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Mitigating Financial Risk with HIV/AIDS Patients

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Overview

This paper identifies strategies that are available to assist purchasers, managed care organizations, and providers in mitigating the financial risk associated with ensuring the appropriate levels of care to patients with HIV/AIDS. The paper focuses on mitigating risk in the context of Medicaid because Medicaid is the largest source of public funding for AIDS care and covers 55% of the adult population and 90% of all children living with AIDS (Health Care Financing Administration, February 2001)¹. In addition, it is estimated that 20% of people with HIV are *already* in the Medicaid system at the time of their diagnosis (Levi, Kates, Neal, and Gallagher, National HIV Prevention Conference, August 2001). Consequently, changes to the Medicaid health care financing and delivery system have a far-reaching effect on how people living with HIV/AIDS (PLWHA) receive medical care. During the 1990s, several changes affected Medicaid and PLWHA including:

Expanding Medicaid enrollment in managed care programs through implementation of waivers – 12.4 million (48%) Medicaid enrollees as of June 2000.

Enrolling an increasingly diverse Medicaid population in managed care programs.

Increasing use of capitation as an alternative payment method in Medicaid managed care programs.

Changing needs in the services required by patients from acute inpatient care to community-based ambulatory care leading to a loss of significant inpatient revenues that historically subsidized the cost of outpatient care.

Declining AIDS related deaths due to advances in treatments such as prophylaxis and highly active antiretroviral therapy (HAART).

Increasing complexities in the clinical management of HIV-infected persons due to the advent of HAART, the need for rigorous adherence, and close monitoring of adverse reactions.

Declining mortality rates combined with a steady rate of new infections resulting in a larger pool of individuals with HIV served by Medicaid (W. Ferguson, Center for Medicare and Medicaid Services (CMS), Office of the Actuary, personal communication, August 22, 2001).

Growing rates of chronic diseases, chemical dependency, and mental illness among persons with HIV resulting in an increased demand for subspecialty and behavioral health services.

Increasing reports of financial problems faced by HIV providers, due to inadequate capitation rates from the Medicaid agency to managed care organizations (MCOs).

Many of the changes listed above have contributed to higher costs associated with caring for PLWHA. Patients are living longer, requiring a broader range of support services, and becoming increasingly more complex to manage due to drug treatments and comorbidities, such as chemical dependency, mental illness, or chronic diseases. These same factors contribute to a higher

¹ On July 1, 2001 the Health Care Financing Administration (HCFA) officially changed its name to the Centers for Medicare and Medicaid Services (CMS).

unpredictability of costs. As guidelines for care change, so do costs. Within a relatively short time frame, the cost of care for PLWHA may change substantially.

Cost of HIV care. There have been numerous studies that have attempted to estimate the cost of care for people living with HIV and AIDS. Many of these can be found in Appendix A. But no matter what the study, it is clear that the cost of caring for people with HIV is very high – especially in comparison to the average payment made by Medicaid for an adult beneficiary, which is \$153/month (\$1,836/year), and the average cost to Medicaid for a disabled beneficiary, which is \$704/month (\$8,448/year) (Kaiser Family Foundation, October 2000). The CMS Office of the Actuary assumes an average annual cost for a person with AIDS on Medicaid of \$33,737, (W. Ferguson, Center for Medicare and Medicaid Services, Office of the Actuary, personal communication, August 22, 2001). This is almost four times the cost of the average disabled beneficiary. The studies in Appendix A, using data from the 1990s, estimate costs ranging from \$12,180 to \$31,308 per year.

As of June 2000, Medicaid beneficiaries were enrolled in 210 commercial MCOs and 127 Medicaid-only MCOs (Health Care Financing Administration, June 2000). Only a limited number of studies compare Medicaid expenditures for beneficiaries with HIV/AIDS in a fee-for-service system versus a managed care system or examine the actual direct cost of care for patients within a managed care system. Additional information about the studies can be found in Appendix B.

Financial risk. With higher costs and more unpredictable costs, the financial risk of caring for PLWHA increases. Financial risk involves uncertainty surrounding revenue and expenses. In a fee-for-service environment, both revenue and expenses are uncertain, while in a capitated environment, only expenses are uncertain. For the purpose of this discussion, financial risk occurs when the cost of providing the appropriate care for PLWHA exceeds the amount of revenue, reimbursement, or capitated payment received. The inability to accurately predict the revenues and the costs associated with caring for a particular group of patients increases financial risk for state Medicaid programs, MCOs, and providers. Increased financial risk may threaten the financial solvency of a Medicaid program or a health care organization.

Caring for people with HIV/AIDS is likely to result in some level of financial risk under different payment methods including fee-for-service reimbursement and capitation. Either the MCO or the provider can be at risk. In the traditional fee-for-service arrangements between state Medicaid programs and providers, fee-for-service reimbursement needs to cover adequately the enhanced services required of people with HIV/AIDS. For example, even a routine office visit with an established patient may require a lengthy discussion about issues involving adherence to drug therapies. Under a prepaid capitated arrangement, either between Medicaid and the MCO or between the MCO and its providers, rates need to be sufficient to cover services specified in the benefits package.

Quality care and financial risk. An area of concern for the Health Resources and Services Administration (HRSA) is the quality of care for PLWHA. Quality care in managed care systems is dependent on appropriate reimbursement, an accessible network of providers who are experienced in HIV care, and a clearly defined set of benefits. Adequate reimbursement ensures that the MCO has

sufficient funds to cover services within the benefit package. Experienced providers with the appropriate training and who treat a high number of patients with HIV/AIDS affect patient survival. Purchasing specifications in contracts between either the state and the MCO or the MCO and the provider can be designed to include a clearly articulated set of benefits.

The Center for Health Services Research and Policy (CHSRP) at the George Washington University (GWU) School of Public Health and Health Services collaborated with HRSA and the Centers for Disease Control and Prevention (CDC) to develop sample purchasing specifications for HIV and Medicaid managed care (CHSRP, 1999). The five critical elements of the purchasing specifications include:

1. Routine screening of patients including medical history
2. Incorporation of prevention case management
3. Adherence to the Department of Health and Human Services clinical practice guidelines such as the antiretroviral (ARV) treatment guidelines²
4. Use of experienced HIV providers
5. Inclusion of Ryan White CARE Act and other safety net providers in the provider network

The purpose of this paper is to examine options available for mitigating the financial risk associated with providing appropriate levels of care for patients living with HIV/AIDS. The intended audience includes state Medicaid programs, MCOs, and providers. Each option for mitigating risk is presented in the same format. First, a definition of the option is provided along with an explanation of how the option is operationalized. Administrative requirements such as data required or information system needs are discussed. The advantages and disadvantages of each option for mitigating risk are presented from the perspective of different stakeholders. Contract language is suggested for including the option in a contract between a purchaser (state Medicaid program) and an MCO. Entities with limited experience in exercising the options to reduce financial risk will find information about implementing various options as well as examples from states that have implemented or tried to implement the various options.

Options for Mitigating Risk

Financial risk is associated with caring for HIV/AIDS patients under both fee-for-service reimbursement and prepaid capitation payment methods. Typically, a state Medicaid program will contract with MCOs under a prepaid capitated arrangement. The providers in an MCO's network may receive either fee-for-service reimbursement or prepaid capitated payment. Ideally, providers should only accept a prepaid capitated rate for those services that the provider can manage or control. Provider participation in a capitated arrangement requires a certain level of organizational maturity on the part of the provider. The provider must have a robust information system and the

² Section 109 Guidelines of the *Sample Purchasing Specifications for Services for HIV Infection and AIDS, and HIV-Related Conditions* includes a full list of the relevant guidelines. The purchasing specifications can be found at the Center's web-site, www.gwhealthpolicy.org.

administrative infrastructure to handle such functions as utilization review, claims processing, and customer service.

Regardless of who ends up with the financial risk for the patient, the concern is the same – how can the financial risk be structured to manageable and reasonably predictable levels? The following options include several strategies for mitigating financial risk. The first option listed is applicable to a fee-for-service arrangement, while the other options listed are more applicable under a capitated arrangement. The MCO or provider will choose the options that are most appropriate to their environment.

Appendix C contains suggested contract language for a purchaser that wants to include any of the following options for mitigating financial risk within a capitated arrangement.

Option 1: Enhanced fee-for-service payments may be made by the Medicaid program to providers for defined services. Certain services provided to patients with HIV/AIDS are more involved than when the same service is provided to an individual that is not infected with HIV. The additional time or complexity of the service translates into an increased workload for the practitioner providing the service. Selected services may be eligible for enhanced reimbursement. In addition, enhanced fee-for-service payments can be used to support entire “programs” of care, e.g., centers of excellence.

➤ *Administrative Requirements:* This option requires a contractual arrangement between Medicaid and the provider outlining the enhanced payment rate or the provider may be eligible for enhanced payments by satisfying any necessary conditions during the process of becoming a certified Medicaid provider. Enhanced payments require that HIV/AIDS patients and eligible services be identified within claims data submitted to Medicaid, e.g., by diagnosis code or specific ICD-9-CM, HCPCS, CPT procedure codes, or local rate codes. Information systems need to be capable of paying different rates for a single procedure or code. Medicaid would have to create a list of eligible codes, determine a method for calculating the additional workload required to provide the service, and translate the additional workload into a monetary amount beyond the regular payment set for the service based on some empirical evidence demonstrating an appropriate reimbursement level.

