

**REPORT OF THE  
JOINT LEGISLATIVE  
AUDIT AND REVIEW COMMISSION ON**

**Funding the State  
and Local Cooperative  
Health Department Program**

**TO THE GOVERNOR AND  
THE GENERAL ASSEMBLY OF VIRGINIA**



**Senate Document No. 16**

**COMMONWEALTH OF VIRGINIA  
RICHMOND  
1988**

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## **Director**

**Philip A. Leone**

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## PREFACE

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Senate Joint Resolution 87 (1986) directed the staff of the Joint Legislative Audit and Review Commission to review the formulas used in the State and local hospitalization (SLH) and cooperative health department (CHD) programs. This report contains the staff findings and recommendations for revising the formula used to fund the CHD program.

Revision of the current CHD funding formula has been discussed for more than ten years. The current formula, which has been in effect since 1954, determines shares based on the value of local taxable property. However, this is an outdated measure of local ability to pay because localities currently have a variety of revenue sources other than real property tax revenues.

An examination of the local shares demonstrated some inequities in the current formula. To address these inequities, JLARC staff developed two alternative formulas to distribute funding responsibility between the State and local governments. These formulas are based on local revenue capacity and represent a significant improvement to the current funding formula.

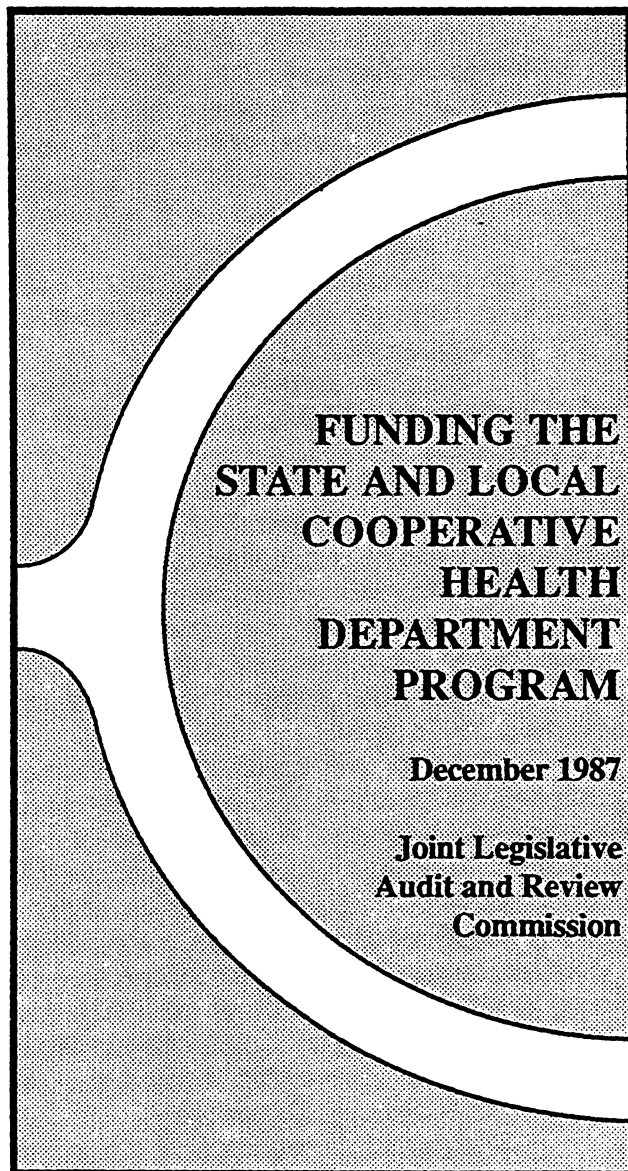
On behalf of the JLARC staff, I wish to thank the Department of Health and the 36 health district directors and administrators for their cooperation and assistance during the course of this review.



Philip A. Leone  
Director

December 21, 1987





Senate Joint Resolution 87 (SJR 87), passed by the 1986 session of the General Assembly, directed JLARC to study the formulas used to distribute funds for the State and local hospitalization program (SLH), and the State and local cooperative health department program (CHD). The resolution instructed JLARC to make recommendations for formula revisions and to include cost estimates for alternative plans.

This report reviews the current funding formula for the CHD program. It examines the methods for calculating the local shares of the program costs, and methods for distributing the State and local responsibility for program funding. The JLARC review of the SLH funding formula is contained in a separate report.

### **The Current Formula Has Limitations**

The CHD program was created by the General Assembly in 1954. At that time, a formula was established to determine the percentage shares of the cooperative health department budget which would be paid by Virginia localities. This formula, which is based on the estimated true value (ETV) of locally taxable real property, represented an effort to incorporate some measure of local ability to pay for health services. The minimum and maximum local contributions toward the CHD program are set at 18 percent and 45 percent, respectively, ensuring that the State pays for a majority portion of each local CHD budget.

### **A JLARC REPORT SUMMARY**

There are several limitations affecting the current CHD funding: (1) fund allocation is not based on any systematic assessment of community health needs, (2) ETV by itself is no longer an accurate measure of local ability to generate revenues to pay for CHD services, and (3) inflation has driven up the value of local real estate in all localities so that a majority of localities must pay the maximum share for the program.

The CHD funding formula has been a major source of discussion over the past several years. A variety of study groups and legislative proposals have attempted without success to bring about changes in some of the perceived shortcomings of the formula.

### **The Funding Process Should Address the Goals of Equal Access and Tax Equity**

The funding of any State program is designed to promote certain goals. The success of the program itself is often dependent on how well the methods used to fund the program help to achieve those goals. When funds are distributed unfairly, or inequitably, the program goals cannot be effectively achieved.

In evaluating the various methods by which the State could fund the CHD program, two primary goals were considered: equal access to needed program services, and tax equity. The goal of equal access can be promoted by the explicit recognition of program costs to meet the need for

health services. Tax equity can be achieved by ensuring that the proportion of resources required from local governments to fund health department services does not vary greatly across localities.

The lack of statutory and program guidelines to help define which types and levels of service should be provided by public health departments to meet community health needs precluded an in-depth analysis of CHD program costs. In addition, due to data limitations, significant variations among local health departments in the costs to deliver program services could not be validated by JLARC staff.

However, a systematic, rational system which recognizes the costs to meet the needs for the CHD program in each locality is essential to ensure that the funding system is equitable. This report recommends that the Virginia Department of Health review the processes by which it currently allocates funds and estimates costs for the CHD program. Emphasis should be placed on the systematic allocation of funds according to locality needs for public health services, and estimating the costs for services based on meeting these needs. The results of this review should be used to formulate future program budget requests.

### **More Can Be Done to Achieve the Goal of Tax Equity**

The goal of tax equity is not promoted through the current formula for the CHD program, which is based on the ETV of real property in Virginia localities. The current formula does not promote tax equity because it is based on 1979 ETV levels, and it is not an accurate measure of revenues available to localities to pay for the CHD program. Localities now have many sources of revenue available to them besides real property tax revenues.

The current funding formula used to determine local shares of funding for the CHD program is clearly outdated. This report sets forth two alternative formulas based on local revenue capacity for determining local ability to pay for the CHD program. These alternative formulas will ensure that tax equity is achieved through the funding for the program.

Revenue capacity is a measure of the revenue-generating capacity of a locality, if statewide average tax rates are applied to each local tax base. The measure can be used to determine the local shares for the CHD program by converting it to a ratio which shows each locality's relative ability to generate revenues. The ratio is calculated by dividing each locality's per-capita revenue capacity by the statewide per-capita revenue capacity.

The first alternative formula for determining local shares of CHD program funding is based on the local revenue capacity ratio. This formula continues to require a statewide local share of 45 percent, and the maximum share for any individual locality is also maintained at 45 percent. It ensures that localities with the greatest abilities to pay bear appropriate responsibility for funding the program. Localities with lesser abilities to pay are provided with greater State assistance in funding the program.

The second alternative formula for determining local shares is also based on the revenue capacity ratio for each locality. However, each locality's share is adjusted to reflect the adjusted gross income of local residents in relation to statewide adjusted gross income. Adjusting the local revenue capacity ratio for income recognizes that localities with residents who have lower incomes may have greater difficulty in taxing at statewide rates. The second formula also maintains a local share of 45 percent.

The formulas presented in this report to determine local shares will account for local ability to pay for the CHD program. Both formulas are based on revenue capacity, and represent significant improvements to the current formula. The formulas do not measure need for the CHD program, however. Measuring need for public health services can best be accomplished through the VDH budget and fund allocation process. The use of a systematic, rational budget process along with either alternative funding formula will promote the achievement of equal access to needed services and tax equity.

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## I. INTRODUCTION

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Senate Joint Resolution 87 (SJR 87), passed by the 1986 session of the General Assembly, directed JLARC to study the formulas used to distribute funds for the State and local hospitalization program (SLH), and the State and local cooperative health department program (CHD). The resolution instructed JLARC to make recommendations for formula revisions and include cost estimates for alternative plans.

This report reviews the current funding formula for the CHD program. It examines the methods for calculating the local shares of the program costs, and methods for distributing the State and local responsibility for program funding. The JLARC review of the SLH funding formula is contained in a separate report.

### Legislative Concerns

The cooperative budget formula has been a major source of discussion over the past several years. A variety of study groups and legislative proposals have attempted without success to bring about changes in some of the perceived shortcomings of the formula. The current formula determines local percentage shares of the CHD budget using the estimated true value (ETV) of locally taxable real property.

*Legislative Proposals.* The Commission on State Aid to Localities sponsored a bill in 1977 (HB 2160) that proposed a three-part formula for the distribution of all State aid, including aid to local health departments. The formula would have incorporated two measures of a locality's ability to pay (the per-capita composite index and tax effort) and a measure of locality need which utilized locality crime rates and poverty levels. However, this bill was vetoed by the Governor.

An alternative proposal (HB 599) was developed in 1978 as part of a package of legislation dealing with annexation issues. This proposal would have retained the ability-to-pay measures of HB 2160, but would have substituted local Medicaid enrollment as the measure of need. Although HB 599 was carried over to the 1979 session and eventually passed, the bill had been amended to exclude the CHD funding formula. The formula was excluded due to concerns that its implementation would lead to a significant increase in costs to the State.

*Previous JLARC Study.* JLARC conducted a study in 1979 examining the outpatient care system in Virginia. As part of the study, the funding formula and the programs of the local health departments were reviewed. Several shortcomings in the present system of State assistance were mentioned and are relevant today. First, although ETV does measure some level of a locality's fiscal capacity, the revenue bases of Virginia localities have diversified. A single measure of local fiscal capacity as measured by ETV is no longer appropriate.

In addition, the current CHD formula results in larger local shares for populous localities without taking into account the service demands of the residents.

Furthermore, ETV was capped in 1964 at \$391,951,000. Any locality with ETV at or above this level contributes the maximum share (45 percent) to fund their local health department. Since 1964, this cap has not been adjusted to reflect the effects of inflation on real estate values. Consequently, the number of localities required to pay the maximum share has progressively increased, and eventually all localities could be required to pay the maximum share. In fact, if local shares had not been frozen at 1979 ETV levels in 1983, more than 70 percent of all localities would have to contribute 45 percent of the program costs.

