Joint Legislative Audit and Review Commission

The Virginia General Assembly

Review of the Funding Formula for the Older Americans Act

REPORT OF THE
JOINT LEGISLATIVE
AUDIT AND REVIEW COMMISSION ON

Review of the Funding Formula for the Older Americans Act

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

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Members of the Joint Legislative Audit and Review Commission

Preface

House Joint Resolution No. 130 of the 1990 General Assembly session requested the Joint Legislative Audit and Review Commission (JLARC) to study the State's funding formula for distributing Older Americans Act funds. In particular, the resolution requested JLARC "to develop and recommend the best available set of factors, statistics, and weights that will reflect the distribution and need of the aging population of the Commonwealth." This report contains the staff findings and recommendations for improving the funding formula.

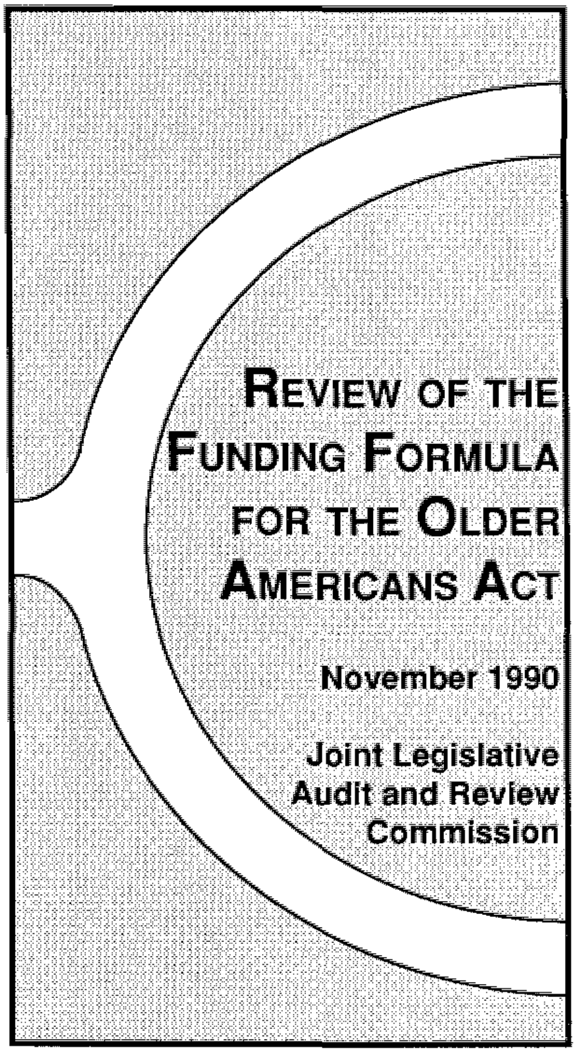
The JLARC staff's analysis of Virginia's formula indicates that the formula appears to be a reasonable and acceptable means for distribution of Older Americans Act funds. Each factor currently used in the formula appears to be consistent with federal and State laws and guidelines, and to promote equity. The statistics used in the current formula appear to represent the factors reasonably well, although there is room for improvement and refinement. The weights selected for use in the formula are primarily the result of public policy decisions, and appear to be legitimate choices of the Virginia Department for the Aging.

On behalf of the JLARC staff, I wish to express our appreciation for the cooperation and assistance extended by the 25 executive directors of local area agencies on aging in Virginia, and by the staff of the Department for the Aging.

Philip A. Leone
Director

November 20, 1990

JLARC Report Summary



The federal government's primary means of providing social services for the elderly is the Older Americans Act. This law mandates that these services be carried out through Virginia's local Area Agencies on Aging. Further, federal regulation requires the Virginia Department for the Aging (VDA) to develop a formula for distributing federal and matching State funds for these services. In fiscal year 1990 the Commonwealth of Virginia distributed approximately $18.2 million using this formula. The current formula benefits those areas of the State with large numbers of persons 60 years of age and older living in poverty.

Since 1988, Virginia's funding formula has been subject to legal challenge. The current formula was developed in 1989, by a task force consisting of members of the General Assembly, the Governor's Advisory Board on Aging, members of boards and directors of local area agencies on aging, service providers, and the academic community. House Joint Resolution No. 130, of the 1990 General Assembly session, requested the Joint Legislative Audit and Review Commission (JLARC) to study the funding formula.

JLARC staff assessed 27 potential factors in terms of appropriateness and feasibility for inclusion in the formula, and examined the assumed relationships in the

Current Virginia Intrastate Funding Formula

Proportion of funds going to local agency on aging =

(Proportion total population aged 60+) (.30)
+
(Proportion rural residents aged 60+) (.10)
+
(Proportion poverty population aged 60+) (.50)
+
(Proportion minority poverty population aged 60+) (.10)

Source: Virginia Department for the Aging, State Application for Funding Under Title III of the Older Americans Act, As Amended, 1989.

formula among the most appropriate factors. Several research activities were undertaken in the course of this analysis, including: interviews with VDA staff, local agency directors, and experts on demographics and statistics; reviews of the Older Americans Act and related federal regulations; and a review of other states' Title III funding formulas.