Advantages and disadvantages of enhanced fee-for-service payments for different stakeholders

	Advantages	Disadvantages
Medicaid	<ul style="list-style-type: none"> ▪ Enhanced payment rates encourage providers to care for patients with HIV/AIDS. ▪ Enhanced payment rates encourage the development of programs of care and standards within quality improvement efforts that mitigate concerns regarding quality assurance issues. 	<ul style="list-style-type: none"> ▪ Enhanced payments add another level of complexity to claims processing. ▪ Enhanced payments add to program costs for Medicaid. ▪ Enhanced rates may attract providers who are not experienced in dealing with patients with HIV/AIDS.
MCOs	N/A	N/A
Providers	<ul style="list-style-type: none"> ▪ Enhanced payments reimburse providers for the additional time and complexity of services required by patients with HIV/AIDS. 	<ul style="list-style-type: none"> ▪ Enhanced payments add another level of complexity to claims processing.

New York State has a sophisticated system of enhanced fee-for-service reimbursement for Medicaid patients with HIV/AIDS. The system covers all levels of care – primary, acute, ambulatory, and chronic – and a portion of the enhanced reimbursement is based on the location where the service is provided.

Option 2: Risk adjustment involves classifying patients into groups based on expected use of medical services and using those risk assessment categories to adjust premiums to MCOs or capitated payments to MCO network providers (Weiner, Dobson, Maxell, Coleman, Starfield, and Anderson, 1996). (A more complete discussion of risk-adjusted reimbursement may be found in Appendix D.) Risk adjustment requires finding the appropriate variable to predict anticipated costs, such as age and gender, clinical markers, diagnosis codes, or comorbidities. Capitated payments can be adjusted for an entire population or for a segment of Medicaid beneficiaries based on assistance category, geographic region, demographic characteristics, or diagnosis. (See Option 3.) If risk adjustment is implemented without any additional monies, redistribution of existing monies becomes a potentially contentious issue.

- *Administrative Requirements:* The data needed for risk adjustment depend on the variable or variables chosen to assess the health risk of the patient. Demographic information is available from the beneficiary eligibility file and commonly includes gender and age group. Diagnoses and procedure codes are available from billing claims or patient encounter records but are not always reliable. Comorbidity data and stage of HIV infection, based on surrogate markers such as CD4 count or viral loads, are commonly not available since Medicaid programs generally do not require laboratory values to be reported in claims. Diagnosis codes may be more accessible than laboratory values, but the use of any type of variable raises issues of validity, uniformity, and complexity.

Advantages and disadvantages of risk-adjusted payments for different stakeholders

	Advantages	Disadvantages
Medicaid	<ul style="list-style-type: none"> ▪ An incentive is created for MCOs to accept high risk patients if the capitation rate is adequate. ▪ The cost per patient is determined prospectively ▪ Risk adjustment can be incorporated into the overall rate negotiations and does not require reopening cost discussions during the contract period; risk is then managed by the MCOs/providers. 	<ul style="list-style-type: none"> ▪ Medicaid must be able to accurately predict expenditures for patients with HIV/AIDS; historically this has been very difficult. ▪ Increased flexibility for the providers calls for specific standards of care to guarantee that the appropriate services are being provided. ▪ Higher capitation rates do not guarantee that necessary services will be provided.
MCOs	<ul style="list-style-type: none"> ▪ The MCO has flexibility in allocating resources for services, including optional services such as dental care and case management. ▪ MCOs can creatively design a system of care to meet the patients' needs. 	<ul style="list-style-type: none"> ▪ Depending on the variables used to assess the risk, data collection can be expensive or impractical. ▪ Difficulties with data collection may create problems with accurately predicting capitation rates.
Providers	<ul style="list-style-type: none"> ▪ Providers can design a system that cares for the patient in the most effective and efficient manner. 	<ul style="list-style-type: none"> ▪ Capitation rates may not adequately cover the costs for patients in the advanced stages of AIDS. ▪ Capitation rates provided to MCOs have not always been passed on to the provider.

The Maryland Medicaid program includes people living with AIDS in one of the rate cells used to risk adjust capitation payments under the Ambulatory Care Group (ACG) method. They have also recently refined the model to include separate rate cells for HIV-infected beneficiaries that do not have AIDS.

Option 3: Special HIV capitation rates adjust capitated payments for a segment of the population, unlike global risk adjustment which risk adjusts payments for the entire population (covered under Option 2). Special HIV capitation rates provide an additional sum above the regular capitation amount. Capitated payments can be enhanced based on a patient's assistance category, geographic region, demographics, or diagnoses. With special HIV capitation rates, subcategories can be created depending on the variable used, i.e., CD4 counts. Special HIV capitation rates recognize that caring for the patient with HIV/AIDS is more time consuming and costly due to the nature of the disease and the treatment.

➤ *Administrative Requirements:* As with global risk adjusted payments, the data needed for special HIV capitation depend on the variable or variables chosen to

assess the health risk of the patient. Lack of data is often a problem since some variables, such as lab results from CD4 counts, are not easily accessible. A mechanism needs to be in place that accurately tracks the variable which is linked to the enhanced capitation rate. The use of any type of variable raises issues of validity, uniformity, and complexity.

Advantages and disadvantages of enhanced capitated rates

	Advantages	Disadvantages
Medicaid	<ul style="list-style-type: none"> ▪ MCOs are more likely to accept high cost patients if the enhanced rate adequately covers the cost of care. ▪ Care requirements can be added to model contracts more easily. 	<ul style="list-style-type: none"> ▪ Enhanced rates mean additional costs for the Medicaid program. ▪ Enhanced rates do not guarantee that appropriate services are being provided. ▪ Medicaid must be able to predict accurately expenditures for patients with HIV/AIDS. ▪ The enhanced rate must accurately predict patient expenditures which may be difficult given the unpredictability of costs for PLWHA.
MCOs	<ul style="list-style-type: none"> ▪ The MCO has flexibility in allocating resources for services including optional services such as dental care or case management. 	<ul style="list-style-type: none"> ▪ Data collection for the variable used to categorize patients can be expensive or impractical.
Providers	<ul style="list-style-type: none"> ▪ Providers receive additional payments to cover the cost of care. ▪ Providers can design a system that cares for the patient in the most effective and efficient manner. 	<ul style="list-style-type: none"> ▪ Data collection for the variable used to categorize patients can be expensive or impractical.

Utah pays an additional monthly sum to MCOs in the Salt Lake City area for treating patients with AIDS. Massachusetts has special rates for patients with active and advanced AIDS.

Option 4: Stop-loss is a type of reinsurance that limits risk exposure when costs incurred are significantly greater than the prepaid capitation payments for those services (Westmoreland, 1999). Stop-loss insurance may be purchased from a private insurer by MCOs or providers or a stop loss provision may be included in a contract between Medicaid and an MCO. CMS must approve any stop loss provision. If Medicaid provides the stop-loss insurance, Medicaid may reduce the premium paid to the MCO. Stop-loss provides protection for any expenses above a certain threshold incurred for an individual patient during a specific period of time. Alternatively, stop-loss may be provided on an aggregate basis. If claims for patients with HIV/AIDS exceed a specified threshold, a certain percentage of the excess above the threshold would be reimbursed. The more protection offered, i.e., the lower the threshold level, the greater the cost of the insurance. For example, an MCO or provider might purchase stop-loss insurance for any patient whose expenses exceed \$50,000 in a year. After the \$50,000 threshold is reached, the MCO or provider will only be responsible for a

certain percentage of any additional costs incurred by the patient, depending on the terms of the reinsurance.

- *Administrative Requirements:* Stop-loss requires that individual patient expenses be tracked to alert the MCO/provider when the patient has reached the designated threshold level. Once the threshold has been reached, a mechanism needs to be in place to determine payments for any expenses incurred above the threshold.

Advantages and disadvantages of stop-loss for different stakeholders

	Advantages	Disadvantages
Medicaid	<ul style="list-style-type: none"> ▪ MCOs and providers may be more willing to accept high-cost patients if stop-loss is available resulting in improved access for the high-cost patient. 	<ul style="list-style-type: none"> ▪ Once the threshold has been exceeded, stop-loss mechanisms do not encourage efficient provision of services if charges above the threshold are reimbursed at 100%.
MCOs	<ul style="list-style-type: none"> ▪ Provides protection against patients with catastrophic costs. ▪ Protects the MCO against high unpredictable costs. 	<ul style="list-style-type: none"> ▪ Purchasing stop-loss insurance is an expense for the MCO. ▪ Stop-loss insurance may not be available or may be cost-prohibitive, unless the Medicaid agency is the stop-loss provider. ▪ Stop-loss provides no protection against large numbers of high-cost patients who do not exceed the threshold. ▪ The MCO may experience cash flow problems if payments owed to the MCO from the stop-loss provision are not made in a timely manner.
Providers	<ul style="list-style-type: none"> ▪ Provides protection against patients with catastrophic costs. ▪ Protects the provider against high unpredictable costs. 	<ul style="list-style-type: none"> ▪ Purchasing stop-loss insurance is an expense for the provider, unless the Medicaid agency is the stop-loss provider. ▪ Stop-loss insurance may not be available or may be cost-prohibitive, unless the Medicaid agency is the stop-loss provider. ▪ Stop-loss provides no protection against large numbers of high-cost patients who do not exceed the threshold.

