by the investigator.

- Investigators currently try to interview family members who may have information regarding the investigation. Internal Affairs will incorporate the task force suggestion that family members should be included in all investigations, allowing investigators spoken to determine their concerns and to keep them in mind during the fact gathering phase.
- DMH has made a substantial commitment to its investigation process. At the end of 1994, there were eight authorized, full time investigators within the Office of Internal Affairs supplemented by adjunct staff in the seven Areas. The investigators usually handled the most serious complaints. Recognizing that a centrally managed group of professional investigators, whose responsibilities were solely to conduct investigations, would lend professionalism and efficiency to the investigations process, DMH made a commitment last year to significantly expand the investigative staff of the Office of Internal Affairs. By the end of the year, 22 staff had to be added. The Office of Internal Affairs now has 8 investigations managers and 22 staff investigators in eight offices who are responsible for conducting all 104 CMR 24.00 investigations and all investigations referred to DMH by the Disabled Persons Protection Commission (DPPC).
- The Office of Internal Affairs is developing formal standards for conducting death investigations. The Critical Incidents Committee currently reviews all reports of client deaths and recommends which cases, other than medicolegal deaths, should be investigated. The Committee also establishes areas of inquiry to be addressed by the investigator in these cases. This has resulted in standard areas of inquiry to be examined in each type of death.
- DMH regulations require investigations into all medicolegal deaths — those deaths occurring under unusual circumstances where a medical examiner takes jurisdiction. Cases also are often assigned for investigation where a report of a client death or follow-up information raises concerns whether appropriate services were provided. This has resulted in the following number of deaths being assigned for investigation per year, out of the total number of deaths reported to Internal Affairs in each of those years: 1990 - of 132 deaths reported, 46 were assigned for investigation; 1991 - of 147 deaths reported, 56 were assigned for investigation; 1992 - of 193 deaths reported, 84 were assigned for investigation; 1993 - of 202 deaths reported, 75 were assigned for investigation; 1994 - of 236 deaths reported, 85 were assigned for investigation. The task force's recommendation that further definition be developed on which deaths should be investigated will be undertaken.
- In addition to ongoing training received by Internal Affairs staff in prior years, training in 199 was extensive. All persons serving as investigations managers attended a five-day management skills course. All Internal Affairs investigative staff, including those hired late in the year, attended a two-day writing skills training program. Those hired late in the year also attended a training/orientation program at DMH, receiving training in, among other topics: mental health diagnoses; sexual abuse; human rights; child and adolescent services; licensing conducting DPPC investigations. A training program on investigation techniques is planned for early this year.

Again, thanks to all concerned for this comprehensive analysis and for recommendations that will enable the Department to improve systems in place and to continue to develop better methods of analyzing data in the time ahead.