The JLARC staff's analysis of Virginia's formula indicates that the formula appears to be a reasonable and acceptable means for distribution of Older Americans Act funds. The VDA appears to interpret federal laws and guidelines for the intrastate funding formula in a way that is consistent with other states' interpretations. The Virginia formula has much in common with other states' formulas.

Each factor currently used in the formula appears to be consistent with federal and State laws and guidelines, and to promote equity. The statistics used in the current formula appear to represent the factors reasonably well, although there is room for improvement and refinement. The weights selected for use in the formula by the 1989 task force are primarily the result of public policy decisions, and appear to be legitimate choices of the VDA.

Some ways in which the funding formula could be improved are described in the following JLARC staff recommendations.

Recommendation (1). *The Virginia Department for the Aging should consider adding a more direct measure of social need to the funding formula. This additional factor should reflect the number of homebound and impaired elderly who are not institutionalized. The Department should assess the advantages and disadvantages of future alternative approaches for developing a measure to represent this factor, such as: refinements of the Department's "unmet need" data collection; a sample survey (which may be contracted with an outside consultant); and data requests from other State agencies.*

Recommendation (2). *The Virginia Department for the Aging should consider subtracting populations of institutionalized older persons, when possible, from factors in the formula, as described in Chapter II of this report. These populations include older persons who are institutionalized in nursing homes, State correctional facilities, DMHMRSAS facilities, and perhaps homes for adults.*

Recommendation (3). *The definition of "rural localities" should be based on population density differences alone, rather than on inclusion or exclusion in a Standard Metropolitan Statistical Area, when determining the "rural population" factor in the formula.*

Recommendation (4). *The Virginia Department for the Aging should consider stating further some rationale explaining how the factors in the formula relate to each other, and why particular weights are assigned to the factors. The Department should consider basing the values of some weights on differences in costs of providing services to different target groups.*

In addition, three potential factors do not appear as appropriate as the current factors for inclusion in the formula, but are sufficiently appropriate to be considered as viable policy options:

- population age 60 and over with limited English speaking ability, as a social need factor addressing federal regulations that refer to language barriers.

- minority population age 60 and over (regardless ofincome level), as a social need factor addressing federal regulations that refer to cultural or social isolation.

- adjustments to the poverty indicators used in the formula, to take into account local differences in cost of living or housing costs. This policy option would require better data than is currently available on older persons' incomes within each locality, and on local cost of living differences.

Finally, Virginia's formula has been revised seven times since 1981. While there will always be differences of opinion concerning the factors and weights, changing the formula almost annually causes problems for local agencies.

It is the VDA's responsibility to maintain continuity in the funding process, sensitivity to local perspectives, and leadership in providing a rationale for the weights that are chosen. Therefore, the VDA should reassess the formula every two biennia, with local agencies participating in the assessment process.

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I. Introduction

The federal government's primary means of providing social services for the elderly is the Older Americans Act (OAA). This law requires that certain social programs be implemented by local Area Agencies on Aging (AAAs), and that the state government distribute federal and matching state funds to the AAAs. Further, federal regulation requires that each state specify a formula for distributing these funds. In fiscal year 1990, the Commonwealth of Virginia distributed approximately $18.2 million using this formula.

House Joint Resolution No. 130 of the 1990 General Assembly session requested the Joint Legislative Audit and Review Commission (JLARC) to study Virginia's funding formula. The JLARC staff's analysis of the funding formula concluded that, overall, the factors, weights, and statistics used in the formula appear to be consistent with federal laws and regulations. Furthermore, Virginia's formula appears to be consistent with the way many other states have designed their funding formulas. However, there are options available for changing the formula, should the Governor or the General Assembly desire to make some explicit policy choices regarding the distribution of federal funds.

This chapter of the study provides background information on the Older Americans Act, Virginia's funding formula, and the JLARC study mandate.

THE OLDER AMERICANS ACT

Three significant federal programs targeted to the elderly are Social Security, Medicare, and the programs of the Older Americans Act. The foundations for public policies regarding the aged were laid in 1935 with the passage of the Social Security Act, which was designed to provide a minimum economic base for a population that was getting older. In 1965, when Medicare was initiated, health insurance was made an integral feature of the federal government's program of aid to the elderly. The Older Americans Act of 1965 and its subsequent amendments is the federal government's fundamental approach for providing social services to the elderly.

The Older Americans Act establishes program objectives and funding to plan, administer, and provide services to meet the special needs of citizens 60 years of age and older. The following sections describe each Title of the Act briefly and provide additional detail on Title III.