Option 5 – Risk corridors allow Medicaid and an MCO to share in the financial risk of caring for high-cost patients (Westmoreland, 1999). If the costs incurred by the MCO are substantially lower than the capitation payment, the MCO stands to make a large profit. If the costs incurred by the MCO are substantially higher than the capitation payment, the MCO may face fiscal insolvency. Boundaries on profits and losses by the MCO, i.e., profits or losses above or below a certain percent of the capitation rate, are specified in the contract between Medicaid and the MCO. When the MCO

experiences costs below a specified lower limit or costs above a specified upper limit, the MCO may share any profit or losses with Medicaid. A risk corridor arrangement may also exist between the MCO and the providers (Rognehaugh, 1998). Reconciliation of risk corridor arrangements is typically done quarterly or at the end of the contract year.

- *Administrative Requirements:* Risk corridors between Medicaid and the MCO are set by the state Medicaid program with review by CMS and are specified in Medicaid’s contracts with MCOs. A mechanism must be in place for tracking capitation payments and costs incurred during a specific time period. Allowable costs need to be clearly defined along with any other conditions stipulated in the contract, i.e., a medical loss ratio target.

Advantages and disadvantages of risk corridors for different stakeholders

	Advantages	Disadvantages
Medicaid	<ul style="list-style-type: none"> ▪ MCOs may be more willing to enroll high-cost patients. ▪ Medicaid shares in any profits by the MCO above a certain level. 	<ul style="list-style-type: none"> ▪ Medicaid may experience additional expenses if patients of the MCO have costs greater than the upper limit of the risk corridor.
MCOs	<ul style="list-style-type: none"> ▪ The MCO is not solely responsible for patients whose health care costs reach catastrophic levels. 	<ul style="list-style-type: none"> ▪ MCOs are constrained in the amount of profit that they can make. ▪ MCOs experience a loss of autonomy since the contract with the state defines how much profit can be made. ▪ The MCO may experience cash flow problems if payments owed to the MCO from a risk corridor arrangement are not made in a timely manner.
Providers	<ul style="list-style-type: none"> ▪ The provider is not solely responsible for patients whose health care costs reach catastrophic levels. 	<ul style="list-style-type: none"> ▪ Providers are constrained in the amount of profit that they can make. ▪ Providers experience a loss of autonomy since the risk corridor defines how much profit can be made.

New York State will be implementing a 2 percent risk corridor within the Special Needs Plans program. The health plans will have a target medical loss ratio of 85 percent with a 2 percent risk corridor. (The medical loss ratio is the ratio between the cost to deliver medical care and the amount retained by the health plan.) Any medical loss ratio between 83 percent and 87 percent will not require any further action. For a medical loss ratio outside of this range, the state Medicaid program and the health plan share the risk equally. For example, if the health plan has a medical loss ratio of 80 percent, the health plan is required to return 50 percent of the amount outside of the risk corridor to the state Medicaid program, one-half of the difference between 83 percent minus 80 percent (1.5%).

Option 6 – Risk pools involve withholding a portion of Medicaid revenue for redistribution among MCOs. Participation in a risk pool would be required of all participating MCOs. Amounts withheld are distributed among MCOs to offset the higher costs incurred based on the number of MCO enrollees with HIV/AIDS.

Appendix C contains suggested contract language for a purchaser that wants to include this option within a capitated arrangement.

- *Administrative Requirements:* Accurate records must be kept regarding the number of patients with each applicable diagnosis. Risk pools are typically created by the state Medicaid program under guidance from CMS.

Advantages and disadvantages of risk pools for different stakeholders

	Advantages	Disadvantages
Medicaid	<ul style="list-style-type: none"> ▪ MCOs may be more willing to enroll high-cost patients. 	<ul style="list-style-type: none"> ▪ Risk pool arrangements require an information system capable of accurately tracking HIV/AIDS patients by MCO, risk pool funds, and risk pool distributions.
MCOs	<ul style="list-style-type: none"> ▪ MCOs receive additional funds at the end of the contract period for high-cost patients, partially offsetting the MCOs' losses. ▪ Provides an incentive to include providers who are experienced in treating HIV, since MCOs will be compensated for a larger HIV caseload. 	<ul style="list-style-type: none"> ▪ The amount withheld for the risk pool may not be sufficient to cover all of the necessary costs, thereby increasing the financial risk of the MCO. ▪ Risk arrangements may only cover specific high-cost services, e.g., inpatient care.
Providers	<ul style="list-style-type: none"> ▪ Reduces the challenge of adverse selection for experienced HIV providers. 	<ul style="list-style-type: none"> ▪ The amount withheld for the risk pool may not be sufficient to cover all of the necessary costs, thereby increasing the financial risk of the provider. ▪ Risk arrangements may only cover specific high-cost services, e.g., inpatient care.

Pennsylvania instituted a risk pool in the southwest region of the state which redistributes a withhold from the base capitation rate calculated on each plan's share of enrolled HIV/AIDS patients.

Option 7 – Carve-outs represent services covered by the payor that are excluded from the covered benefits package of the managed care product of the payor. Services are excluded or “carved-out” of the capitation rate and can be contracted for separately, to a more cost-effective provider, or reimbursed to the original provider under a different reimbursement method such as fee-for-service. Carve-outs can be used for services that are unpredictable in cost. For example, the claims history for a particular service such as genotyping or phenotyping may be insufficient to accurately predict the expenses that will be incurred. Uncertain drug utilization may preclude accurate predictions of anticipated expenses. Carve-outs remove a possible constraint to access to services with

unpredictable costs while protecting the MCO or provider from the potential financial liability resulting from those services. For patients with HIV/AIDS, services typically carved-out are drugs and laboratory tests, such as CD4 and viral load testing, the high cost and high utilization services.

➤ *Administrative Requirements:* Decisions regarding carve-outs between the Medicaid program and the MCO must be approved by CMS and the Medicaid program. In some cases, state legislation may be required. Carve-out arrangements between the MCO and the providers are negotiated by the MCOs and the providers. Carve-outs require a billing system that can handle multiple reimbursement methods for a single patient based on the type of service provided.

Advantages and disadvantages of carve-outs for different stakeholders

	Advantages	Disadvantages
Medicaid	<ul style="list-style-type: none"> ▪ Experience can be gained with services lacking a stable history of costs before negotiating the services in a capitated rate. ▪ MCOs and providers may be more willing to care for patients who need to receive high-cost services. 	<ul style="list-style-type: none"> ▪ Care for patients may be fragmented if patients have to receive care from multiple providers.
MCOs	<ul style="list-style-type: none"> ▪ The financial risk from services with high costs or with unpredictable costs is reduced for the MCO. 	<ul style="list-style-type: none"> ▪ The MCO may not always have access to the necessary data.
Providers	<ul style="list-style-type: none"> ▪ The financial risk from services with high costs or with unpredictable costs is reduced for the provider. 	

A number of states have carved out the cost of protease inhibitors, which are reimbursed on a fee-for-service, basis, e.g., Arizona, California, Pennsylvania, Washington, New York, and Wisconsin.

Conclusion

Providing health care services to people with HIV/AIDS is subject to financial risk given the high and unpredictable costs associated with caring for this population. In this paper, we have examined options with which Medicaid, MCOs, or providers can decrease their financial risk. These options may be implemented separately or in different combinations. Which options are appropriate will depend on a number of factors including:

- The nature of the epidemic in the state;
- The amount of managed care penetration;
- The maturity of the MCOs’ or providers’ administrative infrastructure;

- The accessibility of data;
- The capability of the information systems;
- The availability of funds.

In implementing any of the options presented, the implications throughout the delivery system – from Medicaid agency to MCO to provider to patient – must be considered, in terms of both financial impact and the quality of care that will ultimately be provided the Medicaid beneficiary living with HIV. As purchasers, MCOs, and providers wrestle with the difficult issue of financial risk in caring for patients with HIV/AIDS, technical assistance can be obtained from HRSA.

Appendix A

Cost of Care for Persons Living with HIV/AIDS

A number of studies have examined the cost of caring for persons with HIV/AIDS. “Costs” may reflect payments by Medicaid or other third party payors, out-of-pocket expense by the patients, charges by providers, or the direct costs of providers. According to Hellinger and Fleishman (2000), data for estimating the cost of care for people with HIV/AIDS come from at least three potential sources – patients, payors, or providers.

Patient-based estimates involves patient’s self-reported use of resources, such as hospital days, outpatient visits, or drugs, which can be supported by data from medical or billing records, although this practice does not appear to be widespread. A sample of patients is used to estimate the costs for all patients with HIV/AIDS.

Payor-based estimates are drawn from the different payments made to providers of services and allow segregation of costs based on the type of payor, e.g., Medicaid or Medicare.

Provider-based estimates reflect reimbursement from payors. Provider costs including the direct and indirect costs of providing services may also be used but these data are, in many cases, less accessible. Provider information allows segregation of costs by type of service such as inpatient, physician services, and drugs.

