METHODS AND STANDARDS FOR SETTING PAYMENT RATES
FINGER LAKES AREA HOSPITALS
BACKGROUND

The Finger Lakes Hospital Experimental Payment Program (FLHEP) was implemented as of January 1, 1981 as a Medicare and Medicaid demonstration system under the authority of sections 402 and/or 222 of the Social Security Amendments of 1967 and 1972, respectively. This program continued until December, 1986. From January 1, 1987 to December 31, 1994, the Finger Lakes Area Hospitals' Corporation (FLAHC) had received approval from the Federal Health Care Financing Administration (HCFA) for a waiver of Medicare reimbursement principles, to permit the continuation of the Finger Lakes Hospital Experimental Payment Program system under the authority of section 1886(c) of the Social Security Act, as amended. Section 1886(c) requires that the State hospital reimbursement control system for which a Medicare waiver is granted also apply to Medicaid revenues and expenses. Hence, in 1987, FLHEP was continued as a cost control system under section 1886(c) (known as FLHEP-2) rather than as a demonstration system. FLHEP was also continued for the 1988-1990 periods as FLHEP-3, and for the 1991-1993 periods (as FLHEP-4). FLHEP will continue as a cost control system under section 1886(c) for the period January 1, 1994 through June 30, 1996 as FLHEP-4E and for the period July 1, 1996 through December 31, 1996 as FLHEP-4EE. For 1995 and 1996, FLAHC member hospitals will no longer be covered under a waiver of section 1886(c) of the Social Security act. Beginning in 1995 member hospitals will be reimbursed for Medicare patients in the same manner as other hospitals in New York State. Medicaid and Blue Cross continue to be participating payers in the FLHEP system. The hospitals participating in this program are F.F. Thompson, Geneva General, Myers Community, Newark-Wayne Community and Soldiers and Sailors.

SYSTEM OVERVIEW

For the period January 1, 1996 through December 31, 1996 all FLHEP hospitals will continue to participate in a total revenue system, with the revenue allocated among Medicare and non-Medicare payers using standard Medicare apportionment techniques. Inpatient reimbursement for all major third-party payers (Medicaid, Blue Cross) will be through a DRG-based case payment methodology similar to the case payment methodology followed by New York State for its non-Medicare inpatients. The case payment rates for the participating hospitals will be based on their historical payment base (1987 costs trended forward and adjusted). The design of FLHEP-4E and FLHEP-4EE includes continuation of the demonstration for the use of a severity measure that was started under the FLHEP-3 contract. Medicaid funds will be used to fund inpatient services only. The severity study will be funded from a statewide pool in which there is no federal financial participation.
This plan covers the third year extension of the FLHEP-4 contract which runs through December 31, 1996. Extending this agreement will continue all existing FLHEP programs while providing the Finger Lakes Corporation sufficient time to transition to a modified reimbursement system.

The FLHEP-4E and 4 contracts, like the previous FLHEP contracts, are based on the concept of regional cooperation in the planning and delivery of services in the most cost effective manner possible. To that end, the participating hospitals shall engage in cooperative community service planning to ensure that changes in services or facilities continue to conform to this concept of cost effective delivery and organization of care in the area.

To calculate the rates, FLHEP-2 1987 hospital costs are aggregated and allocated to each member hospital using the following percentages:

- FF Thompson Hospital: 22.8119%
- Geneva General Hospital: 32.1315%
- Myers Community Hospital: 11.1376%
- Newark-Wayne Community Hospital: 24.4871%
- Soldiers and Sailors Memorial Hospital: 9.4318%

This cost, also known as the gross aggregate dollar amount, is the basis for the FLHEP-4E and 4EE rate calculations. The following amounts are subtracted from each hospital's gross aggregate dollar amount: The cost of actual 1987 capital, physician coverage, and the amount included for medical education. The 1987 reimbursable operating costs are increased by a factor of .5% to provide funding for advances in medical technology, and by the 1987 through 1996 trend factor to reflect inflation, and then apportioned to inpatient and outpatient services, acute units, Medicare, and non-Medicare, using 1987 FLHEP-2 final settlement data.