The Six Titles of the Older Americans Act

Title I includes a "Declaration of Objectives," calling for the availability of coordinated, comprehensive programs that include a full range of health, education, and social services for all older citizens who need them. Special priority is given to "the elderly with the greatest economic and social need." Under this title, federal assistance is provided for the planning and operation of such programs developed through a partnership of older citizens, community agencies, and state and local governments.

Title II outlines the structure and role of the federal Administration on Aging in the Department of Health and Human Services, which has overall responsibility for administering programs established under this act and for overseeing and participating in the development of all federal policies and programs affecting the elderly. It provides for a clearinghouse as a central source of all "information related to the needs and interests of older persons," and a Federal Council on Aging to advise the President and the AOA on all federal policies and programs for older Americans.

Title III is the principal source of funding for state and local governments planning for and providing services under this act. Title III provides for the planning and development of "comprehensive and coordinated service systems," authorizing funding and providing for a single administrative structure for three key service areas: social services, senior centers, and nutrition services. A primary goal of these service systems is to maintain maximum independence of the elderly through the provision of support services with supplemental self-care.

Title IV provides for the funding of evaluation, training, research, and demonstration efforts to be conducted by state and local governments and other organizations.

Title V authorizes the Department of Labor to provide grants to fund part-time community-service jobs for unemployed, low-income people aged 55 years and older.

Title VI makes possible the development of social services, including nutritional services, for Indian tribes.

The Older Americans Act has resulted in the establishment of a nationwide network of agencies concerned with the elderly. At the federal level, the Administration on Aging, through regional Health and Human Services offices, disburses the federal funds provided by the Older Americans Act and administers, monitors, and evaluates the programs of the various states. In turn, in each state there is a designated state unit on aging, which looks after the various community programs through a budgetary and planning review process. At the community level, designated area agencies on aging are responsible for the coordination of services and community resources.

Title III's Application to the States

State governments are allocated funds for Title III programs according to the number of persons aged 60 or older in the state as a proportion of all older Americans. One state agency must be designated by each state government to receive these funds and to develop and administer a state plan for the provision of services to the aging. In Virginia, the designated agency is the Department for the Aging (VDA).

The state agencies, in turn, must designate local area agencies on aging to develop and administer local-area plans for "planning and service" areas. Area plans form the basis for the development of state plans, both of which must be prepared on a two-, three-, or four-year basis, with annual adjustments as needed.

Local planning and service areas (PSAs) are flexibly defined. Currently, an area can be any unit of general-purpose local government with a population of 100,000 or more. Other units of such size and adjacent areas may also be included to form a "regional planning and service area," when it can improve program administration. Area agencies may be any public or private non-profit agency or organization, including an office of city or county government that has been appropriately designated for such planning.