Table 1 provides a summary of studies examining the estimated cost or expenditures for the care of patients with HIV/AIDS. Each of the following studies uses one of these methods for determining costs. The list of studies is illustrative and not an exhaustive review of relevant studies. The table generally summarizes the cost of care and studies in the table may represent different specific subpopulations. Unless indicated otherwise, figures include costs or payments for inpatient services, outpatient services, and prescription drugs. When examining the results from these studies, it may be helpful to note that the average payment made by Medicaid for an adult beneficiary is \$153/month (\$1,836/year) and the average cost to Medicaid for a disabled beneficiary is \$704/month (\$8,448/year) (Kaiser Family Foundation, October 2000). A more detailed description of the studies follows Table 1.

Table 1
Studies examining the cost/payments associated with care for people living with HIV/AIDS

Authors/Year Published	Population	Monthly Cost/Payments	Annual Cost/Payment
Moore and Chaisson (1997)	Patients in urban Maryland with the Johns Hopkins HIV Service	CD4 count >500 – \$1,015 CD4 count <500 – \$2,436 (Based on Medicaid payments)	CD4 count >500 – \$12,180 CD4 count <500 – \$29,232
Gebo et al. (1999)	Patients in urban Maryland with the Johns Hopkins HIV Service	CD4 count <50 – \$2,585 CD4 count 50-200 – \$1,615 CD4 count 201-500 – \$1,305 (Based on Medicaid payments)	CD4 count <50 – \$31,020 CD4 count 50-200 – \$19,380 CD4 count 201-500 – \$15,660
Hellinger (1998)	Overview of estimated direct costs for patients with AIDS from several studies published from 1992-1997	Estimated monthly direct costs for patients with AIDS range from \$1,885 - \$4,084	
Mitchell and Anderson (2000)	Florida patients with AIDS participating in a 1915(b) waiver	Costs for waiver participants – \$1,852 Costs for non-waiver patients – \$2,029 (Based on Medicaid payments)	Costs for waiver participants – \$22,224 Costs for non-waiver patients – \$24,348
Bozette et al. (1998)	Patients participating in the HIV Cost and Services Utilization Study (HCSUS) – the first two	\$1,667 (Based on charge and payment data, with some estimated costs)	\$20,000

	months of 1996		
Bozette et al. (2001)	Patients participating in the HIV Cost and Services Utilization Study (HCSUS) – 1996-1998	Adjusted monthly costs in October, 1998 - \$1,503 (Based on charge and payment data, with some estimated costs)	Annualized cost - \$18,036
Hellinger and Fleishman (2000)	Model examining national estimates of the costs of caring for patients with HIV and different estimates of the number of patients with HIV receiving care	Patient-based costs – \$1,667 Payor-based costs – \$1,792 Provider-based costs - \$2,058	Patient-based costs – \$20,000 Payor-based costs – \$21,500 Provider-based costs - \$24,700
Kahn et al. (2001)	Model examining the impact of expanding Medicaid programs to include patients with early-stage HIV (using costs from the HCSUS study, examining the costs incurred in the first two months of 1996).	Early-stage HIV (with HAART) – \$1,283 Early-stage HIV (without HAART) – \$402 Late-stage AIDS (with HAART) – \$2,609 Late-stage AIDS (without HAART) – \$2,522	Early-stage HIV (with HAART) – \$15,404 Early-stage HIV (without HAART) – \$4,829 Late-stage AIDS (with HAART) – \$31,308 Late-stage AIDS (without HAART) – \$30,261

Cost estimates used in studies are based on different data sources and do not always include the same service categories. Consequently, caution should be exercised when comparing costs among different studies. A number of limitations also apply when trying to generalize study results to the entire population of people with HIV/AIDS. Payor- and provider-based estimates rely on the sensitivity and specificity of claims data and diagnosis codes. The sample of patients from any one study may not represent the entire population of patients with HIV/AIDS due to differences in age,

gender, geography, subject recruitment, study methods, or risk factors. Findings from studies at specific sites, e.g., academic centers, do not necessarily represent results that can be replicated at other sites. Moreover, the cost or expenditure estimates are significantly affected by the system of HIV care used by the study population and the sources and level of grant funds that support clinical and support service personnel, and infrastructure support. These additional funds may not be reflected in the estimates of the costs of care or payment-based data. Finally, studies may not be stratified by characteristics of population subgroups.

A more in depth look at the studies summarized in Table 1 is provided below. The costs indicated in these studies need to be evaluated as the treatment standards in HIV/AIDS have changed and as patients with HIV/AIDS have moved into a managed care delivery system. Per Hellinger and Fleishman (2000), data for estimating the cost of care for people with HIV come from three potential sources – patients, payors, or providers. The summaries below will indicate which source was used to estimate the cost found by each study.

A study by **Moore and Chaisson (1997)** examined 606 patients in urban Maryland who received services at the Johns Hopkins HIV Service. Data on Medicaid payments were analyzed for the period between January 1992 through June 1995. Payments were classified into seven different service categories and all payments made by Medicaid were included in one of the categories. Monthly Medicaid expenditures were broken down by subgroups of patients based on CD4 lymphocyte counts, sex, race, injecting drug use, and age. For all patients, inpatient payments accounted for more than half of total payments (52%), followed by pharmacy (19%) and outpatient clinic (16%). Average monthly total payments increased as CD4 counts decreased. Annual payments were projected to be \$29,232 (\$2,436/month) for those patients with CD4 counts <500 cells/mm³ and \$12,180 (\$1,015/month) for those patients with CD4 counts >500 cells/mm³.

Patients receiving services from the Johns Hopkins HIV Service (n=695) were studied by **Gebo, Chaisson, Folkemer, Bartlett, and Moore (1999)**. Data on Medicaid payments were studied for the period from January 1995 through December 1997 and included inpatient and outpatient payments. Patients were stratified into three groups by CD4 cell count (<50 x 10⁶ cells/l, 50-200 x 10⁶ cells/l, and 201-500 x 10⁶ cells/l) and by whether or not the patient was receiving protease inhibitors. From 1995 to 1997, the total average monthly payments remained unchanged for patients with a CD4 cell count of <50 x 10⁶ cells/l. During this same time period, average monthly payments increased for patients with a CD4 cell count of 50-200 x 10⁶ cells/l and 201-500 x 10⁶ cells/l from \$1,172 to \$1,615 and \$1,078 to \$1,305, respectively. For those patients receiving protease inhibitors in 1996 and 1997, hospital inpatient payments decreased significantly (for all CD4 cell counts) while pharmacy payments increased significantly. Additionally, expenditures for treating opportunistic infections (OIs) on an inpatient basis decreased for patients receiving protease inhibitors, as compared to those patients not receiving protease inhibitors.

Hellinger (1998) presents an overview of the cost and financing of care for persons with HIV disease. Monthly costs for treating a person with AIDS are compared from six different studies conducted from 1992 to 1997 and range from \$1,885 to \$4,084. Some of the variance in cost can be

attributed to the increased use of pharmaceuticals with the drug therapies introduced in the mid 1990s. Studies comparing costs for persons with AIDS indicate that cost may vary by gender, race, and drug use or be impacted by the patient's ability to obtain access to drug therapies. Hellinger recommends that studies need to determine the cost of treating patients over a specific period of time while differentiating patients by such characteristics as CD4 count, viral load, opportunistic infections, age, gender, and risk behavior profile. In addition, studies need to determine how different subgroups of the HIV/AIDS population seek care and determine how different settings affect the patient's ability to access the appropriate care.

Mitchell and Anderson (2000) examine the difference in payments for Florida patients with AIDS participating in a 1915(b) waiver and patients with AIDS not participating in the waiver program. Paid claims were analyzed for all services reimbursed by Medicaid from 1993 to 1997. Patients participating in the waiver were eligible to receive twelve additional community- and home-based services. Waiver enrollees had approximately 10% less Medicaid spending per month than did their non-waiver counterparts - \$1,852 versus \$2,029 (\$22,224/year versus \$24,348/year). Monthly drug and home health costs were higher for waiver participants (\$907 versus \$350 and \$123 versus \$64), but monthly inpatient, outpatient, and physician costs were lower for waiver participants (\$264 versus \$1,146, \$29 versus \$46, and \$143 versus \$190).

Some of the most recent annual estimates of the cost of care using a patient-based estimate come from the **HIV Cost and Services Utilization Study (HCSUS)** funded through a cooperative agreement between the Agency for Healthcare Research and Quality (AHRQ) and RAND, a private nonprofit research institution. The core study of HCSUS combines interviews and patient medical, pharmaceutical, and billing records for 2,846 HIV-infected adults. HCSUS data includes costs for hospital inpatient days, emergency department visits, and outpatient days but excludes costs associated with home or domiciliary care and durable medical equipment (DME).