The trend factors are calculated, using the Panel of Health Economists’ methodology, for various groups of hospitals depending on their geographic location (upstate, downstate), urban or rural setting, and size (as measured by the number of patient days during a calendar year). This methodology is detailed in section 86-1.58 of attachment 4.19-A, Part I of the Plan. The FLHEP hospitals fall into three categories:

1. Upstate urban, less than 30,000 patient days
2. Upstate urban, greater than 30,000 patient days
3. Upstate rural, less than 15,000 patient days

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The values of the trend factors for 1996 for these three categories are provided below:

<table>
<thead>
<tr>
<th>Category</th>
<th>1996 (Initial)</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>2.80</td>
</tr>
<tr>
<td>2</td>
<td>2.81</td>
</tr>
<tr>
<td>3</td>
<td>2.80</td>
</tr>
</tbody>
</table>

The initial trend factors are calculated using the latest data available; these values are subject to change as more current data become available. Consequently, the interim trend factors are adjusted up or down and these revised trend factors are then used to make prospective payment rate adjustments.

The inpatient acute, non-exempt, non-Medicare portion of each hospital’s 1996 reimbursable operating costs are converted to an inpatient case payment rate for each hospital which is uniform for all of the non-Medicare payers. Each hospital’s 1996 hospital specific case payment rate is blended with a group rate calculated in accordance with the State specified methodology, as detailed in section 86-1.53 of Attachment 4.19A, Part I of the Plan except that rural hospitals have the option of choosing a rate which is entirely the hospital specific rate. Each hospital’s blended 1996 case payment rate will consist of two components. Forty five percent of the rate will be hospital specific case payment rate and the remaining 55% will be the group average case payment rate. Hospitals will be grouped under the methodology described in section 86-1.54 of attachment 4.19A, Part I of the Plan.

Each hospital also receives an add-on for pass-through costs which reflect (1) the hospital’s actual cost for capital; (2) the 1979 physician coverage costs trended forward in accordance with section 86-1.58 of attachment 4.19A, Part I of the Plan and adjusted for changes in physician billing practice; and (3) the amount included in the regional aggregate dollar amount in 1987 for Medical Education trended in accordance with section 86-1.58 of attachment 4.19A, Part I of the Plan.

Each hospital is paid for each inpatient discharge, which is not an outlier or exempt as defined below, on or after January 1, 1996 the hospital’s blended non-Medicare case payment rate, adjusted by the Service Intensity Weight related to the discharge, plus the medical education, the physician coverage and the capital add-ons.
The hospitals shall be paid for Exempt Unit Services by the payers on the same methodology and cost base as such units are paid in other hospitals in New York State. This methodology is detailed in section 86-1.57 of Attachment 4.19-A, Part I of the Plan.

Alternate Level of Care ("ALC") reimbursement is paid according to the New York State reimbursement methodology described in section 86-156 of Attachment 4.19-A, Part I of the Plan. The rate will be paid at the regional average nursing home per diem rate.

Hospitals transferring patients are paid a per diem rate which is calculated under the methodology detailed in section 86-1.54 of attachment 4.19-A, Part I of the Plan.

Outliers shall be paid in accordance to section 86-1.55 of Attachment 4.19-A, Part I of the Plan.

Future funding of expansion of services or facilities which require State Certificate of Need (CON) approval will occur through an adjustment determined according to State procedure and consistent with methodology described in section 86-1.61 of Attachment 4.19-A, Part I to the adjusted gross aggregate dollar amount for incremental non-volume related operating costs and adjustment to the capital add-ons when such projects are approved and implemented.

The payers participating in the contract have agreed to pay, on final settlement, their respective shares of the amount, if any, needed to assure that the hospitals receive their actual capital, and trended 1987 medical education costs and physician coverage costs.

The Health Department will certify the rates under the FLHEP-4E and 4EE Agreement for Medicaid as the rates for each hospital, contingent upon approval by HCFA of the Title XIX State Plan Amendment providing for reimbursement pursuant to this methodology.