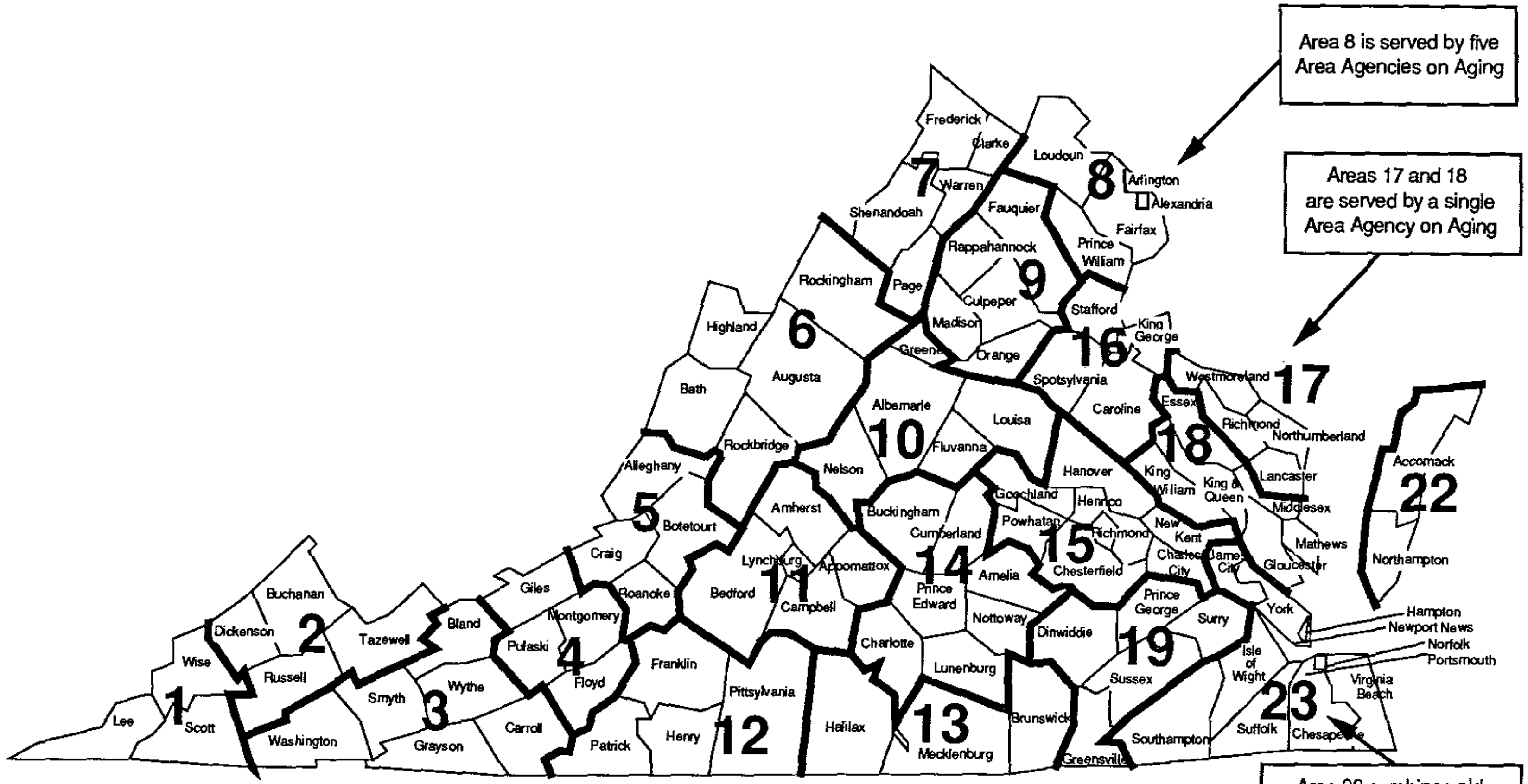
In Virginia, the jurisdictions of these local area agencies on aging generally coincide with those of the 21 planning districts, with some exceptions (Figure 1). These exceptions are: the Northern Virginia planning district is divided into five local area agencies on aging (Alexandria, Arlington, Fairfax, Loudoun, and Prince William); the Northern Neck and Middle Peninsula planning districts are combined into a single area agency on aging; and the new Hampton Roads planning district is divided into two local area agencies, which have jurisdictions corresponding to those of the former planning districts 20 and 21.

Locally elected officials, along with older individuals and the general public, are to participate on advisory councils established by each local agency on aging to assist in planning. The following social services may be funded under this title: health, continuing education, welfare, informational, recreational, homemaker, counseling, referral, services to access other social services including nutrition and housing, repair and renovation of housing, services to prevent institutionalization, legal services, financial counseling, preventive health, career counseling, state ombudsman, and services for the disabled. In addition, funding is available for altering, renovating, and, in some cases, acquiring facilities for use as multipurpose senior centers. Funds may also be used for assisting in the operation of such facilities, including outreach. A state ombudsman program, begun as a demonstration program under the act in the past, is now required in each state.

State allotments to local agencies on aging are to be determined by a formula. This formula is required by the Code of Federal Regulations (CFR) to "reflect the proportion...of persons age 60 and over in greatest economic or social need with particular attention to low-income minority individuals" (45 CFR 1321.37(a)).

Figure 1

Virginia's Area Agencies on Aging



Source: Virginia Department for the Aging, *Aging in Virginia: A Directory of Services*, 1990.

According to the Older Americans Act, "greatest economic need" means "the need resulting from an income level at or below the poverty threshold established by the Office of Management and Budget" (OAA, 302(20)). The specific value of the poverty threshold depends upon a person's age and the number of persons in his or her household. For example, in the 1980 Census, a person age 15 to 64 was assigned a poverty threshold of $3,774 if in a one-person household, and $4,876 if in a two-person household. Similarly, a person age 65 and over was assigned a poverty threshold of $3,479 if in a one-person household, and $4,389 if in a two-person household. But according to federal regulation, area agencies on aging may not use an older person's income or resources to deny or limit that person's receipt of services financed under Title III of the Older Americans Act (45 CFR 1321.17(f)(3)).

"Greatest social need" is defined as "the need caused by non-economic factors which include physical and mental disabilities, language barriers, and cultural, social, or geographical isolation including that caused by racial or ethnic status which restricts an individual's ability to perform normal daily tasks or which threaten such individual's capacity to live independently" (OAA, 302(21)).

JLARC REVIEW OF VIRGINIA'S FUNDING FORMULA

Virginia's intrastate funding formula for Title III funds has been evolving over the years. Changes in the formula were implemented in Fiscal Years 1981, 1984, 1985, 1986, 1987, 1988, and 1990. The current formula is shown in Exhibit 1. Past versions of the funding formula have included additional factors as well, such as: (1) local population age 75 and over; (2) local Medicaid enrollees age 60 and over; and (3) Supplemental Security Income (SSI) recipients age 65 and over.