Drawing from HCSUS, **Bozette et al. (1998)** studied a sample of 2,864 HIV-infected adults receiving medical care during the first two months of 1996. This sample was weighted to represent the entire population of patients with HIV receiving care. The authors estimated the annual cost of care as \$20,000 (\$1,667/month) per patient. Cost of care included inpatient services, outpatient visits, and emergency room services and pharmaceuticals, but excluded the cost of home care and durable medical equipment. A subsequent article by Bozette et al. (2001) used the same sample of patients from HCSUS (n=2,864) and followed the care of the patients over 36 months beginning in early 1996 by interviewing the patients multiple times during this period. The study looked at the cost of care when highly active antiretroviral therapy (HAART) became a component of the patient's treatment. After adjusting for illness severity, patient deaths, and other factors, the annual expenditure per patient declined from \$20,300/year to \$18,300/year (\$1,692/month to \$1,525/month). The reduction in hospital costs was greater than the increase in pharmaceutical costs. However, the study also found that use of HAART varied among subgroups of patients and that expenditures for different subgroups varied by as much as a factor of 3. Additionally, hospital expenditures at the end of the study had risen to 1996 levels of expenditures, a trend which may be connected with treatment failures.

Hellinger and Fleishman (2000) examine national estimates of the costs associated with caring for persons with HIV. National estimates are reduced to a per person annual estimate by using estimates of the number of persons in the United States with HIV accessing medical services. Any annual calculations are sensitive to the estimate of the number of persons with HIV receiving care. Using econometric modeling that does not require primary data collection, Hellinger and Fleishman produce patient-based, payor-based, and provider-based estimates to calculate the cost of care.

Patient-based – Per HCSUS, the average annual cost of treating a person with HIV in 1996 was \$20,000 (\$1,667/month). HCSUS cost estimates do not include the cost of home care or DME.

Payor-based – For the fiscal year 1996, federal, state, and private insurance spending for persons with HIV was estimated at \$6.9 billion (\$2.8 billion from Medicaid, \$1.1 billion from Medicare, \$0.7 billion from RWCA, \$0.3 billion from the VA, and \$2.0 billion from private insurers). If out-of-pocket spending for patients with HIV is estimated at \$300 million, then the total spending for patients with HIV was \$7.2 billion. Using the 335,000 estimated patients with HIV receiving medical care from the HCSUS study, the annual cost of care for a patient with HIV in 1996 would have been \$21,500 (\$1,792/month).

Provider-based – Calculating the annual cost of care using provider-based estimates requires using data from multiple sources but does not include information regarding the costs for nursing homes, home health care agencies, and hospices. Data from eight states were used to extrapolate inpatient costs; data on drug costs were obtained from private-sector information and consulting firms. If these two expenses cost \$6.5 billion and represent 83% of the total cost of care, then total cost of care equals \$7.8 billion (\$6.5 billion/83%). One private consulting firm estimates that 316,000 persons with HIV are receiving care which means that the annual cost of care per person is \$24,700 (\$2,058/month).

Kahn, Haile, Kates, and Chang (2001) examine the health and federal impacts of a Medicaid expansion program for people with HIV who do not meet SSA disability criteria. Kahn et al. use econometric modeling that does not require primary data collection. The disease state model includes estimates for the annual cost to Medicaid for both early-stage HIV and late-stage AIDS patients with and without HAART therapy. For early-stage HIV patients the annual cost with and without HAART is \$15,404 and \$4,829 (\$1,283/month and \$402/month). For late-stage AIDS patients the annual cost with and without HAART is \$31,308 and \$30,261 (\$2,609/month and \$2,522/month).

Because costs and expenditure estimates used in studies are based on different data sources and do not always include the same categories of expenses, caution should be exercised when comparing costs among different studies. A number of limitations also apply when trying to generalize study results to the entire population of people with HIV/AIDS including:

- Payor- and provider-based estimates rely on the ability of the payor or provider to identify claims associated with patients with HIV
- Payor- and provider-based estimates rely on the accuracy of the payor's or provider's billing records
- Costs estimates do not include the same services

- Payor-based estimates may not include payment made by all payors
- The sample of any study may not be representative of the entire population of patients with HIV/AIDS, i.e., the population from studies conducted at the Johns Hopkins HIV Service was predominantly male, African-American, with a median age of 34, and with injection drug use as the principal risk factor
- Patients selected may represent a very small sample, a sample of convenience or a geographically limited sample
- Findings from studies at specific sites, e.g., academic centers, do not necessarily represent results which can be replicated at other sites
- Cost estimates may not be stratified by characteristics of population subgroups (e.g., age, gender, race, risk behavior, CD4 count)

Appendix B

Experience of the MCOs

The expense of treating patients in a fee-for-service system versus a managed care environment becomes more important as Medicaid moves its beneficiaries into managed care arrangements. Only a limited number of studies compare the expense of treating patients with HIV/AIDS in a fee-for-service system versus a managed care system. Table 2 presents the findings from studies of patients with HIV or AIDS in a managed care system. The costs described in these studies are derived from several different sources.

Table 2

The cost of care for persons living with HIV/AIDS in managed care systems

Authors/Year Published	Population	Costs for Patients in Fee- For-Service	Costs for Patients in Managed Care
Wilson et al. (1998)	Patients with AIDS in the Boston Area treated by either one HMO or two fee-for-service systems over a four-month period	Total costs - \$2,135/mo Outpatient costs \$403/mo (average monthly charges over four months) (Based on estimates from multiple sources)	Total costs - \$1,200/mo Outpatient costs \$283/mo (based on average monthly charges over four months) Annualized costs Total costs - \$14,400 Outpatient costs - \$3,396
Le et al. (1994)	Kaiser-Permanente patients with HIV in 1994 – one group in a clinical care pathway at the Santa Rosa clinic, the remainder		Santa Rosa Clinic patients: Drug costs - \$2,343/member (Based on Kaiser drug cost data)

	Rosa clinic, the remainder treated at other Kaiser sites		All other Kaiser patients: Drug costs - \$3,289/member (Based on Kaiser drug cost data)
Melnick et al. (1998)	Longitudinal study of patients with HIV in an HMO over seven years		Between 1993 and 1996, overall cost per year increased from \$11,558 to \$12,861– drug costs increased while inpatient hospital costs decreased

A more in depth examination of each study discussed in Table 2 is provided below. Note the differences in the delivery systems and demographics have determined the variations seen in cost estimation.

The Boston Health Study (**Wilson, Sullivan, and Weissman, 1998**) examined the experience of 255 patients with AIDS in either an HMO or one of two fee-for-service systems by comparing the 1) cost of care over a four-month period, 2) functional status of the patient, and 3) patient satisfaction with care. Costs were estimated using a variety of sources – Medicaid payments, cost-to-charge ratios (for acute care hospitals), Medicare payment rates, cost per dose for pharmaceuticals, and average wages for specific U.S. service workers. After adjusting for differences in sociodemographic factors, baseline functioning, main HIV risk factor, and other clinical factors, the physical functioning and patient satisfaction did not differ significantly among patients in the different systems of care. However, the total costs and the outpatient costs over the four-month period for patients in the HMO setting were significantly lower than for the same costs for patients in the fee-for-service settings – \$4,799 versus \$8,540 and \$1,131 versus \$1,614. Costs for inpatient services and home care were lower for the HMO patients but not significantly different among the groups (**Wilson et al., 1998**).

Le, Winter, Boyd, Ackerson, and Hurley (1998) compared the experience of 230 HIV-positive patients in a clinical care path program at the Kaiser Permanente Santa Rosa clinic to that of 4,747 HIV-positive patients at other Kaiser Permanente sites in Northern California during 1994. Variables included number of visits with different practitioners, use of services, hospital admissions and length of stay, and cost of drugs per member. Patients at the Santa Rosa clinic had more visits with nurse practitioners and nutritionists and fewer visits with primary care physicians as compared to patients at other Kaiser sites. Length of stay decreased (7.8 days in 1991 to 2.01 days in 1994)

and number of admissions was fewer for patients at the Santa Rosa site. The mean cost of HIV-related drugs for patients at the Santa Rosa clinic was \$2,343 per infected member versus \$3,289 per infected member for other Kaiser patients. (Costs of medications were provided by the department of medical economics and pharmacy operations of the Kaiser Permanente Medical Care Program.)

Melnick, Greiner, Little, and Melnick (1998) presented a longitudinal study at the 5th Conference on Retroviruses and Opportunistic Infections which followed HIV-infected patients over seven years within a group model HMO. The number of patients in the study increased from 171 to 921 between 1989 and 1996. The study examined the number of hospital admissions and length of stay in addition to costs of care. Between 1993 and 1996, the overall cost of care per active patient-year increased by 11.3% (\$11,558 to \$12,861). Between 1993 and 1996, increases in expenditures for combination antiretroviral therapy (57% increase per covered patient-year) and in viral load testing were partially offset by declining costs for inpatient care (22% decrease per patient-year).

Comparing the health care expenditures for patients in a fee-for-service system versus a managed care system is difficult given the limited number of studies available to date. In addition, studies which compare patients in specific delivery system cannot necessarily be generalized to patients in other systems. Study results may be influenced by a small sample size, drawing from the experience of one particular HMO, geographically specific populations, and differences in estimating the cost of services.