The 1979 JLARC study recommended that the formula be revised to take into account more up-to-date measures of tax effort, need, and local ability to pay for public services.

*VDH Study.* The Virginia Department of Health (VDH) has also attempted to examine and change the funding formula. In 1980, the Commissioner of Health established an advisory committee and task force which included representatives of the Virginia Municipal League, the Virginia Association of Counties, the Virginia Association of Planning District Commissions, and VDH. They examined several alternatives and concluded: (1) no other State funding formula is adaptable to the need of the VDH, (2) "ability to pay" indicators and "need for service" indicators would tend to counteract each other, (3) no acceptable means of measuring ability to pay or need could be found, and (4) revisions of the current formula to raise the formula cap on ETV would yield significant advantages. No consensus could be reached on altering or replacing the formula, however, because a redistribution of funds would inevitably benefit certain localities at the expense of others.

The advisory committee did propose a funding mechanism in which the State would pay a fixed percentage of the approved operating budget for a list of "core services" required by the State. The State would pay a larger percentage share for these core services. Other services desired by localities would be considered local options, with the localities paying a greater share. This proposal, labeled "Option X," has never been utilized, primarily because its implementation would have required additional State funds.

*Recent Legislative Studies.* Recently, two legislative subcommittees have examined the current CHD funding formula. In 1984, the Joint Subcommittee Studying the Operation and Services of the Department of Health concluded that a revision of the formula was necessary. However, they recognized that any adjustment to the formula would require additional funds. They recommended upgrading or revising the formula as soon as it was fiscally possible.

The Joint Subcommittee Established to Study Alternatives for a Long-term State Indigent Health Care Policy (1986) also recognized problems using ETV as a measure of fiscal capacity. Their examination of the formula resulted in the current study mandate (Appendix A).

## Study Approach

A funding formula can be used for several purposes. It can provide the State with some rational criteria for determining who should pay for program services, and how much they should pay. It should also take in account the funding necessary for a program to achieve its stated goals. This can be accomplished by explicit recognition of certain costs associated with the program, and by ensuring that these costs are included in the distribution scheme.

Analysis of the current funding formula for the CHD program began with an examination of program goals. The analysis helped in the assessment of the effectiveness of the current formula in promoting certain program goals, and identified areas in which changes could be made to better achieve these goals.

The general approach used to analyze the current distribution system focused on the accomplishment of three main goals: (1) to develop cost estimates that promote the achievement of equal access to needed program services, (2) to promote the equitable distribution of local funding responsibility for the program across localities, and (3) to preserve a funding arrangement in which the State and localities share the responsibility for financing the program.

*Assessing Need for the CHD Program.* Many goals of public health programs are based on concepts such as equal access. Most concepts of equal access include, among others, broad goals such as (1) providing equal opportunity to obtain health services, (2) improving the health status of all citizens, focusing on populations at risk, (3) providing adequate service levels, (4) ensuring that an appropriate mix of health services is available, (5) increasing the quality of care, and (6) ensuring that care is affordable and easily obtainable. However, several constraints precluded an evaluation of the need for the CHD program based on some of these concepts of equal access.

First, there is no consensus on the elements which should be included in a measure of public health needs. Most available measures of need are based on health status indicators, such as perinatal death rates, morbidity rates, or mortality rates. Unfortunately, no single measure appears to be an adequate gauge for the level of services that should be provided by the CHD program.

In addition, there is little statutory guidance regarding which types or levels of services are considered necessary to preserve public health. Given this lack of guidance, it would have been necessary for JLARC staff to evaluate community health needs and the effectiveness of the local health departments in meeting them. While this is a worthy objective, it clearly is an immense undertaking well beyond the scope of SJR 87.

Finally, identifying the need for the program was problematic because the population benefiting from the program is diverse. A major component of the CHD program is environmental health services. While the CHD program targets many of its services to indigents (primarily through its health services), the general population is the recipient of many health services

as well. A single measure that incorporated the diverse needs of broad target populations for a variety of services could not be developed within the scope of this study.

*Research Activities.* Three primary research activities were undertaken to develop alternative cost estimates and to design a distribution formula as required by SJR 87. The first activity focused on developing a cost estimate of the program which was not constrained by previous budgeting requirements.

The second research activity involved examining alternatives for achieving equity in local funding responsibility. While the current funding formula attempts to consider the ability of a locality pay to for program services, it is outdated and does not accurately assess the ability of a locality to raise revenues to pay for the CHD program. A key component of this study involved developing a more current and accurate measure of each locality's ability to generate revenue to fund the CHD program.

The final research activity was an analysis to explore how the costs of the program should be distributed between localities and the State. The results of this analysis are the proposed distribution options in the final chapter of this report.

### Report Organization

This chapter has provided background information on the study mandate and approach for evaluating the CHD formula. Chapter II provides more detailed information on the CHD funding formula and program operations. Problems surrounding the development of a CHD program cost estimate are discussed.

Chapter III describes the JLARC staff calculation of local shares to fund the program. Local taxable resources are identified and an analysis of how those resources can be used to provide public health services is presented. Chapter IV builds on Chapter III to determine the shares of the CHD program costs which should be paid by the State and localities.

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## II. FUNDING THE COOPERATIVE HEALTH DEPARTMENT PROGRAM

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The State and local cooperative health services system was created by the General Assembly in 1954. At that time, a formula was established to determine the percentage shares of the cooperative health department budget which would be paid by Virginia localities. This formula, which is based on the estimated true value of locally taxable real property (ETV), represented an effort to incorporate some measure of local ability to pay for health services. The minimum and maximum contributions that any locality could make toward the budget of a cooperative health department (CHD) were set at 20 percent and 45 percent, respectively, ensuring that the State would be paying for a majority portion of each CHD's budget.

In 1964, a joint study committee composed of officials of the League of Virginia Counties and the Virginia Municipal League met to review the formula. They recommended reducing the minimum contribution of the locality with the lowest ETV from 20 percent to 18 percent. In addition, they suggested that localities with an ETV in excess of \$391,951,000 should be required to pay the maximum contribution of 45 percent. These recommendations were adopted by the Virginia Department of Health (VDH), and the formula has remained basically unchanged since that time. The formula is detailed in Figure 1.

This chapter presents an overview of the CHD program and its current funding arrangement. The first section discusses the legislative concerns regarding the program and current funding formula. The CHD organization and specific information on funding the program are presented. A description of the services and eligibility requirements of the CHD program is also provided.

The final section of the chapter discusses an assessment of CHD program costs undertaken during the course of the funding formula review. Data limitations during the course of this assessment precluded the development of alternative cost estimates for the program.

### CHD Organization

All cities and counties are required by State law to have a local health department (Section 32.1-30, *Code of Virginia*). They may contract with the State to provide public health services either as a single jurisdiction or in combination with neighboring cities and counties. All cities and counties in the State have participated in this cooperative arrangement since 1971.

The 119 local health departments are organized into 36 health districts, which in turn report to one of the five health regions in the State (Figure 2). The size of a particular health district depends solely on whether or not operating agreements have been reached between nearby local governing bodies. For example, Alexandria is a health district in and of itself; however, the Rappahannock Health District contains five local health departments.

Figure 1

## Determination of a Local Health Department Budget

Local health departments are funded jointly by the State and local governments. The amount of State and local financial support is based on 1) the percentage division between the State and each locality, and 2) the total budget amount. The following example shows how State and local shares would be determined for the Charlotte County Health Department.

### State-Local Percentage Shares

State and local percentage shares of local health department budgets are determined using the formula:

$$\frac{y - y1}{y2 - y1} = \frac{x - x1}{x2 - x1}$$

Where Y is the share to be funded by Charlotte County, Y1 is the minimum local contribution (18%), Y2 is the maximum local contribution (45%), X is the value of local real estate in Charlotte County, X1 is the lowest local value of real estate in the State, and X2 is the "ceiling value" for real estate (approximately \$392 million).

For example, Charlotte County had real estate valued at roughly \$240 million in 1979. The lowest local real estate value was \$66 million during that same year. To determine Charlotte County's share of its health department budget, the county's real estate value is substituted for X, the lowest value is substituted for X1, and the equation is solved for Y.

$$\frac{y - 18}{45 - 18} = \frac{240 - 66}{392 - 66}, \text{ therefore, } y = 32.4\%$$

Charlotte County's share of its health department budget is 32.4%. The State share of the Charlotte County health department budget is 67.6%.

### Health Department Budget Levels

The amount of a local health department budget is determined by the health director in conjunction with the local governing body (city council or county board) and the Virginia Department of Health (VDH). The size of the total budget depends on: 1) local appropriations, 2) availability of State matching funds, and 3) revenues earned by the local department.

The amount of revenues which VDH expects the local department to earn is subtracted from the total request. The remainder is then divided between VDH and the locality.

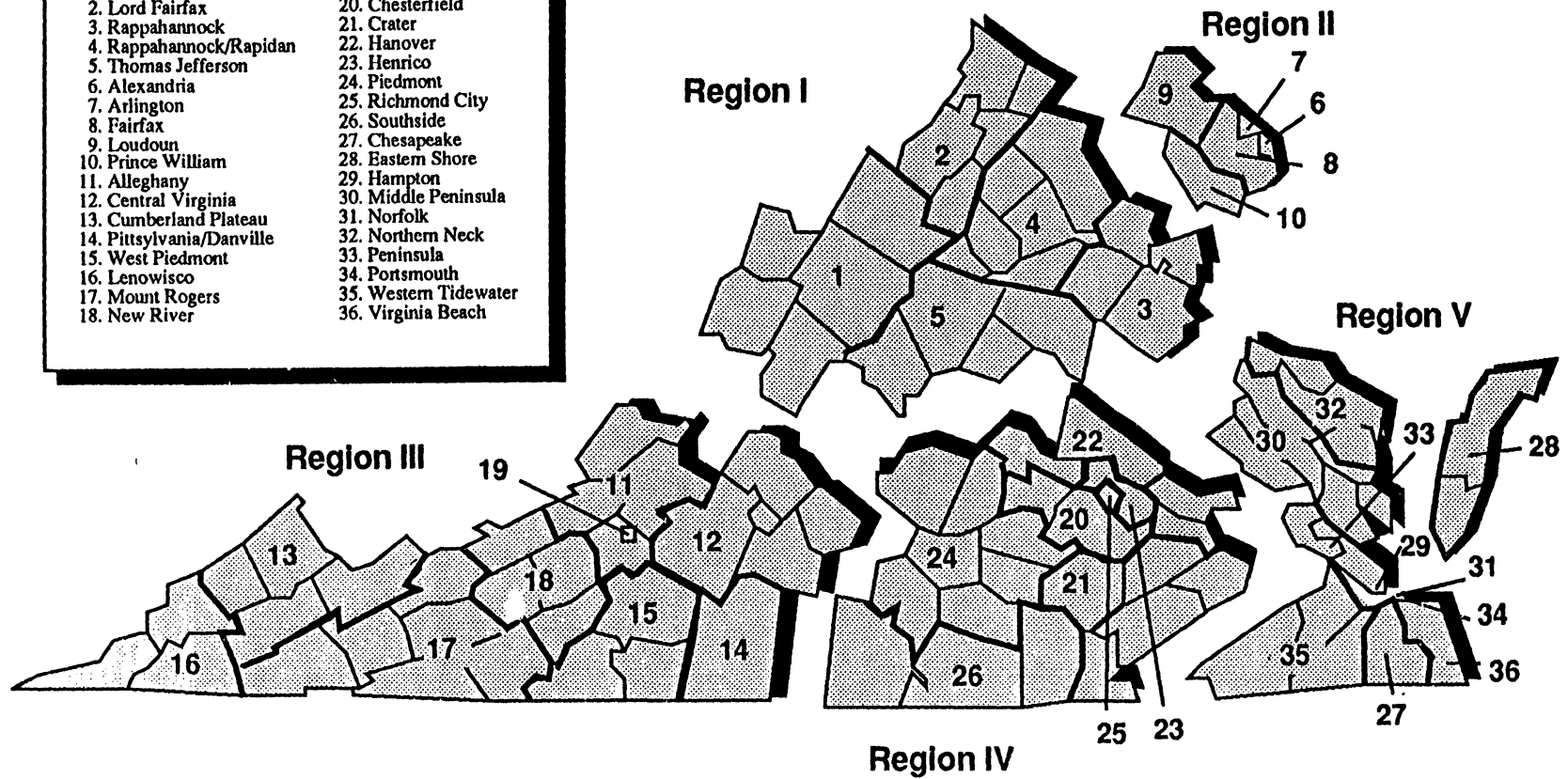
If the total budget request for the Charlotte County health department is \$150,000 and estimated revenues are \$30,000, the amount of State and local shares are determined as follows:

<u>Step 1: Determine Amount to be Shared</u>		<u>Step 2: Determine Local Share</u>	
\$ 150,000	Total Budget	\$ 120,000	
<u>-30,000</u>	Estimated Revenues	<u>x .324</u>	Local Percentage
\$120,000	Amount to be Shared between the State and Charlotte County	\$38,880	Local Share
<u>Step 3: Determine State Share</u>			
\$ 120,000		<u>x .676</u>	State Percentage
		\$ 81,120	State Share

Source: JLARC staff graphic.

Figure 2  
**Department of Health Regions and Districts**

<b>HEALTH DISTRICTS</b>	
1. Central Shenandoah	19. Roanoke City
2. Lord Fairfax	20. Chesterfield
3. Rappahannock	21. Crater
4. Rappahannock/Rapidan	22. Hanover
5. Thomas Jefferson	23. Henrico
6. Alexandria	24. Piedmont
7. Arlington	25. Richmond City
8. Fairfax	26. Southside
9. Loudoun	27. Chesapeake
10. Prince William	28. Eastern Shore
11. Alleghany	29. Hampton
12. Central Virginia	30. Middle Peninsula
13. Cumberland Plateau	31. Norfolk
14. Pittsylvania/Danville	32. Northern Neck
15. West Piedmont	33. Peninsula
16. Lenowisco	34. Portsmouth
17. Mount Rogers	35. Western Tidewater
18. New River	36. Virginia Beach



Source: VDHI Directory of Regional Offices and District Health Department Offices, August 1986.

The local health departments generally operate as satellite offices under the guidance of a district director. The district director is appointed by the Commissioner of Health and must be a physician. Appointment of the director is also subject to the approval of the local jurisdictions. The director appoints all subordinate positions within the district, including a central management team which is responsible for the local administration of the district.

### CHD Funding

CHDs are funded primarily through the cooperative budgets, which are composed of State and local funds. Many of the CHDs also receive federal block grant funds for the operation of federal health programs in the localities (maternal and child health, family planning, and the Women, Infants and Children program). These block grants are obtained by the VDH through separate State matching funds. Health districts may apply to the VDH to obtain federal funds. Funds are distributed to the health regions based on decisions made by a VDH committee that determines need.

Federal funds and program costs are coded so that these funds may be tracked and separated from cooperative budget funds. The cooperative budget for a CHD is not directly affected by the availability of federal funds, because most health departments fund maternal and child health, and family planning services through their budgets. Federal funds are used primarily to supplement these programs, or to target specific needs which may exist in some communities.

*Appropriations.* The total appropriation for the community health services program for the 1986-1988 biennium was \$194,208,204 (\$97,154,102 in FY 1987 and \$97,054,102 in FY 1988). The State general fund share was \$90,385,804 (\$45,220,402 in FY 1987 and \$45,165,402 in FY 1988).

The overall State share of the total CHD budget, minus local supplemental contributions and program revenue, has been historically about 58 percent prior to 1982. However, the overall State share began decreasing at a fairly constant rate due to the implementation of a cap on ETV and the inflation in real estate values that occurred in the early 1980s. To combat this steady decline in State shares, the percentage shares were frozen in FY 1983 on the basis of 1979 ETV levels. The State share over the past several years has stabilized between 54 and 57 percent (Table 1).

The main problem associated with the use of the cap and the use of ETV as a measure of ability to pay is that if the local shares had not been frozen, they would have continued to increase toward and eventually have reached the maximum contribution for no other reason than inflation of real estate values. Some fiscally stressed communities may have high real estate values, which causes them to have to pay a share that they cannot afford. A more accurate and equitable measure of ability to pay is clearly needed.

*Budget Process.* The budget process for the CHD program begins after the General Assembly sets the appropriation for the VDH (Figure 3). The



Table 1

**Expenditures with State and Local Shares  
Less Revenue and Local Supplemental Funds**

<b>FISCAL YEAR</b>	<b>STATE (%)</b>	<b>LOCAL (%)</b>	<b>TOTAL</b>
1982	32,550,708 (57.6)	23,960,780 (42.4)	56,511,488
1983	34,802,741 (56.7)	26,543,387 (43.3)	61,346,128
1984	34,654,620 (54.7)	28,667,759 (45.3)	63,322,379
1985	37,853,813 (55.5)	30,287,063 (44.5)	68,140,876
1986	44,159,207 (56.8)	33,574,143 (43.2)	77,733,350

Source: Virginia Department of Health.

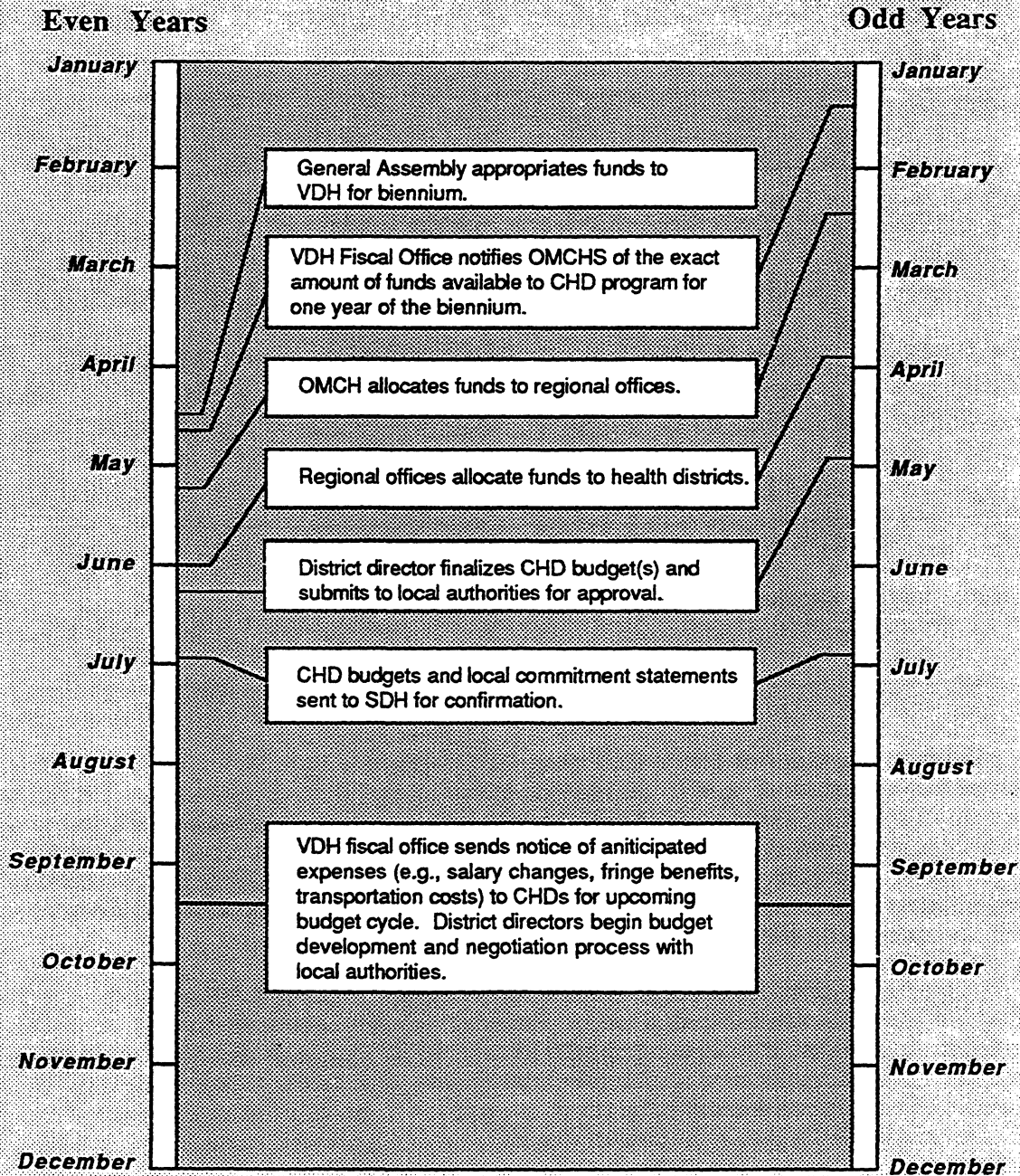
available allocation level for the total CHD program is calculated by the VDH fiscal office and sent to the Office for the Management of Community Health Services (OMCHS). The OMCHS distributes the available allocation to the health regions based primarily on previous budgets and historical usage levels. The regional directors then distribute the funds to the health districts (also based on previous budgets), and the district directors decide how to divide the money among the local health departments in their districts.

The district director allocates the money to the CHDs based on the amount of funds available and perceptions of need. Once the district director has determined what the budget should be for a CHD, the director must then convince the local authority of its validity. In multijurisdictional districts, the district director must submit budgets for approval to each local authority. The CHDs historically have not had an active role in the planning of fund distribution.