Exhibit 1

Current Virginia Intrastate Funding Formula

Proportion of funds going to local AAA =

(Proportion total population aged 60+)(.30)

+ (Proportion rural residents aged 60+)(.10)

+ (Proportion poverty population aged 60+)(.50)

+ (Proportion minority poverty population aged 60+)(.10)

Source: Virginia Department for the Aging, State Application for Funding Under Title III of the Older Americans Act, As Amended, 1989.

According to the Virginia Commissioner on Aging, interest in having JLARC study the intrastate funding formula for Title III funds arose from legal challenges. The recent round of lawsuits began in Florida, with a lawsuit that could have a precedent-setting effect on other states. In December 1987, the U.S. District Court for Southern Florida found that two factors used in the Florida formula were not valid indicators of "social need": population age 75 and over, and population age 65 and over living alone. Further, the court found that these factors discriminated against aged minorities, and that the formula at that time did not directly reflect low-income minority individuals. Florida has subsequently changed its formula.

A legal challenge to Virginia's formula was filed on June 23, 1988, in the U.S. District Court for Western Virginia. The lawsuit was initiated by five local agencies on aging (two additional local agencies later joined the lawsuit). At the time, the VDA included in the formula population age 75 and over, number of Medicaid enrollees age 60 and over, and number of SSI recipients age 65 and over, in addition to the four factors currently in the formula. The U.S. District Judge's opinion of December 16, 1988, summarized the plaintiffs' position in the case: "Plaintiffs ask this court to direct the VDA to distribute OAA funds based 95% on elderly poverty." The judge's opinion, however, also states:

> The face of the statute clearly addresses social needs of older Americans as well as their economic needs. Moreover, the legislative history is clear that elderly citizens who have social needs but not economic needs are targeted by the OAA. Thus, Plaintiffs' request that this court require the VDA to promulgate a formula based 95% on elderly poverty is nothing short of a request for this court to sit as a superlegislature and transform the OAA into a poverty program. The court declines to do so.
>
> Plaintiffs also disagree with the use of Medicaid and SSI as indicators of elderly poverty. Plaintiff has not, however, presented this court with evidence that the use of these factors is unreasonable. Therefore, the court declines to change the VDA formula simply as a whim, by substituting its judgment for experts in this field.

While finding in the VDA's favor, the judge also stated at the same time:

> ...the court doubts that Medicaid statistics should be considered at all in the agency's formula, however, the court does not feel that it has before it evidence to either exclude or include Medicaid as a factor....Thus, agency review appears to be the best avenue for these plaintiffs to seek relief, rather than an opinion of this court based on incomplete and inadequate evidence.

The plaintiffs appealed the case to the Fourth Circuit, but the suit was dismissed and remanded to the district level.

In 1989, the VDA created a Statewide Task Force, which studied: service definitions, targeting, minimum percentages for priority services, and the funding formula. The Task Force consisted of representatives of the General Assembly, the Governor's Advisory Board on Aging, members of boards and directors of local area agencies on aging, service providers, and the academic community. The funding formula which is currently used was developed by this Task Force in 1989; Medicaid, SSI, and population age 75 and over are no longer included as factors in the formula.

However, despite the change in the formula, the lawsuit is still active. On June 7, 1990, the plaintiffs amended the lawsuit and filed it again in the U.S. District Court for Western Virginia. The primary claim regarding the new formula itself in this amended lawsuit is that population age 60 and over should not be included, and that the weights assigned to the factors are questionable.

Staff from the VDA indicated that there was a desire to have the new formula examined by a third party (besides the courts) which was outside the Aging Network. Consequently, JLARC was requested through House Joint Resolution 130 (1990 Session):

> ...to study the intrastate funding formula to develop and recommend the best available set of factors, statistics, and weights that will reflect the distribution and need of the aging population of the Commonwealth for equitable intrastate distribution of federal funds granted under the Older Americans Act together with the Commonwealth's matching and supplemental appropriations.

Issues

JLARC study issues were developed in two major areas. One area deals with appropriate factors for the formula:

- What are potential factors to consider for use in the formula?
- What criteria can be used to evaluate the appropriateness of potential factors?
- How feasible is it to measure and represent accurately each appropriate factor in the formula?

The other set of issues concern the assumed relationships among the appropriate factors.

- What would be the effects of assuming different kinds of relationships between factors in the formula?

- Under an additive relationship, what would be the effects of using different weights for each factor?

Research Activities

Several research activities were undertaken to address these issues. Literature reviewed included the public finance literature on formula design and the aging policy literature. Document reviews included the Older Americans Act itself and related federal regulations, the Virginia Department for the Aging State Plan for Older Americans Act programs, and transcripts from the most recent public hearings on the VDA State Plan. Key people interviewed included VDA staff, the executive directors of all local agencies on aging, experts on demographics and statistics from the the Center for Public Service at the University of Virginia, and staff of the Virginia Employment Commission. Other states' Title III formulas were reviewed, to see how Virginia's formula compares.