Appendix C³

SAMPLE PURCHASING SPECIFICATIONS FOR HIV INFECTION, AIDS, AND HIV-RELATED CONDITIONS

PART 3. REIMBURSEMENT FOR HIV/AIDS SERVICES

(May 2002)

§301. Capitation Payments for Enrollees with HIV/AIDS⁴

(a) Duties of Purchaser

(1) **Monthly Capitation Payment** — Purchaser shall pay Contractor a prospective monthly capitation payment for each enrollee with HIV/AIDS (as defined in §303(a)) in an amount specified under subsection (c) in accordance with the payment schedule specified in subsection (d).⁵

(2) **Payment for Carve-Out Items and Services**⁶ — Purchaser shall make payment on a fee-for-service basis, in amounts specified under [*drafter insert reference to state Medicaid plan*] for:

³ This appendix was prepared by Andy Schneider of Medicaid Policy, LLC and Colleen Sonosky of GW CHSRP.

⁴ **Commentary for Medicaid purchasers:** Federal Medicaid law does not contain any requirements specific to capitation rates for Medicaid beneficiaries with HIV/AIDS who are enrolled in managed care organizations (MCOs). Federal law does require that capitation payments to MCOs with which state Medicaid agencies contract on a risk basis be “actuarially sound.” (§1903(m)(2)(A)(iii) of the Social Security Act, 42 U.S.C. §1396b(m)(2)(A)(iii)). These capitation payments are subject to an upper payment limit (UPL). The cost to the state Medicaid agency for the services provided by the MCO to its Medicaid enrollees may not exceed the cost of the same services provided to an actuarially equivalent nonenrolled population group on a fee-for-service basis. (42 C.F.R. §447.361). This UPL applies not in the aggregate, but on an MCO-specific basis. A final regulation defining “actuarially sound capitation rates,” setting forth requirements for such rates, and repealing the UPL was published on January 19, 2001 (42 C.F.R. §438.6(c)(1), 66 *Fed. Reg.* 6228). The effective date of this regulation was delayed until August 16, 2002 (66 *Fed. Reg.* 43090, August 17, 2001). On August 20, 2001, the Centers for Medicare & Medicaid Services (CMS) published a proposed rule revising the January 19 final rule (66 *Fed. Reg.* 43614). The August 20 proposed rule would not make any material changes in the provisions of the January 19 final rule relating to actuarial soundness or the repeal of the UPL. These purchasing specifications assume that the January 19 final rule is not applicable; however, they are consistent with the federal statutory requirement of actuarial soundness.

⁵ **Alternative Option:** The illustrative language above would require Purchaser to pay a capitation rate that is actuarially sound for the entire group of enrollees with HIV/AIDS in relation to the services that the MCO is required to furnish. An alternative option would be to adjust capitation rates not for this entire group of enrollees, but for one or more subpopulations within the group. For example, a contract could require Purchaser to pay an actuarially sound capitation rate for enrollees with HIV infection who do not have AIDS and an actuarially sound capitation rate on behalf of enrollees with AIDS. For a discussion of this alternative option, see GW CHSRP, *Mitigating Financial Risk in HIV Care* (2001), Option#3 (Enhanced Capitation Rates), www.gwhealthpolicy.org.

(A) [drafter insert item or service from §102(a) for which state Medicaid agency will pay on a fee-for-service basis].

(3) **Reports to Contractor** — Purchaser shall provide to Contractor, by the [] day following the end of the month to which the report applies, a report containing the following information:

(A) new enrollment by rate group;

(B) disenrollment by rate group;

(C) total enrollment by rate group;

(D) capitation payments by rate group; and

(E) [drafter insert additional information].

(b) Duties of Contractor

(1) **Furnishing Covered Items and Services** — In satisfaction of the receipt of a monthly capitation payment under subsection (a)(1) on behalf of an enrollee with HIV/AIDS (as defined in §303(a)), Contractor shall, at Contractor's expense, furnish, or arrange for the furnishing of HIV/AIDS services covered under §102(a) that are not carve-out items or services under subsection (a)(2) to each enrollee with HIV/AIDS.

(2) **Payment in Full** — Contractor agrees that the monthly capitation payments under subsection (a)(1), plus any stop-loss payments under §302(a) if elected by Contractor under §302(b), constitute payment in full by Purchaser to Contractor for HIV/AIDS services covered under §102(a) that are not carve-out items or services under subsection (a)(2) with respect to an enrollee with HIV/AIDS (as defined in §303(a)).

(3) **No Balance Billing** — Contractor agrees that an enrollee with HIV/AIDS (as defined in §303(a)) shall not be liable to Contractor, or to any provider in participating in Contractor's provider network or otherwise furnishing services on Contractor's behalf, for the cost of any HIV/AIDS services covered under §102 other than any cost-sharing amounts expressly required under [drafter insert reference to state Medicaid plan].

⁶ **Commentary for Medicaid purchasers:** Federal Medicaid law gives states flexibility in determining which items or services covered under their Medicaid programs they wish to purchase on a risk basis through a contract with an MCO and which they want to purchase on a fee-for-service basis. In a 2000 survey of State Medicaid programs, 5 states (CA, HI, MO, NV, and NY) reported carving out from their risk contracts with MCOs some or all prescription drugs (e.g., protease inhibitors) and laboratory tests (e.g., CD4 and viral load testing) for enrollees with HIV/AIDS, preferring to pay for these drugs and tests on a fee-for-service basis. Schwalberg, R., et al., Health Services Research, *Medicaid Outpatient Prescription Drug Benefits: Findings from a National Survey and Selected Case Study Highlights* (forthcoming), Kaiser Commission on Medicaid and the Uninsured, Table 11, www.kff.org.

(c) **Capitation Payment Amount**⁷ — The monthly capitation payment made by Purchaser to Contractor under subsection (a)(1) shall meet the following requirements:

(1) **Actuarial Soundness**⁸ — The payment is actuarially sound in relation to enrollees with HIV/AIDS (as defined in §303(a)) and the cost of furnishing HIV/AIDS services covered under §102 in the geographic area served by Contractor, subject to:

(A) any adjustment for any carve-out items and services under paragraph (2);

(B) the federal Upper Payment Limit described in paragraph (3);

(C) an adjustment for stop-loss payments (if elected by Contractor) under paragraph (4); and

(D) a risk corridor under paragraph (5).

(2) **Adjustment for Carve-Out** — The payment is adjusted in an actuarially sound manner to reflect the election of Purchaser under subsection (a)(2) to carve-out certain items and services for payment on a fee-for-service basis.

(3) **Upper Payment Limit**⁹ — The payment does not, consistent with the Upper Payment Limit under 42 C.F.R. §447.361, exceed the cost to Purchaser of furnishing HIV/AIDS items and services covered under §102 in the geographic area served by Contractor on a fee-for-service basis to a nonenrolled population group that is actuarially equivalent to the group of enrollees with HIV/AIDS (as defined in §303(a)).

⁷ **Commentary for Medicaid Purchasers:** The following illustrative language sets forth a number of requirements for determining a capitation rate to be paid on behalf of enrollees with HIV/AIDS. One of the requirements (actuarial soundness) is statutory in nature. Another (upper payment limit) is found in current federal regulation. The adjustment for carve-out items and services would apply only if Purchaser opts not to purchase on a risk basis from the MCO for enrollees with HIV/AIDS certain items and services included in its state Medicaid benefits package to which the enrollees are entitled, and instead elects to buy these services on a fee-for-service basis. The remaining 2 illustrative requirements (stop-loss and risk corridor) are optional; state purchasers may adopt none, one, or both of these options.

⁸ **Commentary for Medicaid Purchasers:** As discussed in footnote 1 above, CMS has issued a final rule and a proposed rule that contain virtually identical provisions relating to actuarial soundness. 42 C.F.R. §438.6(c)(1)(i)(A) defines "actuarially sound capitation rates" as rates that "have been developed in accordance with generally accepted actuarial principles and practices; are appropriate for the populations to be covered and the services to be furnished under the contract; and have been certified ... by actuaries who meet the qualifications standards established by the American Academy of Actuaries and follow the practice standards established by the Actuarial Standards Board." 42 C.F.R. §438.6(c)(3) sets forth basic requirements for actuarially sound rates, including "rate cells specific the enrolled population, by: (A) eligibility category; (B) age; (C) gender; (D) localities/region; and (E) risk adjustments based on diagnosis or health status (if used)."

⁹ **Alternative Option:** This illustrative language assumes that the UPL requirement in 42 C.F.R. §447.361 is applied to enrollees with HIV/AIDS, rather than all beneficiaries enrolled under the risk contract. One alternative option is to apply the UPL test in the aggregate across all groups of enrollees, including non-disabled children and adults.

(4) **Adjustment for Stop-Loss** — If Contractor elects to receive stop-loss payments under §302(a)(1)(B), the payment is adjusted to reflect the estimated cost to Purchaser of the stop-loss payments.

(5) **Risk Corridor**¹⁰

(A) **Costs in Excess of Upper Bound** — If the costs incurred by Contractor (as defined in subparagraph (C)) exceed [*drafter insert dollar amount*], Purchaser shall reimburse Contractor in an amount equal to [*drafter insert desired percentage*] of the amount of costs in excess of [*drafter insert dollar amount*].

(B) **Costs Less than Lower Bound** — If the costs incurred by Contractor (as defined in subparagraph (C)) are less than [*drafter insert dollar amount*], Contractor shall reimburse Purchaser in an amount equal to [*drafter insert desired percentage*] of the amount of costs below [*drafter insert dollar amount*].