With the exception of funds for salary increases, State funding for CHDs has remained level for the past several years. In addition, CHDs have not been able to hire full-time staff due to caps imposed by the Governor on full-time equivalent workers. Therefore, additional funds for special health needs or local aspirations must come from the localities or special federal programs.

Figure 3

## Cooperative Health Department Budget Development Process



CHD = Cooperative Health Department, VDH = Virginia Department of Health

OMCHS = Office of Management for Community Health Services.

**Note:** All dates are approximate.

Source: JLARC graphic based on discussions with VDH fiscal director and OMCHS personnel, 1986.

Several problems exist with the current budget process. First, no objective measure of local need is used to determine how to allocate funds. Instead, funds are distributed through a top-down process based almost purely on historical usage. This method cannot account for changes in need and does not provide for evaluation of program services.

Second, because of the budget process, the current distribution formula actually determines only the shares that localities must meet and has no real effect on the actual amount of State assistance that the localities receive. Third, the current process makes no provision for locality planning and input in the advanced stages of the budget process. The amount of money that the State will contribute is determined in advance, and the locality is forced to fund any additional needs after the amount of State assistance is known.

Finally, despite the efforts of the VDH, notification of the exact amount of State funds available to the districts rarely occurs in a timely fashion. This occasionally requires the districts to develop their budgets in the absence of a firm commitment of State funds. Several district directors and administrators cited this as a major problem in the budget process.

The VDH is taking steps to remedy some of the historical problems affecting the budget process. The CHDs have developed six-year plans to help prioritize public health services for the upcoming years. This plan should assist them in determining and prioritizing future biennial budget targets.

*Revenues.* CHDs are required to charge fees for certain services depending on VDH eligibility criteria, which will be explained in more detail later. Through a local bank account, these revenues are placed in the State Treasury daily. CHDs may receive some of their revenues back if the total revenues collected exceed their budgeted revenue projections for the year. They are reimbursed a proportion of the excess revenues they raise according to their percentage share, after possible over-expenditures have been subtracted. Since localities only provide a portion of the initial resources for the program, VDH policy allows localities to receive only a proportional share of the excess revenues back. Until FY 1987, excess revenues were placed in an emergency/contingency fund to cover unexpected expenses. These excess funds are now placed into the State general fund.

Revenue projections have historically been conservative figures. According to several district administrators, accurate revenue projections are difficult to make in a changing medical environment. Consequently, health districts usually return the local share of excess revenues collected to localities each year. However, these funds are usually not available until the end of the calendar year, because it takes some time for the VDH to develop a fiscal year-end settlement report.

The VDH should develop a systematic method to assist health districts in projecting program revenues more accurately. If revenues are projected accurately, the State can determine more precisely the total cost to fund the cooperative health department budget. An accurate cost estimate is essential to the development of an efficient distribution system.

## Community Health Services

There are three broad categories of medical services provided by local health departments: public health nursing, medical clinics, and home health care. In addition, environmental health services are provided by CHDs, which are also briefly discussed below.

*Public Health Nursing.* Public health nursing is a service of the local health departments through which public health nurses visit patients in their homes so they can evaluate and observe the patients. This service is one of the oldest and most active functions of the health departments. Currently, however, it is being de-emphasized in favor of clinical services and the more extensive home health program.

*Medical Clinics.* Many of the services provided by the local health departments are performed within their own facilities. Some of these basic services are: tuberculosis and respiratory testing and treatment, venereal disease testing and treatment, immunizations, Women, Infants, and Children (WIC) program, maternal and child health, family planning, preventive health, dental health, and general medical services.

Localities are not required to provide all of these services. CHDs are required by statute to provide some of the most basic services (TB testing and treatment, venereal disease testing and treatment, and immunizations) due to their public health significance. As mentioned previously, the maternal and child health program, the family planning program, and the WIC program receive financial support from federal funds. The WIC program is primarily funded by federal funds, although the cooperative budget provides administrative support services for the program. Localities may also choose to include more extensive programs, depending on community needs, physician/nurse availability, and availability of funding sources.

*Home Health.* The home health program provides care to homebound persons through visits by public health nurses, orderlies, and aides. The treatment of these patients is conducted according to a program prepared by a physician. Home health visits provide some services to patients which are similar to the public health nursing program. However, the home health program emphasizes more direct and extensive care than the public health nursing program (e.g., administering injections, providing physical therapy). This approach is based on the assumption that home visits provide less costly care to patients compared to lengthy hospital or nursing home stays.

The program is almost totally funded through third party sources (Medicaid, Medicare, or other health insurance carriers). State and local funds are used in a limited capacity to pay for administering the program in the localities and to pay for services to people not covered by a third party source. Because home health services are viewed as a less expensive method of caring for homebound patients, the program has received an increased emphasis and State funding as health care costs have continued to increase.

*Environmental Services.* The local health departments are required by State law to perform a variety of environmental enforcement duties. These

services include inspections of: restaurants, on-site sewage septic systems, private wells, rental and migrant housing, service stations, milk producers, campgrounds, hotels and motels, and drinking water supplies. The licensing functions for many of these items are also carried out by the sanitarians at the CHDs. The types and levels of environmental services vary widely across the CHDs.

Environmental services are carried out in the interest of general public health safety. Funds for these activities make up roughly 20 percent of the total cooperative budget, although some health districts may spend up to 50 percent of their budgets to provide these services.

### Eligibility

As previously mentioned, the CHDs are required by a scattered set of statutes in the *Code* to provide certain medical services (in addition to the required environmental services) to the general population without charge or eligibility determination. These services are:

- immunization of children against diphtheria, tetanus, whooping cough, poliomyelitis, measles (rubeola), german measles (rubella), and mumps,
- examination of persons suspected of having or known to have tuberculosis,
- examination, testing and treatment of persons for venereal disease,
- screening of persons for the disease of sickle cell anemia or the sickle cell trait, and
- screening for phenylketonuria, hypothyroidism homocystinuria, galactosemia, and Maple Syrup Urine Disease.

In addition, those defined as indigent are not charged for services. This group includes people who are either at or below the poverty income level (except in Northern Virginia, where the cut-off point is 110 percent of poverty income), or those who are already receiving assistance under Medicaid. The poverty income level is currently set at \$11,000 for a family of four in most of Virginia and \$12,100 in Northern Virginia.

Medicaid is charged for the services that it covers, and services that it does not cover are provided free of charge. The total estimated level of Medicaid reimbursement for FY 1986 was \$6,470,545. Other clients are charged a given percentage of the cost for services based on five levels of income, ranging from 110 to 233 percent of poverty income for most Virginians, and 133 to 266 percent of poverty income for those residing in Northern Virginia.

Potential clients are requested to fill out a standard application form when they first visit a CHD clinic. A determination is made after services are rendered regarding how much they owe for the services, based on their income

level and the type of service provided. To prevent collection problems, some CHDs attempt to estimate the amount that will be owed and collect the money before services are rendered. There are provisions for hardship cases for whom the CHD wishes to continue providing services in spite of having collection difficulties with the client.

Client eligibility is supposed to be reviewed every year for almost all CHD programs. Clients are responsible for notifying the health department if there is a significant change in their income status.

### Assessment of CHD Program Costs

District health directors and administrators were surveyed for information on CHD expenditures and service levels. In addition, service level data were collected from the VDH. Unit costs were developed for each broad service category using these data. The unit costs were manipulated to derive statewide prevailing cost estimates for CHD services. However, during this exercise, several data problems became evident which precluded the development of alternative CHD program cost estimates. Cost estimates could be calculated, in the future, with greater accuracy if these problems are addressed by the VDH.

*Data Problems Affecting the Cost Estimate.* When JLARC staff began constructing CHD program cost estimates, it was necessary to obtain expenditure data from each local health department for each program area. Although the VDH keeps these data for the health districts, data were not available for each local health department. After examining the surveys that were returned from the health districts for each local health department, it became apparent that there were discrepancies between the reported expenditure totals and the totals reported by the VDH. This problem stemmed from the use of two different accounting systems. Health districts do not appear to consistently reconcile these differences in their accounts at the sub-program level of detail required to generate accurate per-service costs.

Data for medical services were obtained from the Division of Public Health Nursing of the VDH. These data were based on old State reporting forms used for medical services. However, this reporting system was in the process of being replaced during the JLARC review. Data from the system were not consistent across local health departments due to differing interpretations of the reporting categories. In addition, data for environmental services were kept on a calendar year basis instead of a fiscal year basis. This resulted in data inconsistencies with totals reported by CHDs for the fiscal year that could not be verified.

*Variations in Per-service Costs.* These data problems exacerbated the differences found in per-service costs among local health departments. Some of the variations in these costs were quite notable. For example:

*In Warren County a per-service cost of \$28.68 for maternal and child health services was demonstrated. However, nearby Clarke County demonstrated a per-service cost of \$94.56.*

\* \* \*

*Northumberland County had a per-service cost of \$14.16 for environmental services. However, in neighboring Westmoreland County, a per-service cost of \$32.47 was evident for this same service category.*

These variations in per-service costs could occur for a number of reasons. First, some localities may be delivering services more efficiently than others. Second, localities may choose to deliver particular services within a broad service category that may be more expensive to deliver than others. Locality characteristics or unique situations may also affect the costs to deliver certain services.

An assessment of these services and the variations in their costs was beyond the scope of the JLARC study. However, these disparities in unit costs for services in CHDs raise serious questions about the current budget allocation process for the CHD program and how the need for public health funds is determined for the local health departments. The process could be enhanced by a systematic evaluation of program operations and service delivery.

*Recommendation (1).* The Virginia Department of Health should review the processes by which it currently allocates funds and estimates costs for the CHD program. Emphasis should be placed on the systematic allocation of funds according to locality need for public health services, and estimating the costs for services based on meeting these needs. The results of this review should be used to formulate future program budget requests.

#### Program Costs Used to Demonstrate Proposed Formula Revisions

Any revisions to the current CHD funding formula must be illustrated by using the total costs of the CHD program. Because a cost estimate could not be developed for the program with any validity, the costs used for this analysis were based on preliminary CHD program budget requests developed by the VDH. These budget requests are targeted amounts for two levels of program enhancement. The first budget target used in this analysis was for level one funding. This level of funding contains initiatives for moderate program expansion. The second budget target used in this analysis is based on level one plus level two funding. This level of funding includes program initiatives and other enhancements to deliver more community health services. The impacts of using these budget targets in a revised formula will be explored further in Chapter IV.

It is important to note that these targeted budget figures are being used only to demonstrate funding formula revisions. These are preliminary budget figures and their use in this analysis should not be construed as an endorsement for funding the program at this level.





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### III. CALCULATING LOCAL SHARES

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The original intent of the current CHD distribution formula was to provide a systematic method for determining each local government's financial responsibility for the program. Ideally, the formula gives some advantage to local governments that are less able to generate revenues due to the lack of available tax resources, while placing greater funding responsibility on more affluent localities.