Report Organization

This chapter has provided a brief overview of the Older Americans Act and Virginia's intrastate funding formula for Title III funds. Chapter II discusses potential factors for the funding formula, by evaluating their appropriateness and the feasibility of including them in the formula. Chapter III discusses the assumed relationships among factors in the formula. Finally, Chapter IV summarizes the recommended improvements and available policy choices concerning the factors and weights used in the funding formula.

II. Factors Considered for the Funding Formula

When considering what factors to include in Virginia's funding formula, two broad questions arise. First, are the factors currently used by Virginia relatively unusual compared to those used by other states? If Virginia appears to have a relatively unusual set of factors, there may be reason for concern that Virginia may not be meeting federal laws and regulations as well as other states do.

The second question focuses on the context within Virginia, independently of what the other states are doing: What factors are appropriate for use in Virginia's funding formula? This question more directly addresses how Virginia can better meet federal laws and regulations, and how Virginia can further promote equity in distributing funds (depending upon how "equity" is defined).

FACTORS CURRENTLY USED IN VIRGINIA AND IN OTHER STATES

Examination of other states' formulas indicates that the federal government permits a wide variety of factors to be included, thereby allowing considerable latitude in how states choose to interpret and implement federal laws and regulations for funding formulas. Yet, when comparing Virginia's factors with those of neighboring states, there is much in common.

The similarities among the sets of factors are most striking between Virginia and the states bordering Virginia (Exhibit 2). Virginia's set is virtually identical to that of Kentucky, and almost identical to those of Tennessee and North Carolina. Virginia takes into account both factors used by Maryland, and two of the five factors used by West Virginia.

Examining more states in the Southern and Mid-Atlantic regions (Exhibit 3) reveals more variety in the types of factors used, but still considerable overlap with the factors used in Virginia. At least half of the factors used by each state (except Alabama) are also taken into account in Virginia's set. Thus, compared to other states, Virginia does not appear to take a highly unusual set of factors into account when distributing Title III funds.

APPROPRIATENESS OF FACTORS IN VIRGINIA'S FORMULA

Although there is some similarity between Virginia's current set of factors and those of other states, this similarity does not necessarily mean that the current set is the most appropriate one for Virginia. When JLARC staff interviewed the executive

Exhibit 2

Factors Currently Used in Virginia and in Bordering States

	VIRGINIA	Kentucky	Maryland	North Carolina	Tennessee	West Virginia
Population aged 60 and over	●	●	●	●	●	●
Low income population aged 60 and over	●	●	●	●	●*	●
Rural population aged 60 and over	●	●		●	●	
Low income minority population aged 60 and over	●	●			●	
Minority population aged 60 and over				●		●
Population aged 75 and over						●
Land area						●

*"Low income" is defined in Tennessee as at or below 125% of the federal poverty level; in all other states it is defined as at or below 100% of the poverty level.

Source: The National Resource Center on Minority Aging Populations, *Intrastate Funding Formulas*, 1990.

directors of the 25 local agencies on aging in Virginia, a wide range of opinions were expressed concerning the appropriateness of factors currently used in the formula. For example, of these 25 directors, eight expressed an opinion that the factor "population age 60 and over" should be taken out of the formula, and that "poverty population age 60 and over" should be given more weight. But at the same time, eight other directors indicated that they believed "population age 60 and over" should be kept in the formula, and given more weight. Perhaps more remarkable, however, is that yet another seven directors said they felt Virginia's current formula should remain as it is.

Given this diversity of opinion across the State, JLARC staff assessed the appropriateness and feasibility of existing and potential factors for the formula, in four

Exhibit 3

Factors Currently Used in Virginia and in Other States in the South and Mid-Atlantic Regions

	VIRGINIA	Alabama	Arkansas	Florida	Georgia	Louisiana	Mississippi	New Jersey	New York	Pennsylvania	South Carolina
Population aged 60 and over	●	●	●	●	●	●	●	●	●		●
Low income population aged 60 and over	●	●	●	●	●	●	●	●	●	●	
Rural population aged 60 and over	●				●						
Low income minority population aged 60 and over	●			●*					●		
Minority population aged 60 and over		●	●		●			●	●		
Population aged 75 and over					●	●		●	●		
Land area		●				●					
Population aged 60 and over living alone		●									
Population aged 60 and over and disabled				●							
Base amount divided among AAAs in state		●	●								●

*"Low income" is defined in Florida as at or below 125% of the federal poverty level; in all other states it is defined as at or below 100% of the poverty level.

Source: The National Resource Center on Minority Aging Populations, *Intrastate Funding Formulas*, 1990.

steps. First, JLARC staff compiled a list of potential factors to consider for Virginia's funding formula. The next step was to develop criteria for evaluating the appropriateness of each potential factor. The third step was to apply the criteria to determine which potential factors appear to be most appropriate for inclusion in the formula. The final step was to assess how feasible it would be, in terms of data availability, to include the most appropriate factors in the formula.