The participating hospitals will each contribute to an administration and research fund which will be used for administrative costs of the program, database development, to support programs designed to increase efficiency, and the severity study. The database will include sufficient data to assign a severity measure to each case, and will allow for a statistical analysis of the changes in severity that occur, and how severity varies across hospitals and over time.

Each hospital is required to purchase or provide through a state pool excess physician malpractice insurance pursuant to New York Law. There is no federal financial participation for these malpractice costs.

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For each year of the FLHEP-4E and 4EE contract the case payment rates are adjusted to include changes to the hospitals’ adjusted gross aggregate dollar amounts for capital and non-volume related costs of approved CON projects and to reflect inflation by means of a trend factor adjustment. The per diems are similarly adjusted. Capital, medical education and physician coverage cost add-ons are adjusted to reflect actual and trended 1987 costs and payments, respectively.

Adjusting the Case Mix Penalty for Severity Increase

The purpose of this material is to describe the method of calculating the increase in severity of illness using the SysteMetrics Staging Measure, and then applying that increase as an offset against the creep component of the case mix penalty which is detailed in section 86-1.61 and 86-1.75 of Attachment 4.19A, Part I of the Plan. This offset began to be applied within the FLHEP-3 contract starting in 1989. The base year for the measurement of severity is 1987, the same base year as was used for the rate calculations in the FLHEP-3 contract.

The Finger Lakes area hospitals are currently being paid on the basis of the DRG assigned to each patient. The disease staging (Q scale) software program produces two outputs on severity; one written DRG and another relating to overall severity. The severity measure will be used as an offset to the case mix penalty which is applied if the criteria stipulated in section 86-175 of attachment 4.19A, Part I of the Plan are met.

The offset shall only be applied if the severity increase is positive, and the offset shall not exceed the amount of the creep component of the case mix penalty calculated by OHSM, i.e., the offset shall not turn the creep component of the case mix penalty to a positive adjustment.

Calculation of the Severity Increase

The change in severity is calculated for each FLAHC hospital from 1987 to the rate year (1989 and subsequent years). The methodology used to calculate this severity increase is described in the following paragraph.

Calculate the average aggregate severity of all the non-Medicare cases in the base year and in the rate year, T(b) and T(r) respectively. Calculate the average DRG weight for these cases, W(b) and W(r). The average severity in the base year is then T(b)/W(b)=S(b) and the average severity in the rate year is T(r)/W(r)=S(r). Then the percentage increase in severity is

\[100 \times (S(r)/S(b) - 1)\].
If this increase in severity is positive, then it shall be used as an offset to the creep component of the case mix penalty to be applied for the year. If the creep component of the case mix penalty calculated by OHSM is \( P \) (as a percentage), and the percentage increase in severity is \( Q \), then the case mix penalty shall be reduced to \( P - Q \), but not to less than zero.

An example of the severity offsets calculation is illustrated in Attachment A. This reduction shall be applied to the case mix penalty for 1989 and for subsequent years of the FLHEP.
Amendment providing for reimbursement pursuant to this methodology.

The participating hospitals will each contribute to an administration and research fund which will be used for administrative costs of the program, data base development, to support programs designed to increase efficiency, and the severity study. The data base will include sufficient data to assign a severity measure to each case, and will allow for a statistical analysis of the changes in severity that occur, and how severity varies across hospitals and over time.

For each year of the FLHEP-4 contract after 1991, the case payment rates are adjusted to include changes to the hospitals’ adjusted gross aggregate dollar amounts for capital and non-volume related costs of approved CON projects and to reflect inflation by means of trend factor adjustment. The per diems are similarly adjusted. Capital, medical education and physician coverage cost add-ons are adjusted to reflect actual and trended 1987 costs and payments, respectively.