(C) **Costs Incurred by Contractor Defined** — For purposes of establishing a risk corridor, the costs incurred by Contractor are the costs of furnishing items and services covered under §102 and not carved out under subsection (a)(2) to enrollees with HIV/AIDS (as defined in §303(a)) during [*drafter insert desired time frame*].

(d) **Effective Date**

(1) **Effective Date of Enrollment** — Contractor shall make capitation payments under subsection (a):

(A) in the case of an individual who enrolls in Contractor on or before the [] day of a month, for the entire month in which the individual enrolls; or

¹⁰ **Commentary for Medicaid purchasers:** The following illustrative language would establish a risk corridor under which the State Medicaid agency and the contracting MCO share in profits and losses based on the MCO's actual costs of furnishing covered services to enrollees. Risk corridors are optional under federal law. The January 19, 2000 final Medicaid managed care rule discussed above would delete the current UPL limit and substitute an option for a risk corridor. 42 C.F.R. § 438.814 would allow state purchasers to "payments pursuant to risk corridors or incentive arrangements "that do not exceed" 105 percent of that portion of the aggregate amount of approved capitation payments attributable to the enrollees or services covered by the risk corridor or incentive arrangement." The risk corridor could apply to payments for all Medicaid enrollees, for all enrollees with disabilities, for enrollees with HIV/AIDS, or for subpopulations of enrollees with HIV/AIDS, such as enrollees with HIV infection. For a discussion of this option, see GW CHSRP, *Mitigating Financial Risk in HIV Care* (2001), Option #5 (Risk Corridors), www.gwhealthpolicy.org.

(B) in the case of an individual who enrolls in Contractor after the [] day of a month, beginning in the month following the month in which the individual enrolls.

(2) **Effective Date of Disenrollment**¹¹ — In the case of an enrollee who disenrolls from Contractor, Purchaser shall make not make capitation payments under subsection (a) for the month following the month in which the enrollee disenrolls.

§302. Risk-Sharing for Enrollees with HIV/AIDS

(a) **Election of Reinsurance or Stop-Loss** — Contractor shall, prior to [*drafter insert effective date of purchasing agreement*], make the following election with respect to the financial risk described in paragraph (2):

(1) **Election** — Contractor shall either:

(A) demonstrate to the satisfaction of Purchaser that Contractor has obtained reinsurance against the financial risk described in paragraph (2) adequate to protect Contractor from financial insolvency; or

(B) agree to accept the stop-loss payment described in subsection (b), and the monthly capitation payment adjusted under §301(c)(2), as payment in full for the financial risk described in paragraph (2).

(2) **Financial Risk** — The financial risk described in this paragraph is the cost of furnishing HIV/AIDS services covered under §102 that are not carved out by Purchaser under §301(a)(2) to each enrollee with HIV/AIDS (as defined in §303(a)).

(b) **Stop-Loss Payment**¹² — At the election of Contractor prior to the beginning of a contract year, in the case of each enrollee with HIV/AIDS (as defined in §303(a)) with respect to whom Contractor has incurred a stop-loss trigger expense specified in paragraph (1), Purchaser shall pay to Contractor []¹³ percent of the stop-loss amount specified in paragraph (2) on the payment date

¹¹ **Commentary for Medicaid purchasers:** For illustrative language relating to Contractor's duty to continue the provision of services to an enrollee who disenrolls, see §201(b).

¹² **Commentary for Medicaid purchasers:** Under this illustrative language and the accompanying provisions in §302(b)(2), each contracting MCO must choose between obtaining reinsurance or securing stop-loss protection from the state purchaser in order to spread the financial risk of high-cost cases.

¹³ **Commentary for Medicaid purchasers:** Under Maryland's Stop-Loss Program, the state pays (at Medicaid fee-for-service rates) 90 percent of all accrued inpatient hospital charges incurred by a Medicaid MCO for an enrollee in excess of \$61,000 in a contract year. COMAR 10.09.65.22. Under New York's Stop-Loss coverage, the state pays 85 percent of costs for inpatient hospital services for an enrollee in excess of \$50,000 in a contract year up to \$250,000, at which point the state pays 100 percent of costs (at the lower of the Medicaid fee-for-service rate or the MCO's negotiated rate with the hospital). For the Special Need Plans, the stop-loss thresholds are \$100,000 and \$300,000 with the same percent of costs, 85 percent. New York Agreement, Section 3.10.

specified in subparagraph (3). Contractor shall remain liable for all expenses incurred by Contractor in furnishing HIV/AIDS items and services covered under §102 that are not carved out by Purchaser under §301(a)(2) to an enrollee with HIV/AIDS under [drafter insert reference to purchasing agreement].

(1) **Stop-Loss Trigger Expense** — The stop-loss trigger expense specified in this paragraph is [drafter insert dollar amount] in expense incurred by Contractor for furnishing [drafter specify items and services to which stop-loss applies] to an enrollee with HIV/AIDS (as defined in §303(a)) during the 12-month period beginning on [drafter insert effective date of purchasing agreement].

(2) **Stop-Loss Amount** — The stop-loss amount specified in this paragraph is the amount of expense incurred by Contractor for furnishing [drafter specify items and services to which stop-loss applies] to an enrollee with HIV/AIDS (as defined in §303(a)) during the 12-month period beginning on [drafter insert effective date of purchasing agreement] that is in excess of the stop-loss trigger expense specified in paragraph (1).

(3) **Payment Date** — The payment date specified in this paragraph is [drafter insert desired timeframe].

(c) **No Downstreaming of Risk**¹⁴ — Contractor agrees that the subcontracts or other written agreements between Contractor and providers described in §203(b) participating in Contractor’s provider network shall not place a provider at financial risk with respect to the furnishing of HIV/AIDS services to enrollees with HIV/AIDS (as defined in §303(a)).

§303. Definitions

(a) **Enrollee with HIV/AIDS** – An individual who is enrolled with Contractor under [drafter insert reference to purchasing agreement] who has:

- (1) AIDS (as defined in §112(b));
- (2) HIV infection (as defined in §112(c)); or

¹⁴ **Commentary for Medicaid purchasers:** Federal Medicaid law limits the extent to which MCOs contracting with state Medicaid agencies on a risk basis are allowed to shift financial risk “downstream” to their physicians. An MCO may not make any specific payment either directly or indirectly to a physician or a physician group as an inducement to reduce or limit medically necessary care for an enrollee. In addition, if an MCO places the physician or physician group at “substantial financial risk” – i.e., greater than 25 percent of the physician’s anticipated income under the agreement – then the MCO must provide stop-loss protection that takes into account the size of the physician practice and the number of enrollees. §1903(m)(2)(A)(x) of the Social Security Act, 42 U.S.C. §1396b(m)(2)(A)(x), 42 C.F.R. §417.479 (relating to physician incentive plans). The illustrative language above would bar the shifting of any financial risk from Contractor to a network provider with respect to the costs of furnishing covered HIV/AIDS services to enrollees with HIV/AIDS.

(3) an HIV-related condition (as defined in §112(d)).

(b) **Contractor** – the managed care organization doing business as [*drafter insert name*] that has entered into an agreement with Purchaser under [*drafter insert name of purchasing agreement*].

(c) **Purchaser** – [*drafter insert name of state purchasing agency*]

Appendix D

Risk-adjusted Reimbursement

One method of limiting the financial risk of caring for patients who require substantial services is risk-adjusted prepaid capitation rate setting. Risk-adjustment involves classifying individuals based on expected use of medical services and using those risk assessment classes to adjust premiums to insurance plans or MCOs (Weiner et al., 1996). Risk-adjustment generally consists of two parts – using specific factors to classify patients into different groups based on anticipated utilization of services and adjusting the payment to the health plan or MCO to reflect variance in anticipated risk due to differential enrollment of members with varying levels of risk (Gruenberg, Wallack, and Tompkins, 1986).

Predicting the anticipated or expected expenditures for services by an individual requires finding factors that are suitable for measuring the health risk of that individual. Variables for risk-adjusting reimbursement might include:

- Demographic information – age, sex, geographic location,
- Clinical markers – CD4 cell counts, viral load,
- Comorbidities – substance abuse, mental illness, or homelessness,
- Diagnosis – inpatient and/or outpatient, including opportunistic infections,
- Prior utilization of services as measured by historical payments,
- For Medicaid beneficiaries, their assistance category.

Prepaid capitation rates can be adjusted globally for an entire population or for a specific subset of the population based on diagnosis. Colorado and Maryland have initiated global risk adjustment systems, while several other states have initiated AIDS-specific prepaid capitation payment systems.

In 1997, Colorado implemented a diagnosis-based risk adjustment for its disabled and Aid to Families with Dependent Children (AFDC) patients enrolled in managed care. Colorado's purpose in creating such a system was to discourage risk selection among MCOs and to encourage providers to develop care systems for the chronically ill and the disabled. Based on the Disability Payment System (DPS), reimbursement begins with a base rate adjusted by age, gender, geographic area (Denver versus non-Denver), and the enrollee's assistance category. Incremental amounts calculated from categories of diagnoses are added to the base rate. Because categories of disease are additive, HIV patients with OIs will be reimbursed at a higher rate (**Tollen and Rothman, 1998**). Protease inhibitors are carved out of the capitation rate and paid for on a fee-for-service basis (**Conviser, Gamliel, and Honberg, 1998**).