List of Potential Factors

JLARC staff compiled a list of 27 potential factors, which are shown in Exhibit 4. The list includes factors that are currently used in Virginia, factors that are currently used in other states, and potential factors that were suggested by executive directors of local agencies in JLARC staff interviews, or by speakers at the 1989 public hearings conducted by the VDA on the State Plan for Aging Services. A more detailed description of each factor on the list, and the rationale for considering each factor, is given in Appendix B.

Criteria of Appropriateness

Two criteria were developed for evaluating the appropriateness of potential factors:

- How consistently a potential factor helps the VDA to implement federal and state laws and guidelines regarding funding and administration of Title III programs.

- How well the potential factor promotes equity in distributing Title III funds. Equity entails treating persons in equal circumstances equally, and those in different circumstances differently. Defining and operationalizing equity is discussed further below.

An additional consideration should be made once a potential factor is determined to be sufficiently strong on the two criteria. This consideration is that each factor is fundamentally distinct from others to be used in the formula. In other words, if a potential factor is simply an alternative definition of the same fundamental factor that is already represented in the formula, it is not appropriate as an additional factor.

Federal and State Laws and Guidelines. These laws and guidelines generally help identify which target populations should receive higher priority in the provision of services and funding of Title III programs. Federal regulation (45 CFR 1321.37(a)) requires each state funding formula to reflect:

- economic need,
- social need, and
- low-income minority individuals.

Exhibit 4

Potential Factors to Consider for Funding Formula

Total Older American Population
Population age 60 and over
Population age 60 and over, and not in institutions

Economic Need Factors
Population age 60 and over, at or below poverty threshold
Population age 65 and over, at or below poverty threshold
Population age 60 and over, at or below 125% poverty threshold
Alternative definitions of poverty threshold, taking different costs of living, housing costs, or medical costs into account
Population age 65 and over, receiving Supplemental Security Income
Population age 60 and over, enrolled in Medicaid
Local government ability to pay
Unemployment rate

Social Need Factors
Population age 60 and over with limited or no English speaking ability
Minority population age 60 and over
Number of impaired or homebound elderly persons
Population age 75 and over
Population age 75 and over, and not in institutions
Population age 60 and over, living alone
Actual provision of other social services in locality
Local government ability to pay (for additional social services)

Rural Factors
Population age 60 and over, in localities outside SMSA
Land area (square miles)
Population age 60 and over, not in institutions, and living in localities with low population densities

Minority-Specific Factors
Low-income minority population age 60 and over
Minority population age 60 and over, at or below 125% poverty threshold
Minority population age 60 and over
Minority population age 65 and over

Local Agency Cost Factors
Local salary cost differences
Minimum base amount

Source: JLARC staff analysis.

Further, there are additional regulations that affect the targeting of Title III funding. Federal regulations for implementing Title III require that persons "age 60 or over who are frail, homebound by reason of illness or incapacitating disability, or otherwise isolated, shall be given priority in the delivery of services" (45 CFR 1321.69). Yet, at the same time, federal regulation also prohibits local agencies on aging from using an older person's income or resources to deny or limit that person's receipt of services financed under Title III of the Older Americans Act (45 CFR 1321.17(f)(3)).

In Item 439 of the 1990 Appropriations Act, the Virginia General Assembly has stated:

> It is the intent of the General Assembly that Older Americans Act funds and general fund monies be targeted to services which can assist the elderly to function independently for as long as possible.

The VDA has guidelines for local AAAs, concerning the population to be given preference in social programs:

> Every Virginian age 60 and over is eligible to receive services provided with Title III funds. Preferential consideration shall be given to the older Virginian who lacks family and community support <u>and</u> who meets one or more of the following criteria:
>
> (1) the person is in economic need, i.e.,
>
> (a) has an income at or below the poverty level or
>
> (b) has expenses disproportionate to his income and is not receiving means-tested public benefits; or
>
> (2) the person is in social need, i.e.,
>
> (a) is impaired (needs assistance with two or more activities of daily living), or
>
> (b) is homebound (cannot go out of the house without assistance or supervision), or
>
> (c) is isolated (deprived of desired access to services and a support system).

According to these laws and guidelines, specific target populations are identified for preferential treatment in administering Title III programs. Therefore, it follows that the funding formula should direct more money to the local agencies on aging that have higher concentrations of these target populations.

Equity. Equity appears to be a primary goal in distributing funds for Title III programs. Horizontal equity requires that persons in the same circumstances be treated equally. Vertical equity requires that persons in different circumstances be treated differently. But when defining equity for potential recipients of services, there is a tradeoff between horizontal and vertical equity. The tradeoff occurs when funding is limited so that all needs for services cannot be met.