The current CHD formula is based on the estimated true value of real property (ETV) in a local government's jurisdiction. This formula was developed when real property tax revenues represented the bulk of local revenue sources for localities. However, in the 33 years that have elapsed since the initial implementation of the formula, dependence on local revenue sources has diversified. Local governments in Virginia have several types of property and consumer tax revenues available to pay for the CHD program. In addition, they have the ability to collect non-tax revenues from sources such as permits, fines, and fees. Therefore, although it still represents a large segment of the tax resources available to local governments, ETV alone is not an adequate measure of local tax resources.

This chapter discusses how the ability of Virginia localities to raise revenue from various sources can be estimated. Two alternative measures were examined for use in the CHD funding formula. The first measure examined was the composite index, which is currently used in the distribution of elementary and secondary education funds. The composite index was rejected, however, because extensive modifications would have been necessary for its appropriate use in a public health program. Local revenue capacity was also examined for use in a revised CHD funding formula. Revenue capacity represents a significant improvement over both the current formula and a modified composite index in measuring local tax resources. It measures the revenue-generating capacity of a locality, if statewide average tax rates are applied to each local tax base.

#### LOCAL GOVERNMENT REVENUE SOURCES

Local governments in Virginia collect revenues from a wide variety of sources. There are three general classes of revenue: (1) general property tax sources, such as real property and tangible personal property, (2) non-property tax sources, such as sales taxes, and (3) non-tax sources, such as fines and forfeitures. Exhibit 1 contains a brief description of these different revenue sources.

The single most important source of local government revenue in Virginia is real property, which is composed of real estate and real property from public service corporations (PSCs). While reliance on real property revenues varies substantially across localities, real property revenues account for almost half of all local revenues statewide (42 percent in FY 1986).

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Exhibit 1

LOCAL REVENUE SOURCES

Real estate property taxes are levied on land from urban and suburban family residences, multi-family residences, commercial and industrial properties, and agricultural properties, as well as on buildings and improvements to these properties.

Public service corporation (PSC) real property taxes are levied on land, buildings, machinery, water lines, stock in inventory, and other physical assets of utility companies (e.g., railroads, telephone and telegraph, water, heat, light, power, and pipeline companies).

Tangible personal property taxes are levied on commercial and residential property which may be seen, weighed, measured, or touched, such as motor vehicles and office equipment.

PSC tangible personal property taxes are levied only on automobiles and trucks. The tax is equal to the rate levied on residential and commercial tangible personal property.

A machinery and tools tax is levied on the value of all machinery and tools owned by a manufacturer as of January 1 of each year. The rate is set by each locality and limited to the rate established for other tangible personal property.

A business, professional, and occupational license (BPOL) fee may be imposed on retailers, professionals, and repair services, in lieu of a merchants' capital tax.

A merchants' capital tax is imposed by all counties (no cities may levy this tax). Localities may use this tax or BPOL, but not both, for any single classification of merchant.

A local option sales tax of one percent is levied by all localities in Virginia. It is added to the State 3.5 percent sales tax.

A consumer utility tax is a percentage of utility charges (e.g., telephone or electricity).

A motor vehicle license fee is levied by most localities, and ranges between \$1.00 and \$25.00. In most cases, a separate fee is levied for vehicles under and over two tons.

Other taxes include taxes on utility licenses, bank franchises (stock), deeds and wills, transient occupancy, meals, admissions, cigarettes, coal road improvements, and coal severances.

Non-tax revenue sources include permits, privilege fees, regulatory licenses, fines and forfeitures, charges for services (e.g., sanitation), revenue from use of money and property, and others.

Source: JLARC staff analysis of Auditor of Public Accounts and Department of Taxation Virginia tax information.

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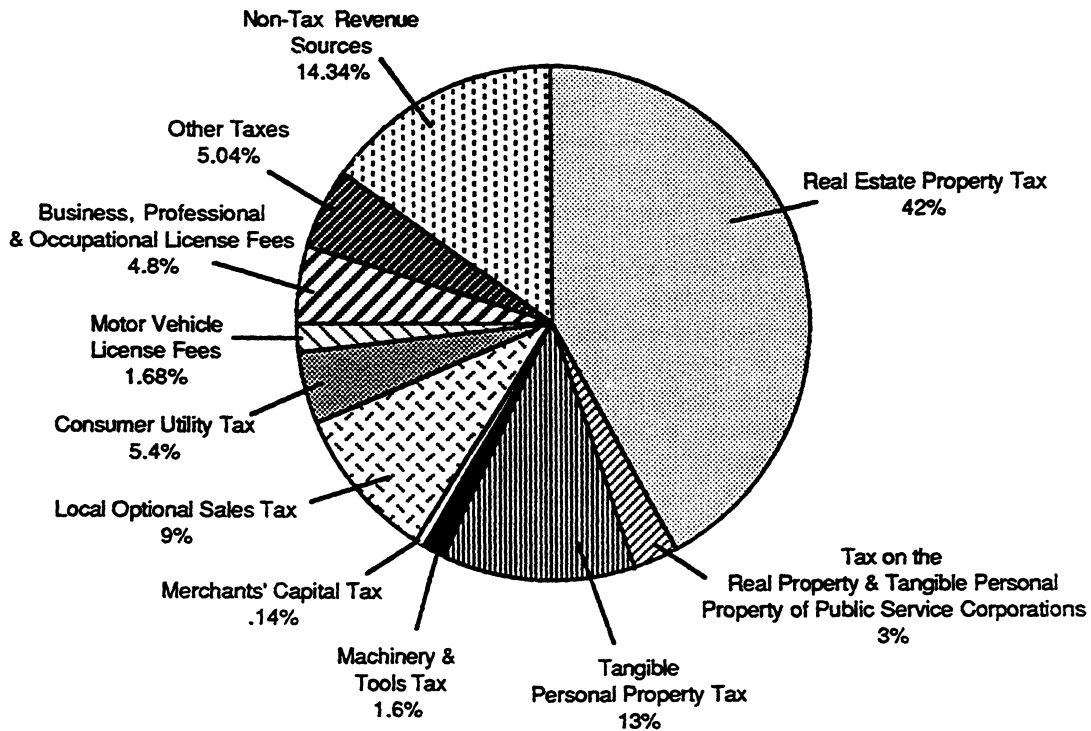
A variety of other revenue sources comprise the remaining 58 percent of statewide local revenues. Figure 4 shows the proportion of total statewide revenue accounted for by each source.

From the 1950s to the early 1970s, major changes in the mix of local resources occurred. These included the adoption of local option sales taxes and the urbanization of many localities. These factors subsequently led to the expansion of many non-property tax sources of revenue. By FY 1970, 50 percent of locally raised revenue came from the real property tax, eight percent from the tangible personal property tax, and 10 percent from the local sales tax. The remaining 32 percent came from all other property and non-property taxes as well as miscellaneous revenue sources.

The process of measuring local resources in Virginia has evolved over many years. It began with the use of real estate measures only, followed by

Figure 4

### Local Revenue Sources in Virginia



*Note:* Percentages represent proportion of local revenue statewide.

Source: JLARC staff analysis of Auditor of Public Accounts data for FY 1986.

the development of the composite index. The most recent measure is revenue capacity which, like the composite index, is a multi-component measure. Because most locality tax bases are a mixture of several different sources, a multi-component formula to measure ability to raise revenue is appropriate, and such a formula is necessary to ensure that CHD funds are distributed equitably across localities.

## CALCULATING REVENUE CAPACITY

Revenue capacity represents a significant improvement over many other measures of local ability to pay for the CHD program. Measuring the revenue capacity of Virginia localities is not a new concept, however. It has been used since 1977, and was further revised and updated in the 1980s by JLARC and the Commission on Local Government. It is based on the revenue-generating capacity of cities and counties, if statewide average tax rates are applied to their tax bases.

The concept of revenue capacity was originally developed by the U.S. Advisory Commission on Intergovernmental Relations (ACIR). The measure computes the potential revenues that localities can raise or produce if they impose or levy statewide average tax rates for each of the major tax instruments. That is, the major tax bases in a locality are multiplied by the average statewide tax rate for those tax bases. Thus:

$$\text{local tax base} \times \text{statewide average rate} = \text{potential revenue yield}$$

The sum of revenues yielded across the different tax bases is the revenue capacity of the locality, assuming the use of average tax rates. Revenue capacity measures five components: (1) real estate and public service corporation property tax revenues, (2) tangible personal property tax revenues, (3) motor vehicle license tax revenues, (4) sales tax revenues, and (5) all other locally-generated revenues proxied by adjusted gross income. Exhibit 2 illustrates the revenue capacity calculation.

### Measuring Real Estate and PSC Property Revenue

The potential revenues a locality can raise from the real estate property tax are calculated by multiplying the statewide "average" true effective tax rate by the local estimated true value (ETV) of real estate property. "Effective" refers to the standardized base, and is determined by dividing the statewide sum of real estate levies by the statewide sum of the ETV of real estate property. This allows for interjurisdictional comparisons. The same procedure is followed to measure revenues from public service corporation property.

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Exhibit 2

**Computing Revenue Capacity**

**Revenue Capacity =**

- [Estimated True Value of Real Estate Property] x [Statewide Average Tax Rate]
- + [Estimated True Value of PSC Property] x [Statewide Average Tax Rate]
- + [Number of Motor Vehicles] x [Statewide Average Personal Property Tax Rate]
- + [Number of Motor Vehicles] x [Statewide Average of Local Motor Vehicle License Fees]
- + Sales Tax Revenue
- + [AGI] x [Average "Other" Tax Rate]

<b>Example: City of Winchester</b>	
<b>Revenue Capacity =</b>	
	[\$584,595,000] x [.00860]
+	[\$24,052,000] x [.00765]
+	[14,535] x [\$117.59]
+	[15,197] x [\$15.49]
+	\$2,835,935
+	[\$193,859,288] x [.02027] = \$ 13,921,549.75

Source: JLARC graphic of Commission on Local Government data.

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**Measuring Tangible Personal Property Revenues**

Revenues derived from tangible personal property taxes consist of taxes levied on motor vehicles, boats, machinery and tools, and other items. Assessment procedures and tax rates vary across localities. Local commissioners of revenue indicated that the levy on motor vehicles produces the majority of all revenue from tangible personal property taxes. Subsequent analysis also showed a strong relationship between the number of motor vehicles in each locality and the total levies for tangible personal property taxes. Therefore, the number of motor vehicles registered in each locality was used as a surrogate for the actual size of the tax base, which may include additional items.

Statewide total tangible personal property tax levies were used to determine a dollar-per-vehicle measure. This measure represents the average

tax yield (known as the tangible personal property bill) for each registered vehicle in Virginia. This amount was then multiplied by the number of vehicles registered in each locality to produce the estimate of the potential revenue that could be generated from tangible personal property taxes, assuming a statewide average tax rate.

### Measuring Motor Vehicle License and Retail Sales Revenues

Potential revenue generated from the motor vehicle license tax can be estimated by multiplying the number of motor vehicles in each locality by the statewide average motor vehicle license tax. For retail sales, revenue produced from this tax is available directly from the Department of Taxation and the Auditor of Public Accounts; no estimation procedure is needed, because the statewide rate for the local option portion is uniform at one percent. All cities and counties levy this local option sales tax.