The term of the FLHEP-4 Agreement is January 1, 1991 through December 31, 1993. The term of the FLHEP-4E Agreement will be January 1 through December 31, 1994.
Severity Adjustment Measurement System

The Medicare program, New York State and other states and payors, have been using the Diagnosis Related Groups (DRGs) for payment purposes. While the DRGs are reasonably homogeneous in regard to resource use, they are far from ideal, and they may not take adequate account of the severity of illness of patients. A number of adjustments have been included in payment systems to partly remedy this problem. For example, the indirect medical education adjustment in the Medicare Prospective Payment System, and the disproportionate share adjustment, are added partly to deal with this problem. A better way to deal with the problem may be to measure severity of illness within the DRG and adjust for it directly. The purpose of the severity study that is being undertaken by FLAHC is to incorporate a severity measure to obtain a better understanding of the operation of the health care system, e.g., are patients who are travelling to obtain services in urban hospitals doing so because they are more severely ill or for some other reason?

This study will be funded through hospital payments made to a Statewide Pool for which there is no federal financial participation. Medicaid moneys will be sued to pay for inpatient hospital services.

The purpose of this demonstration is to develop a payment
system which incorporates a measure of the severity of illness of the patient into the
determination of the appropriate payment rate, to show that it is feasible to implement such a
system in a group of rural hospitals, and to carry out some research on the variation in severity
over time, across payor classes, across hospitals, and between cases treated in the area and
cases treated outside of the area.

After considerable discussion, review of the literature, and presentations from several of
the severity system vendors, Disease Staging (Q-scale), which is distributed by SysteMetrics,
was chosen to support the development of the severity adjustment payment system. The
FLAHC hospitals are currently being paid on the basis of the DRG assigned to each patient. The
Disease Staging software program produces two outputs on severity level—one within the DRG
and one overall—which could be useful in refining the DRGs in a payment demonstration. After
discussions with the Office of Health Systems Management, it was decided that the severity
measure would not be used to adjust payment rates directly, but would be used as an offset to
the case mix limit that is applied if the case mix of the hospital and the State as a whole
increase above certain thresholds. The case mix limit for 1989 and subsequent years is to be
offset by an increase in case mix severity within the hospitals participating in the
demonstration.
Adjusting the Case Mix Penalty for Severity Increase

The purpose of this material is to describe the method of calculating the increase in severity of illness using the SysteMetrics Staging Measure, and then applying that increase as an offset against the creep component of the case mix penalty applied under the FLHEP contract. This offset began to be applied within the FLHEP-3 contract starting in 1989. The base year for the measurement of severity is 1987, the same base year as was used for the rate calculations in the FLHEP-3 contract.

The offset shall only be applied if the severity increase is positive, and the offset shall not exceed the amount of the creep component of the case mix penalty calculated by OHSM, i.e., the offset shall not turn the creep component of the case mix penalty to a positive adjustment.

Calculation of the Severity Increase

The change in severity is calculated for each FLAHC hospital from 1987 to the rate year (1989 and subsequent years). There are two ways in which the increase in severity can be calculated:

1. Calculate the average within DRG severity for the base year (1987) and for the rate year (1989 or a subsequent year). This is the weighted average severity per case, with the
weighing being the DRG weight for the case.

\[
\frac{\sum (s(i) \times w(i))}{\sum w(i)} = S
\]

Where \(s(i)\) is the DRG severity of case \(i\), \(w(i)\) is the DRG weight of case \(i\), and the sum is taken over all non-Medicare cases \(i\).

Let \(S(b)\) be the severity in the base year, and \(S(r)\) be the severity in the rate year. Then the percentage increase in severity is \(100 \times \left( \frac{S(r)}{S(b)} - 1 \right)\).

2. Calculate the average aggregate severity of all the non-Medicare cases in the base year and in the rate year, \(T(b)\) and \(T(r)\) respectively. Calculate the average DRG weight for these cases, \(W(b)\) and \(W(r)\). The average severity in the base year is then \(T(b)/W(b) = S(b)\) and the average severity in the rate year is \(T(r)/W(r) = S(r)\). Then the percentage increase in severity is:

\[
100 \times \left( \frac{S(r)}{S(b)} - 1 \right)
\]

Method 2 is the more precise, therefore it is the one that should be offset against the case mix penalty.
If this increase in severity is positive then it shall be used as an offset to the creep component of the case mix penalty to be applied for the year. If the creep component of the case mix penalty calculated by OHSM is $P$ (as a percentage), and the percentage increase in severity is $Q$, then the case mix penalty shall be reduced to $P - Q$, but not to less than zero.