Risk-adjustment was one of the key components of Maryland's Section 1115 waiver. In July 1997, Maryland implemented risk-adjusted reimbursement using Ambulatory Care Groups (ACGs) when the state created HealthChoice, the Medicaid managed care program. ACGs incorporate inpatient

and outpatient diagnostic data in risk-adjustment. Enrollees with less than six months of encounter data, the minimum required by ACGs, are adjusted based on age, gender, and geography. Under ACGs, patients (including those with HIV) are categorized into one specific rate cell. Children with AIDS are reimbursed on a fee-for-service basis, while adults with AIDS are paid with a special capitation rate. Viral load testing is carved out of the capitation rate and paid for on a fee-for-service basis (**Weiner, Tucker, Collins, Fakharaei, Lieberman, Abrams, Trapnell, and Folkemer, 1998**).

A number of states have implemented specific SSI rates for patients living with AIDS. Maryland has two AIDS rates – one for patients living in Baltimore and one for patients living outside the Baltimore area. Massachusetts has two rates for patients with AIDS based on the severity of illness – “active” AIDS or “advanced” AIDS. Medi-Cal in California has six different models for structuring managed care that counties can adopt.

New York State has developed a system of risk-adjusted capitation rates for the Special Need Plans using multiple adjusters. Rates are adjusted for diagnosis (HIV versus AIDS), three geographic areas (for adults but not children), multiple assistance categories, and age (children or adults). Resulting capitation rates are a combination of all applicable adjusters for a given patient.

Evaluating Risk Adjustment Methods

Thomas, Lichtenstein, and Wyszewianski (1983) propose four criteria for evaluating risk-adjustment models. Each criterion brings an important set of considerations to the evaluation of risk-adjustment methods. Criteria include:

Predictive validity – the model’s ability to accurately predict the expenditures made for services required by Medicare beneficiaries

Reliability – the ability to repeatedly collect the same type of data for a measure

Gaming – the model cannot be subject to manipulation by those who would benefit from higher capitation rates, e.g., health plans or providers

Administrative simplicity – the accessibility of data required for risk assessment without undue cost or time

Predictive ability – Patients with HIV/AIDS are a heterogeneous population with diverse health care needs and psychosocial factors that affect their care needs. Ideally, risk-adjustment models must accurately predict utilization and expenditures for both “average” patients, as well as low- and high-end users. Models must be able to predict expenditures for patients in all stages of HIV infection, including the early stages of HIV and end-stage AIDS. Risk adjustment methods

needs to demonstrate a good “fit” across a population with greatly varying utilization of health care services.

Reliability has to do with consistency of measurement. Does the variable chosen for risk adjustment always measure the same phenomena and is the variable always measured using the same decision criteria? If diagnoses, including those from OIs, are used to risk-adjust payments, are all diagnoses recorded reliably and accurately across all types of health care settings by different types of health care providers?

Gaming – Variables based on prior utilization of services have been criticized as creating an incentive for increased utilization. A risk-adjustment method based on prior hospitalizations may encourage additional hospitalizations by not rewarding the efficient provider who is able to treat the patient in an outpatient setting. Payment methods tied to diagnosis coding can lead to the upgrading of codes or coding “creep”. Risk adjustment strategies must be designed as much as possible to reduce gaming by MCOs and their providers. Medicaid programs may develop a variety of approaches to reduce gaming. These approaches may include strong requirements regarding timely provision of encounter data substantiating the provision of service and application of accessibility and quality assurance standards and evaluation of compliance with those standards.

Administrative simplicity – If the data required by the risk-adjustment method are expensive to collect or not widely available, implementing risk-adjusted capitation rates faces significant problems, even if the method is a strong predictor of annual patient expenditures. Risk-adjustment methods are constrained by the available data, i.e., clinical markers are not readily available on all patients. Obtaining information about comorbidities such as substance abuse or mental illness may require abstracting information from medical records. Detailed claims data are available for patients in fee-for-service programs, but limited data exist for patients enrolled in HMOs. Using inpatient diagnoses limits the accuracy of the adjustment to be made for patients not hospitalized but requiring services. In addition, all risk-adjustment models will need to be updated, not only with applicable patient information, but also in terms of anticipated expenditures from changes in health care technology and the development of new pharmaceuticals.

The barriers to implementing risk-adjusted capitation rates are substantial, with data requirements presenting significant challenges. Risk-adjustment methods based on historical fee-for-service paid claims data present problems of inaccurate data, data based on inappropriate or inadequate standards of care, or insufficient data in states with small populations of patients with HIV/AIDS. As previously mentioned, encounter data are not always easily available from either MCOs or providers contracting with MCOs, so continuing to risk adjust for the patient enrolled in an MCO becomes problematic. Any risk-adjustment method will require the ability to revise the patient’s risk assessment periodically based on changes in the patient’s health status or developments in the standards of care.

Additional barriers to implementing risk-adjusted capitation rates arise in resolving the differing concerns of purchasers, MCOs, providers, and patients. Involving all stakeholders early on in the

process of developing a risk-adjustment method is key to achieving buy-in for the end result. Working groups need to be developed for the purposes of discussion, information dissemination, decision-making, and concern gathering. These groups can provide feedback as the risk-adjusted payment method is developed (**Tollen and Rothman, 1998**).

A number of ideas may be generated while involving stakeholders in the process of developing a risk-adjustment methods. Incorporating every good idea that is presented may create difficulties in implementation. While incorporating all ideas is politically appealing, including all ideas may lead to a cumbersome system. An alternative is to incorporate ideas incrementally so that the initial process is not overwhelming (**Kaiser Family Foundation, May 1999**).

Risk-adjustment involves collecting and manipulating significant amounts of data. Substantial information system technology capacity and administrative resources are needed to support the data demands of risk-adjustment methods. These demands are made of both the state Medicaid program and all participating MCOs.

One reason for risk-adjustment is to address selection bias. Without the ability to mitigate financial risk, the possibility of selection bias arises. The potential for selection bias in Medicaid programs develops with a fixed payment, such as capitation, and choice for either the enrollee or the MCO, i.e., if enrollment is voluntary or if the enrollee has a choice of MCOs. If enrollment in a managed care plan is not mandatory or if the enrollee can choose among several different MCOs, selection bias and its associated problems can occur. Selection bias can be a problem for the MCO or for the provider, depending on which entity has accepted a fixed payment in return for ensuring that services are provided to the patient.

Adverse selection occurs if the MCO enrolls a disproportionate share of high-risk patients. For example, an MCO with a reputation of having experienced HIV providers in its network may attract an unusually high number of patients with HIV. Adverse selection by an MCO without strategies for mitigating the associated financial risk can jeopardize the financial solvency of the MCO. If the MCO is forced to withdraw from the Medicaid program due to financial problems, access for HIV patients is decreased and continuity of care may be reduced.

Favorable selection bias occurs when an MCO enrolls a disproportionate share of healthy patients. MCOs engaging in favorable selection bias are paid the capitation rate but have to provide fewer services to their patients. MCOs can encourage favorable selection by:

- Contracting with a limited number of experienced providers, making the plan less attractive to certain patients
- Offering preventive services which may appeal to a healthier population
- Not marketing an expertise in dealing with specific illnesses, such as HIV/AIDS

- Encouraging disenrollment of sicker patients, e.g., delays in obtaining an appointment or difficulties in obtaining needed care

Favorable selection bias by MCOs can be reduced by standardizing plan benefits to reduce segmentation of the market by the MCO, requiring MCOs to contract with experienced providers and to offer access to a full range of specialists, controlling marketing techniques such as setting standards for the content of written marketing materials, and monitoring disenrollment from each plan. The problem of selection bias by MCOs can also be dealt with by reducing the financial risk associated with high-risk patients.

Appendix E

Option 6 -- Risk Pools

§001. Duties of Purchaser

(a) **Monthly Capitation Payment** — Purchaser shall pay Contractor a prospective monthly capitation payment for each enrollee in an amount specified under subsection (b), subject to the withhold described in subsection (c) and the supplemental payment described in subsection (d).

(b) **Actuarially Sound Rate** — The capitation rate specified in this subsection is the amount per enrollee per month that is actuarially sound, as required under §1903(m)(2)(A)(iii) of the Social Security Act, 42 U.S.C. §1396b(m)(2)(A)(iii) in relation to the age and gender of enrollees and the cost of furnishing items and services for which Contractor is responsible under [*drafter insert reference to coverage provisions in purchasing agreement*], subject to the upper payment limit described in 42 C.F.R. §447.361.

(c) **Withhold for HIV/AIDS Enrollees** — Purchaser shall withhold from the amount otherwise payable to Contractor under subsection (b) an amount equal to [*drafter insert amount*] per enrollee per month.

(d) **Supplemental Payment for HIV/AIDS Enrollees** — If more than [*drafter insert number*] enrollees with HIV/AIDS (as defined in [*drafter insert reference to appropriate section in purchasing agreement*]) are enrolled in Contractor in a month, Purchaser shall increase the amount otherwise payable to Contractor under subsection (b) for the following month by an amount equal to [*drafter insert desired amount to be redistributed among competing plans in the geographic area*].

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