### Measuring "Other" Revenues

"Other" revenues consist of taxes or fees levied by localities on consumer utility bills, business, professional, and occupational licenses (BPOL), merchants' capital, transient occupancy, meals, and admissions. These "other" taxes are often referred to as "consumption taxes," because their yield varies as local residents consume goods and services. Traditionally, personal income has been used as a proxy for measuring these other revenue sources. However, personal income data are currently not available beyond 1984, and will no longer be provided by the federal government for all Virginia cities and counties. For this reason, other proxies were examined to represent and measure "other" revenues.

Because consumer utility tax revenues and BPOL fees make up part of the "other" revenue base, they appeared to be potential proxies for the total size of the base. In addition, sales tax revenues were examined as a possible proxy, because the size of this revenue base is also dependent on the consumption behavior of locality residents. Finally, AGI was assessed as a potential proxy to replace personal income used in the traditional revenue capacity computation.

Several problems precluded the use of consumer utility tax revenues and BPOL fees as proxies for "other" revenue sources. The tax base for these sources of revenue changes each billing period (usually on a monthly basis). For example, the consumer utility tax is a percentage of monthly utility charges, which varies according to the amount of the utility used. Unlike real or personal property, a tax base for these sources cannot be estimated at one point in time. The base constantly varies within the year depending on the level of consumption. If the size of the tax base cannot be determined at one fixed point in time, then the statewide tax rate for these sources cannot be determined either.

Instead, sales tax revenues and AGI were examined as possible proxies for the "other" sources. Sales tax revenues and AGI appeared to be equally good at predicting the size of the "other" revenue base. AGI was

chosen to proxy "other" revenues, however, because it represented the least change to the current methodology. In addition, because sales tax revenues were not a better proxy measure than AGI, it seemed appropriate to continue to use some measure of income to represent these "other" sources of local revenue. While AGI is not a better measure of individual income than personal income, it is currently the only available measure.

### Advantages of the Revenue Capacity Measure

Currently, revenue capacity is one of the most important dimensions of a local government's fiscal position. The major advantage to the measure is that it provides a direct method of summing together each local government's revenues on a comparable basis. It is a more accurate measure of the ability of local government to raise revenues. Because it gives a balanced picture of local fiscal capacity, this measure is appropriate for estimating the revenues of localities. And, because a local government's revenue capacity is computed relative to others in the State, comparisons can be made concerning the strength of the revenue capacities of all Virginia's local governments.

*Capturing the Local Importance of Tax Bases.* Revenue capacity accounts for local variation in the relative importance of the various tax bases. That is, in measuring revenue capacity, the weights vary across localities and depend on the relative size of the tax bases in each locality (when the local tax bases are measured using average tax rates). Other measures of local ability to pay for public programs do not account for these local variations.

*Utilizing More Precise Proxies.* The revenue capacity measure uses precise proxies to represent certain revenue sources. It is able to estimate, in dollars, revenues that can be generated from real property taxes. In addition, both tangible personal property revenue and motor vehicle license revenue are measured as separate components, with the use of better proxies. The base used for both of these components is the number of motor vehicle registrations for the calendar year. Tangible personal property revenue is obtained by multiplying this base by the statewide average tangible personal property rate, and motor vehicle revenue is obtained by multiplying the base by the mean motor vehicle license fee for cars under two tons.

*Estimating Absolute Ability to Raise Revenue.* Revenue capacity is a measure of the revenues generated by separate revenue sources. These revenue capacity components can be compared with each other. Revenue capacity represents revenues in dollars assuming localities apply average tax rates. It also shows the relative ability of a locality to raise revenues.

### THE LOCAL REVENUE CAPACITY RATIO

Once the revenue capacity of each locality is measured, it becomes the basis for calculating the local revenue capacity ratio. Revenue capacity is calculated for each city and county in Virginia. First, each locality's revenue capacity is divided by its population. This ratio is then divided by an identical statewide ratio (total statewide revenue capacity divided by total statewide

population). The resulting local revenue capacity ratio is a relative measure which varies for each locality. A locality with a local revenue capacity ratio greater than or equal to 1.0 can raise more revenues per unit than the State average. A ratio of less than 1.0 means less revenue can be raised per unit:

$\frac{\text{Locality Per-Capita Revenue Capacity}}{\text{Statewide Total Per-Capita Revenue Capacity}} = \text{Local Revenue Capacity Ratio}$
<p><b>Where:</b></p> <ul style="list-style-type: none"> <li>• Locality per-capita revenue capacity is equal to local revenue capacity divided by local population, and</li> <li>• Statewide total per-capita revenue capacity is equal to the sum of all local revenue capacity divided by the State population.</li> </ul>

Once the local revenue capacity ratio has been completed, it is used to calculate locality shares of the CHD program.

Calculating Local Shares Using the Revenue Capacity Ratio

Local shares for the CHD program are calculated by multiplying each locality's revenue capacity ratio by the statewide local share of CHD funding. For example, if the statewide local share of the CHD program is 45 percent, this number is multiplied by each local revenue capacity ratio to determine each local share:

$\text{Local Revenue Capacity Ratio} \times \text{Statewide Local Share or Program Funding} = \text{Local Share}$
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Using this calculation, a locality with a higher per-capita revenue capacity than the statewide average will have a higher local share. A locality with a lower per-capita revenue capacity than the statewide average will have a lower local share.

Determining the Local Shares of the CHD Program Cost

Before the local shares for the CHD program can be calculated, two decisions must be made: (1) What share of the funding responsibility should the State bear? (2) Should minimum or maximum limits be established on local shares? Like several programs that are funded jointly by the State and localities, the current CHD formula limits the amount of funds that any locality is required to pay for local health services. This ceiling is currently 45 percent. In addition, a locality must pay at least 18 percent of the program costs. These limits on locality shares, along with the freeze on shares imposed in 1983, have resulted in an aggregate State share of 54-57 percent.



## State Share of CHD Program Funding

Changes to the current State share for funding CHD were explored during the formula review. A State aggregate share of 55 percent was selected for use in this analysis. However, the use of a locality ceiling in the formula will force the actual aggregate State share up and will allow it to fluctuate from year to year as it has in the past.

The selection of a 55 percent State aggregate share is somewhat arbitrary, since this share is not prescribed by the *Code*. However, 55 percent has historically been the minimum amount that the State recognizes as its share of the costs to provide CHD services in localities. Since many of the services that the CHDs must perform are State mandated, the formula should probably ensure that the State pays for a majority of the total program cost.

## Implementing a Ceiling on Locality Shares of CHD Costs

Changes were also explored for imposing a variety of limits on the amount any locality would contribute to the CHD program. Currently, the minimum local contribution is 18 percent and the maximum contribution is 45 percent. While the imposition of minimum and maximum limits on locality contributions may limit the achievement of equity, it is necessary to ensure that the State participates in the funding of CHD in every locality. Without a ceiling, localities with a revenue capacity ratio of 1.0 or above would have a local share of 100 percent.

A ceiling and floor on local shares impose artificial constraints on a revised formula. A ceiling or floor makes it difficult to distribute the funding responsibility so that the aggregate State share for a program can be precisely predicted.

For example, a locality may have the ability to generate revenues to pay for 60 percent of its public health program, while the distribution formula sets the aggregate State share of the program at 55 percent. Under an option in which the State imposes a ceiling on local shares of 45 percent, the State would pay to provide the 15 percent difference between the 45 percent cap and the 60 percent that the locality could afford to pay. Traditionally, the State has paid for these excess costs. In a sense, then, the State pays to maintain a policy which allows a ceiling on local shares to be imposed. This results in fluctuations of the overall State share of the program costs. Under the alternatives described later in this chapter, the aggregate State share would fluctuate between 59 and 65 percent.

For this analysis, the ceiling on local contributions was set at 45 percent, although other amounts were considered. A ceiling of 45 percent was selected primarily because State mandates for the CHD program support a funding arrangement in which the State pays for a majority of the program. Historically, no locality has been required to contribute more than 45 percent of the program.

Options setting minimum local contribution at 20 and 25 percent were examined for all distribution alternatives considered in this analysis.

However, these floors on the shares resulted in little change to the aggregate State share (less than one percent).

### Adjusting the Local Shares for Income Variations

As mentioned earlier in this chapter, the local revenue capacity ratio is the most accurate measure currently available of the revenues accessible by a locality, given a constant tax rate. Local shares calculated using this ratio result in a more equitable distribution of the local responsibility for the CHD program.

However, use of the local revenue capacity ratio does not recognize that some localities with high revenue generating capacities may also have relatively low average incomes. An adjustment for income variations recognizes that localities with residents who have lower incomes may have greater difficulty in taxing at statewide rates.

Therefore, options have been developed for consideration with an income adjustment. This adjustment has been applied to the shares calculated using the local revenue capacity ratio and proposed formula:

$$(1) \frac{\text{Local Median AGI}}{\text{State Median AGI}} = \text{Income Adjustment Ratio}$$

$$(2) \text{Income Adjustment Ratio} \times \text{SLH Local Share} = \text{SLH Local Share with Income Adjustment}$$

Like the local revenue capacity ratio, this income adjustment varies around 1.0. Localities with incomes above the State median (an income adjustment ratio greater than 1.0) experience an increase in their shares, while localities below the State median (income adjustment ratio less than 1.0) have their shares reduced. However, even with the adjustment for income variations, no locality's share would exceed the specified ceiling on local shares. Table 2 lists the local shares calculated using the revenue capacity ratio alone and with the application of the income adjustment.

An option could also be developed to apply a partial adjustment for income to the local shares calculated using the revenue capacity ratio. While this option is not presented in this report, it could be considered as a policy choice for developing local shares for the CHD program.