This reduction shall be applied to the case mix penalty for 1989 and for subsequent years of the FLHEP.

Future analyses are planned to determine how severity changes over time within individual hospitals, how stable the measures of severity are, whether the patients who are migrating to urban providers are doing so because they are more severely ill, and other studies that will enable the hospitals to obtain a better understanding of the needs of their patients. For example, a study may be performed to determine whether patients are being admitted to a hospital at an appropriate point in the course of their illness. Admission at too early as stage when treatment could equally well be performed on an ambulatory basis could indicate inappropriate resource use, while admission at too late a stage may result in higher resource use because the patients are more severely ill than they would be if they had been admitted at an earlier stage. The hospitals may also start to use the severity system to augment their utilization review function within the hospital.
The following are the major components of the trend factor methodology as adopted by the Panel of Health Economists.

**Projection Methodologies**

**Salaries.** In order to quantify the salary price movement component of the trend factor, four national salary proxies are used, adjusted by a Regional Adjustment Factor (RAF). The four salary proxies are the Collective Bargaining Agreements (Nonmanufacturing), Employment Cost Index – Private Industry Workers, Employment Cost Index – Managers and Administrators, and Employment Cost Index – Professional and Technical Workers. There four proxies are weighted to produce a composite salary price movement. (Separate weightings are used for teaching and non-teaching hospitals and the Health and Hospitals Corporation.) In calculating the initial trend factors for a given year, a projection methodology for salary price movements is used. The projections are based on the compounding of quarterly increases in the salary proxies for the four latest available quarters of data. The final trend factor calculations are based on actual proxy data for the trend factor year compared to the preceding year.

**Fringe Benefits.** The trend factor methodology uses a Total Compensation Factor (TCF) that measures the relationship between increases in total compensation (i.e. salaries and fringe benefits) and increases in salaries. This factor is then applied to the composite salary price movement to yield a total compensation price movement, hence reflecting the fringe benefits. Two national proxies are used to determine the total compensation factor: Employment Cost Index – Total Compensation – Private Industry workers, divided by Employment Cost Index – Wages and Salaries – Private Industry Workers. In calculating the initial trend factors for a given year, the TCF is projected based on the latest four quarters data on these two proxies. For the final trend factor calculation, actual data are used.

**Labor.** The labor portion of the trend factor refers to the combined salary and fringe benefits components. Hence, the labor price movement is the salary price movement, adjusted by the Total Compensation Factor (TCF) and by the Regional Adjustment Factor (RAF).

**Non-labor.** A number of different proxies are used to measure price movements in non-labor related expenses incurred by hospitals. In calculating the initial trend factors, an estimate of the non-labor component of the trend factor is made by using the projected Gross National Product Implicit Price Deflator as published by the American Statistical Association and National Bureau of Economic Research, Business Outlook Survey. The final trend factor calculations are made using the actual changes in the non-labor proxies.
Additional Disproportionate Share Payment

The State’s methodology used to take into account the situation of disproportionate share hospitals also includes additional payments to meet the needs of those facilities which serve a large number of Medicaid eligible, low income and uninsured patients, including those eligible for Home Relief, who other providers view as financially undesirable. These payments are available to hospitals on behalf of certain low-income persons who are described below and are made in addition to, and not as a substitute for, the disproportionate share payment described in sections 86-1.65, 86-1.74 and 86-1.84 of Part I. However, the calculations of hospital’s bad debt and charity care experience used to determine the disproportionate share payments made under sections 86-1.65, 86-1.74 and 86-1.84 of Part I does not include the costs of services to any person for whom an additional disproportionate share payment has been made under this section.