Table 2

## LOCAL SHARES USING THE REVENUE CAPACITY RATIO

<u>Locality</u>	<u>Local Revenue Capacity Ratio</u>	<u>Current Local Shares</u>	<u>Shares Using Local Revenue Capacity Ratio</u>	<u>Income Adjustment Ratio</u>	<u>Shares Using Local Revenue Capacity Ratio with Income Adjustment</u>
<i>Counties:</i>					
Accomack	.7697	.4500	.3464	.6538	.2264
Albemarle	1.1310	.4500	.4500	1.0821	.4500
Alleghany	.7482	.31945	.3367	.9803	.3301
Amelia	.8994	.28974	.4047	.7741	.3133
Amherst	.7132	.4500	.3209	.9338	.2997
Appomattox	.7825	.31531	.3521	.8427	.2967
Arlington	1.6522	.4500	.4500	1.3217	.4500
Augusta	.8963	.4500	.4033	.9498	.3831
Bath	2.0563	.34912	.4500	.7756	.4500
Bedford	.9380	.4500	.4221	.9893	.4176
Bland	.6035	.22179	.2716	.8232	.2236
Botetourt	.8623	.4500	.3880	1.0134	.3932
Brunswick	.6874	.35062	.3093	.6782	.2098
Buchanan	.7461	.4500	.3357	.8718	.2927
Buckingham	.7633	.34703	.3435	.6905	.2372
Campbell	.7765	.4500	.3494	.9567	.3343
Caroline	.8320	.44689	.3744	.7949	.2976
Carroll	.6195	.39712	.2788	.7764	.2164
Charles City	.8697	.25142	.3914	.7775	.3043
Charlotte	.7189	.32362	.3235	.6980	.2258
Chesterfield	1.0967	.4500	.4500	1.4540	.4500
Clarke	1.1326	.36921	.4500	.9203	.4500
Craig	.8109	.19282	.3649	.9197	.3356
Culpeper	1.0255	.4500	.4500	.8784	.4054
Cumberland	.7396	.27177	.3328	.6868	.2286
Dickenson	.7340	.4500	.3303	.8485	.2803
Dinwiddie	.7530	.4500	.3388	.8205	.2780
Essex	1.0296	.33957	.4500	.7564	.3505
Fairfax	1.4569	.4500	.4500	1.5414	.4500
Fauquier	1.4056	.4500	.4500	1.1529	.4500
Floyd	.7836	.3494	.3526	.8390	.2959
Fluvanna	1.0078	.38945	.4500	.8608	.3904
Franklin	.8183	.4500	.3682	.8625	.3176
Frederick	1.0056	.4500	.4500	.9449	.4276
Giles	.7528	.41771	.3388	.9057	.3068
Gloucester	.9985	.4500	.4493	1.0371	.4500
Goochland	1.1620	.44939	.4500	.9524	.4500
Grayson	.6261	.35639	.2818	.7042	.1984
Greene	.8660	.26402	.3897	.9372	.3652
Greensville	.7075	.28985	.3184	.7429	.2341
Halifax	.6635	.4500	.2986	.7708	.2302
Hanover	1.1328	.4500	.4500	1.1659	.4500
Henrico	1.0958	.4500	.4500	1.1558	.4500
Henry	.7923	.4500	.3565	.8329	.2970
Highland	1.0798	.2039	.4500	.8050	.3912
Isle of Wight	.9573	.4500	.4308	1.0145	.4370
James City	1.2701	.4500	.4500	.9850	.4500
King and Queen	.8859	.25938	.3987	.7501	.2990
King George	.9103	.31512	.4096	.9847	.4034
King William	.9587	.35913	.4314	.9533	.4112
Lancaster	1.1677	.41094	.4500	.8193	.4305
Lee	.5147	.38333	.2316	.6962	.1612
Loudoun	1.5340	.4500	.4500	1.4309	.4500
Louisa	1.7994	.4500	.4500	.8109	.4500
Lunenburg	.6592	.30057	.2967	.6738	.1999
Madison	.9518	.37157	.4283	.8120	.3478

Table 2  
(Continued)

**LOCAL SHARES USING THE REVENUE CAPACITY RATIO**

<u>Locality</u>	<u>Local Revenue Capacity Ratio</u>	<u>Current Local Shares</u>	<u>Shares Using Local Revenue Capacity Ratio</u>	<u>Income Adjustment Ratio</u>	<u>Shares Using Local Revenue Capacity Ratio with Income Adjustment</u>
Mathews	1.0415	.33851	.4500	.9485	.4446
Mecklenburg	.7813	.4500	.3516	.7123	.2504
Middlesex	1.1375	.3732	.4500	.8031	.4111
Montgomery	.6793	.4500	.3057	.8141	.2488
Nelson	1.0544	.39531	.4500	.8067	.3828
New Kent	.9468	.31806	.4260	1.1145	.4500
Northampton	.6692	.32458	.3011	.5907	.1779
Northumberland	1.1212	.29526	.4500	.7726	.3898
Nottoway	.6983	.3132	.3142	.7508	.2359
Orange	1.0166	.4500	.4500	.8707	.3983
Page	.7729	.4500	.3478	.7685	.2673
Patrick	.7284	.41077	.3278	.8155	.2673
Pittsylvania	.6649	.4500	.2992	.7973	.2385
Powhatan	.8372	.36003	.3767	1.0890	.4103
Prince Edward	.6323	.3601	.2845	.7168	.2039
Prince George	.5850	.40134	.2633	1.0624	.2797
Prince William	1.0418	.4500	.4500	1.3763	.4500
Pulaski	.7524	.4500	.3386	.8973	.3038
Rappahannock	1.2429	.30511	.4500	.9157	.4500
Richmond	1.0240	.25041	.4500	.7940	.3659
Roanoke	.9731	.4500	.4379	1.1381	.4500
Rockbridge	.8548	.4500	.3847	.8207	.3157
Rockingham	.8639	.4500	.3888	.8865	.3446
Russell	.6521	.4500	.2934	.8380	.2459
Scott	.5541	.29186	.2493	.8869	.2211
Shenandoah	.9859	.4500	.4436	.8088	.3588
Smyth	.6224	.4500	.2801	.7824	.2191
Southampton	.8211	.4500	.3695	.8872	.3278
Spotsylvania	1.1252	.4500	.4500	1.1463	.4500
Stafford	.8719	.4500	.3924	1.2137	.4500
Surry	2.6161	.4500	.4500	.7903	.4500
Sussex	.8943	.36905	.4025	.7277	.2929
Tazewell	.6897	.4500	.3104	.8648	.2684
Warren	.9317	.4500	.4192	.9132	.3828
Washington	.7212	.4500	.3245	.8007	.2599
Westmoreland	.9463	.34885	.4258	.7266	.3094
Wise	.6941	.4500	.3124	.9154	.2859
Wythe	.7273	.4500	.3273	.7586	.2483
York	.9638	.4500	.4337	1.0719	.4500

Table 2  
(Continued)

LOCAL SHARES USING THE REVENUE CAPACITY RATIO

<u>Locality</u>	<u>Local Revenue Capacity Ratio</u>	<u>Current Local Shares</u>	<u>Shares Using Local Revenue Capacity Ratio</u>	<u>Income Adjustment Ratio</u>	<u>Shares Using Local Revenue Capacity Ratio with Income Adjustment</u>
<i>Cities:</i>					
Alexandria	1.6403	.4500	.4500	1.2172	.4500
Bedford City	.7590	.21457	.3415	.7686	.2625
Bristol	1.0081	.38385	.4500	.7541	.3421
Buena Vista	.6297	.18904	.2834	.8467	.2399
Charlottesville	.9128	.4500	.4108	.7702	.3164
Chesapeake	.8990	.4500	.4046	1.0541	.4264
Clifton Forge	.6647	.1800	.2991	.7664	.2292
Colonial Heights	.8977	.32338	.4040	1.0867	.4390
Covington	.8096	.29894	.3643	.7712	.2809
Danville	.7724	.4500	.3476	.7556	.2626
Emporia	.8637	.28985	.3887	.7066	.2746
Fairfax City	1.5288	.4500	.4500	1.3494	.4500
Falls Church	2.5387	.44134	.4500	1.1134	.4500
Franklin City	.8455	.20205	.3805	.8513	.3239
Fredericksburg	.9822	.37319	.4420	.8879	.3925
Galax	.9464	.22311	.4259	.6944	.2957
Hampton	.8041	.4500	.3618	.9654	.3493
Harrisonburg	.8974	.40403	.4039	.8086	.3265
Hopewell	.7351	.41909	.3308	.8973	.2968
Lexington	.6528	.20811	.2938	.8878	.2608
Lynchburg	.8561	.4500	.3852	.8414	.3241
Manassas	1.3660	.44523	.4500	1.2971	.4500
Manassas Park	.6439	.19101	.2897	1.1134	.3226
Martinsville	.9341	.37699	.4203	.7506	.3155
Newport News	.7941	.4500	.3573	.9622	.3438
Norfolk	.6603	.4500	.2971	.7954	.2363
Norton	.8077	.4500	.3635	.7993	.2905
Petersburg	.7160	.4500	.3222	.7081	.2281
Poquoson	.9640	.26317	.4338	1.2364	.4500
Portsmouth	.6611	.4500	.2975	.8764	.2607
Radford	.6494	.26838	.2922	.9220	.2694
Richmond City	.9597	.4500	.4318	.8058	.3480
Roanoke City	.8855	.4500	.3985	.7789	.3104
Salem	.9736	.4500	.4381	.9484	.4155
South Boston	.7161	.4500	.3223	.7828	.2523
Staunton	.8246	.43097	.3711	.8402	.3118
Suffolk	.8012	.4500	.3605	.8835	.3185
Virginia Beach	.9772	.4500	.4397	1.0243	.4500
Waynesboro	1.0275	.39975	.4500	.9055	.4187
Williamsburg	1.3738	.36853	.4500	.8072	.4500
Winchester	1.0572	.4500	.4500	.8222	.3911

Source: JLARC Staff Analysis.



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## IV. EVALUATING THE CHD DISTRIBUTION OPTIONS

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Three program goals were set forth to assist in the development of a revised funding formula for the CHD program: (1) to develop cost estimates that promote the achievement of equal access to needed program services, (2) to promote the equitable distribution of local funding responsibility for the program across localities, and (3) to preserve a funding arrangement in which the State and localities share the responsibility for financing the program. Chapter II discussed data limitations encountered in trying to develop alternative cost estimates for the CHD program, leading to the use of preliminary CHD program budget targets in the analysis of distribution options. Chapter III presented options for calculating local shares so that the program funding would be distributed equitably. This chapter builds on the previous chapter to establish a framework for apportioning the CHD funding responsibility between the State and localities.

Several options exist to distribute the funding responsibility for the program between the State and localities. Preliminary budget targets for level one funding could be used to demonstrate the apportionment of program funding responsibility. Or, budget targets for level one plus level two funding could be used for this analysis. In addition, local shares can be adjusted to account for income variations between localities.

The State and local shares of the program funding were calculated for the 1988-1990 biennium using: (1) revised local shares, and (2) revised local shares with the income adjustment. The preliminary budget targets used in this analysis are for demonstration purposes only. These figures could be replaced by actual program appropriations to calculate the State share of program funding and show program costs for each locality.

### Distributing CHD Funds Using Revised Local Shares

Two options exist to distribute CHD funds using the revised local shares. The first option distributes the CHD budget targets for level one funding. This budget target is distributed using local shares based on the local revenue capacity ratio. These shares were calculated using a targeted 55 percent State share of program funding. A ceiling of 45 percent was established on the local shares.

The second option is a variation of the first option. In this distribution, the budget target for level one plus level two funding is distributed using local shares based on the local revenue capacity ratio. The targeted State share of the program funding remains at 55 percent, and the ceiling of 45 percent is maintained for the local shares. Table 3 illustrates the statewide impact of these two distribution options.

### Distributing CHD Funds Using Revised Local Shares with an Income Adjustment

Two options also exist to distribute CHD funds using the revised local shares with an income adjustment. As mentioned earlier in this report,

Table 3  
**Apportionment of CHD Budget to  
 State and Local Governments Using Shares  
 Based on the Local Revenue Capacity Ratio**

**Option 1:**

Cost estimates using VDH preliminary budget target for level 1 program funding (excluding locally generated program revenues).

Targeted State share of program costs = 55 Percent  
 Cap on local share of program costs = 45 Percent

	<u>FY 1988 Budget</u>	<u>FY 1989</u>	<u>FY 1990</u>	<u>Biennium Total</u>
Total State Share	\$51,138,379	\$66,541,399	\$67,772,435	\$134,313,834
Total Local Share	<u>39,276,837</u>	<u>43,063,561</u>	<u>43,849,150</u>	<u>86,912,711</u>
Total Costs Allocated	\$90,415,216	\$109,604,960	\$111,621,585	\$221,226,545

**Option 2:**

Cost estimates using VDH preliminary budget target for levels 1 & 2 program funding (excluding locally generated program revenues).

Targeted State share of program costs = 55 Percent  
 Cap on local share of program costs = 45 Percent

	<u>FY 1988 Budget</u>	<u>FY 1989</u>	<u>FY 1990</u>	<u>Biennium Total</u>
Total State Share	\$51,138,379	\$73,951,509	\$77,732,635	\$151,684,144
Total Local Share	<u>39,276,837</u>	<u>47,784,551</u>	<u>50,195,750</u>	<u>97,980,301</u>
Total Costs Allocated	\$90,415,216	\$121,736,060	\$127,928,385	\$249,664,445

Source: JLARC analysis of CHD program costs and distribution of Addendum Budget Request Levels 1 and 2.

an income adjustment recognizes that localities with residents who have lower incomes may have greater difficulty in taxing at statewide rates. The third and fourth options presented here use the same budget targets discussed for the first and second options. Local shares are adjusted using the income ratio. These shares were also calculated using a targeted 55 percent State share and a ceiling on local shares of 45 percent. Table 4 illustrates the statewide impact of these two distribution options.



Table 4

**Apportionment of CHD Budget to State and Local Governments Using Shares Based on the Local Revenue Capacity Ratio with an Income Adjustment**

**Option 3:**

Cost estimates using VDH preliminary budget target for level 1 program funding (excluding locally generated program revenues).

Targeted State share of program costs = 55 Percent  
Cap on local share of program costs = 45 Percent

	<u>FY 1988 Budget</u>	<u>FY 1989</u>	<u>FY 1990</u>	<u>Biennium Total</u>
Total State Share	\$51,138,379	\$70,188,257	\$71,489,910	\$141,678,167
Total Local Share	<u>39,276,837</u>	<u>39,416,703</u>	<u>40,131,675</u>	<u>79,548,378</u>
Total Costs Allocated	\$90,415,216	\$109,604,960	\$111,621,585	\$221,226,545

**Option 4:**

Cost estimates using VDH preliminary budget target for levels 1 & 2 program funding (excluding locally generated program revenues).

Targeted State share of program costs = 55 Percent  
Cap on local share of program costs = 45 Percent

	<u>FY 1988 Budget</u>	<u>FY 1989</u>	<u>FY 1990</u>	<u>Biennium Total</u>
Total State Share	\$51,138,379	\$78,025,647	\$82,024,165	\$160,049,812
Total Local Share	<u>39,276,837</u>	<u>43,710,413</u>	<u>45,904,220</u>	<u>89,614,633</u>
Total Costs Allocated	\$90,415,216	\$121,736,060	\$127,928,385	\$249,664,445

Source: JLARC analysis of CHD program costs and distribution of Addendum Budget Request Levels 1 and 2.



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## APPENDIXES

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APPENDIX A

STUDY MANDATE

SENATE JOINT RESOLUTION NO. 87

*Requesting the Joint Legislative Audit and Review Commission to study the formulas used in the State/Local Hospitalization and State/Local Cooperative Health Department Program and make recommendations for revision.*

Agreed to by the Senate, March 3, 1986

Agreed to by the House of Delegates, February 27, 1986

**WHEREAS**, the State/Local Hospitalization (SLH) and State/Local Cooperative Health Department Programs are funded through state and local efforts based on a formulaic determination; and

**WHEREAS**, the General Assembly's Joint Subcommittee Studying Alternatives for a Long-Term Indigent Health Care Policy reviewed in 1985 and 1986 problems associated with formulas applied in the two health programs; and

**WHEREAS**, the SLH formula is based strictly on population and is allocated on a semi-annual basis with a reserve fund to reimburse localities exceeding their initial allocation; and

**WHEREAS**, in identifying problems with the SLH formula the joint subcommittee noted that: (i) funds are based on population with no adjustments for the size of the poverty population or access of residents to teaching hospitals; (ii) funds are distributed to all localities regardless of whether they participate in the program, with excess reverting to the reserve fund; and (iii) reserve funds are disbursed retrospectively on a reimbursement basis and therefore the locality must have and risk local funds without assurance of reimbursement; and

**WHEREAS**, the State/Local Health Department Cooperative Formula, which was initiated in 1954, has undergone little change to reflect changes in fiscal management. The local match requirement is based on a locality's fiscal condition measured by the true value of real estate, contributing to disparities between health departments. Although local real estate taxes used to be the single most important source of local taxes, localities today have a more diversified tax base; now, therefore, be it

**RESOLVED** by the Senate, the House of Delegates concurring, That the Joint Legislative Audit and Review Commission review the formulas used in the State/Local Hospitalization and State/Local Cooperative Health Department Programs, and make recommendations on formula revisions and include cost estimates for alternative plans. The Commission shall complete its work prior to November 15, 1987; and, be it

**RESOLVED FURTHER**, That the Clerk of the Senate prepare a copy of this resolution for presentation to the Director of the Joint Legislative Audit and Review Commission.

## APPENDIX B

### TECHNICAL APPENDIX SUMMARY

JLARC policy and sound research practice require a technical explanation of research methodology. An extensive description of the methodology used in this report is contained in the full technical appendix. It is available upon request from JLARC, General Assembly Building, Suite 1100, Capitol Square, Richmond, Virginia 23219.

**APPENDIX C**  
**AGENCY RESPONSE**

As part of an extensive data validation process, each State agency involved in a JLARC assessment effort is given the opportunity to comment on an exposure draft of the report. This appendix contains the response by the Department of Health.

Appropriate technical corrections resulting from the written comments have been made in this version of the report. Page references in the agency response relate to an earlier exposure draft and may not correspond to page numbers in this version of the report.



# COMMONWEALTH of VIRGINIA

C.M.G. BUTTERY, M.D.  
COMMISSIONER

*Department of Health*  
*Richmond, Virginia 23219*

December 4, 1987

Mr. Philip A. Leone, Director  
Joint Legislative Audit and Review  
Commission  
Commonwealth of Virginia  
1100 General Assembly Building  
Capitol Square  
Richmond, Virginia 23219

Dear Mr. Leone:

Thank you for meeting with me and my staff on December 2 to discuss the exposure draft of your report, Funding the State and Local Cooperative Health Department Program. Based on our discussion, I would like to submit the following comments.

I understand that the formula devised by the JLARC project staff is deliberately designed to reflect only local revenue generating capacity and not to address health status and related health needs in the localities. My staff agrees with me that the determination of need and the subsequent allocation of resources must be made by the Health Department based on morbidity and mortality data which we already possess and on the six year plans developed by the localities. After this determination is made, then the JLARC funding formula would determine each locality's proportional share in the cooperative budget.

We agree with you that the current funding formula has resulted in a number of inequities and we welcome the opportunity to correct some of these. However, we must consider the best way to implement a changed system in light of present budget constraints at the state level and the deteriorating ability of many localities to generate additional revenue.

Our preliminary analysis of the fiscal impact of this proposal shows that the Health Department would need an additional \$3,570,547 to meet the requirements of the local revenue capacity adjustment. Adding the suggested income adjustment would increase the state share for local health departments to \$6,685,328. These funds are not presently included in our base budget, and unless the base is increased, we would have to cut services by 6 percent to absorb this amount.

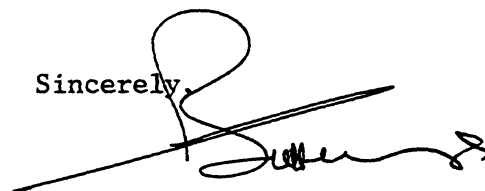
Mr. Philip A. Leone  
December 4, 1987  
Page 2

This analysis only considers the impact on the budget of the Health Department. It does not take into account the increased cost to any locality which finds its cooperative budget share increased as a result of the changed formula. Given the difficulties many localities are experiencing with declining revenues, we desire to implement this new funding formula to hold localities harmless for any decrease in state funding or increase in local funding. Thus any locality targeted by the formula for a decrease in state share would have the state portion of its budget frozen at the present level until annual increases in the local share of the budget match the revised state contribution.

The Department has just completed its first six year plan based on needs presented by the local health departments. Working within this plan, we will be able to determine the basic level of health services needed in each locality. The determination of these core needs, the majority of which should be funded by the state, will take another year. Our suggestion at this time is that implementation of the new funding formula should be phased in over the next four years. This will allow us to establish core programs, determine the necessary funding, and establish our base budget at the appropriate level.

Thank you for the opportunity to comment on the exposure draft. I look forward to meeting with the full Commission on December 14, 1987, to answer any questions that your staff or the Commission members may have.

Sincerely,

A handwritten signature in black ink, appearing to read 'C. M. G. Buttery', written over a horizontal line.

C. M. G. Buttery, M.D., M.P.H.  
State Health Commissioner

cc: Maston T. Jacks  
E. M. Brown, M.D., M.P.H.  
C. A. Cave, Ph.D.  
R. B. Stroube, M.D., M.P.H.



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## JLARC STAFF

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### RESEARCH STAFF

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#### Director

Philip A. Leone

#### Deputy Director

Kirk Jonas

#### Division Chiefs

Barbara A. Newlin

● Glen S. Tittermary

#### Section Managers

John W. Long, Publications & Graphics

Gregory J. Rest, Research Methods

#### Project Team Leaders

Clarence L. Jackson

Charlotte A. Kerr

● Susan E. Massart

Robert B. Rotz

E. Kim Snead

#### Project Team Staff

Linda E. Bacon

Andrea C. Baird

● Andrew D. Campbell

Karen E. Chappell

Nolani Courtney

● Stephen Fox

Laura J. McCarty

Carl W. Schmidt

Rosemary Skillin

Kimberly J. Wagner

### ADMINISTRATIVE STAFF

---

#### Section Manager

Joan M. Irby, Business Management  
& Office Services

#### Administrative Services

Maryann Du Val

Joanne Harwell

#### Secretarial Services

Bonnie A. Bowles

Rosemary B. Creekmur

Betsy M. Jackson

### SUPPORT STAFF

---

#### Technical Services

Timothy J. Hendricks, Graphics

● Kim S. Hunt, Associate Methodologist

R. Jay Landis, Data Processing

#### Interns

Desiree Asche

Kay Hall

● *Indicates staff with primary  
assignments to this project*

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