These additional payment adjustments are made either by the Department or through an intermediary to disproportionate share hospitals which have provided services to persons determined to be low-income by reason of their having met the income and resource standards for the State’s Home Relief program. These persons must have demonstrated to a local social services district or the Department that their household income and resources do not exceed the income and resources standard established by the Department, which standards vary by household size and take into account the household’s regularly recurring monthly needs, shelter, fuel for heating, home energy needs, supplemental home energy needs and other relevant factors affecting household needs.

Each hospital, or an intermediary making a payment to a hospital, will determine which patients qualify as low-income persons eligible for additional payments by a verifiable process subject to the above eligibility conditions. Each hospital must maintain documentation of the patient’s eligibility for additional payments and must document the amounts claimed for additional payments. The supporting documentation must include written verification from a local social services district or the Department attesting to the person’s eligibility for Home Relief. Such supporting documentation may be in the form of a photocopy of the person’s current valid official benefits card or a copy of an eligibility verification confirmation received from the Department’s Electronic Medicaid Eligibility Verification System (EMEV5), which system includes information with respect to persons eligible for Home Relief and additional payments, or other verifiable documentation acceptable to the Department which establishes that the person has met the income and resource standards for Home Relief on the date the services were provided.
A “disproportionate share hospital” for purposes of receiving additional disproportionate share payments under this provision is any hospital which furnishes medical or remedial care to a qualified low-income person without expectation of payment from the person due to the patient’s inability to pay as documented by his or her having met the income and resource standards for Home Relief benefits as set forth above, and meets the requirements of State Plan Amendment 94-26. In addition, a “disproportionate share hospital” (except hospitals serving an in-patient population predominantly comprised of persons under 18 years of age and hospitals which did not offer non-emergency obstetrical care on or before December 21, 1987) must have at least two obstetricians with staff privileges who have agreed to provide obstetrical care and services to Medicaid-eligible patients on a non-emergency basis.

The amount of this disproportionate share adjustment will vary by hospital and reflect the dollar amount of payments either from the State directly, or through an intermediary, to the hospital for services provided to low income patients. For each hospital such adjustments shall be paid in the normal Medicaid payment process, or intermediary payment process, and according to established rates or fees, for fee-for-service program services or by the intermediary for its services. To receive payment of this adjustment each hospital must submit a claim in the form and manner specified by this Department, or the intermediary, as appropriate.

Disproportionate share payments under this plan cannot exceed the State disproportionate share allotment calculated in accordance with the provision of the Medicaid Voluntary Contribution and Provider Specific Tax Amendments of 1991 (P.L. 102-234), as set forth at 42 CFR Sections 447.296 through 447.299, and cannot exceed the facility specific disproportionate share payment limits required by the Omnibus Budget Reconciliation Act of 1993.
Examples of the Application of the Severity Offset to the Case Mix Penalty

The FLHEP-4E and 4EE contracts specify that any increase in severity, on an individual hospital basis, will be offset against the creep component in the case mix penalty.

Suppose that the case mix penalty for a given FLAHC hospital for 1992 was 2%. Once the severity data for 1992 has been analyzed, the increase in severity from 1987 to 1992 will be used to reduce this case mix penalty. Three different examples are described below to illustrate the three situations which can arise in the relationship between the case mix penalty and the change in severity.

1. Suppose that the severity of illness of the discharges from the hospital increases by 0.5% from 1987 to 1992. Then the case mix penalty will be reduced by the 0.5% to 1.5%:

   \[ 2.0\% - 0.5\% = 1.5\% \]

2. Suppose the severity of illness increases by 3% from 1987 to 1992. Then the case mix penalty will be reduced to 0%, since the increase in severity is far greater than the case mix penalty.

   \[ 2.0\% - 3.0\% = -1.0\% \]

   Since this is negative the case mix penalty is set at zero.

3. Suppose the severity change from 1987 to 1992 is negative. Then there is no adjustment to the case mix penalty.

   \[ 2.0\% - 0\% = 2.0\% \]