Emphasizing horizontal equity, to the point that vertical equity is not recognized, implies that everyone age 60 and over should have the same funding allocated. This emphasis is supported by the provision in the laws and guidelines that no person age 60 and over can be denied services on the basis of his or her income or resources.

On the other end of the spectrum, heavy emphasis on vertical equity implies that only persons who fall into the "greatest social need," "greatest economic need," and "low-income minority" groups should have funding allocated. This emphasis is supported by federal regulations for the intrastate funding formula, as well as provisions to give priority in the delivery of services to those in economic need or to the frail, homebound, or isolated.

A compromise is necessary between total emphasis on either horizontal or vertical equity. However, the relative emphases on horizontal and vertical equity must be a public policy decision. This policy decision can take the form of weights in the funding formula. The issue concerning what weights to choose is discussed in the next chapter.

Which factors should be recognized as "different circumstances" in defining vertical equity is also a public policy decision. As already shown, the federal government allows states considerable flexibility in their policy decisions concerning how to define vertical equity through their funding formulas.

However, assessing potential factors according to the criteria of horizontal and vertical equity becomes more difficult if the definition of vertical equity is changing. Yet it is possible to assess each factor in terms of equity, even when the definition of vertical equity is allowed to change, by examining the case for inclusion and the case for exclusion from the formula. The case for including a given potential factor can be supported by showing how closely tied it is to a target population that is (or should be) identified by laws and guidelines. Likewise, the case for excluding a factor from the formula can be made by showing how it could result in problems (such as allowing for situations to occur in which some local agencies on aging may receive less funding than intended) or by showing how it does not directly reflect the intended target population very well.

Applying Criteria of Appropriateness to Potential Factors

In applying the criteria to evaluate the appropriateness of potential factors, several steps were undertaken.

- Federal and State laws and guidelines that could support the inclusion of a potential factor in the funding formula were examined.

- Possible assumptions or arguments for including a potential factor, in terms of promoting equity, were analyzed, as were possible problems.

- Practical problems associated with the inclusion of a potential factor, such as pending legal challenges, were examined.

A more detailed description of the evaluation of each potential factor is given in Appendix B.

The results from evaluating each potential factor can be summarized in terms of "strong case," "mixed case," and "weak case," as shown in Figure 2. A "strong case" desiguation in terms of implementing federal and State laws and guidelines means that there is clear language supporting the inclusion of such a factor in the formula. A "mixed case" designation in terms of federal and State laws means that the language does not appear to be so clear in supporting a factor, so some additional interpretation may be required; or it may mean that even though one law or guideline appears to support inclusion of a factor, another one may support exclusion, so that overall support is ambiguous. A "weak case" designation means that there is no clear support for the factor in federal or State laws and guidelines.

These designations are also used to summarize how each potential factor fares in terms of promoting equity. A "strong case" designation indicates that the equity advantages of a potential factor appear to outweigh its disadvantages. A "mixed case" designation means that while a factor may have its advantages, it could bring serious problems as well. Finally, a "weak case" designation means that a factor has problems sufficiently serious to outweigh the advantages of including it.

All of these advantages and problems, along with supporting federal and State laws and guidelines, are discussed in Appendix B. Exhibit 5 shows examples of a "strong case" factor and a "weak case" factor.

Five factors appear to have a strong case for inclusion, both in terms of implementing federal and State laws and guidelines, and in terms of promoting equity, as shown in Figure 2. These five factors can be regarded as the most appropriate, according to the criteria, for inclusion in the formula:

- population age 60 and over, and not in institutions;

- population age 60 and over, at or below poverty threshold, and not in institutions;

- number of impaired or homebound elderly persons, not in institutions;

Figure 2

Results of Applying Criteria of Appropriateness to Potential Factors

Key: ✔ Strong case - support outweighs problems
O Mixed case - support may not outweigh problems
✘ Weak case - problems outweigh support

Implementing Federal & State Laws & Guidelines	Promoting Equity	Factor
		Total Older American Population
✔	O	Population age 60 and over
✔	✔	Population age 60 and over, and not in institutions
		Economic Need Factors
✔	✔	Population age 60 and over, at or below poverty threshold
O	✔	Population age 65 and over, at or below poverty threshold
O	✔	Population age 60 and over, at or below 125% poverty threshold
O	✔	Alternative definitions of poverty threshold, taking different costs of living, housing costs, or medical costs into account
✘	✘	Population age 65 and over, receiving Supplemental Security Income
✘	✘	Population age 60 and over, enrolled in Medicaid
✘	✘	Local government ability to pay
✘	✘	Unemployment rate
		Social Need Factors
O	O	Population age 60 and over with limited or no English speaking ability
O	O	Minority population age 60 and over
✔	✔	Number of impaired or homebound persons
O	✘	Population age 75 and over
O	O	Population age 75 and over, and not in institutions
O	O	Population age 60 and over, living alone
✘	✘	Actual provision of other social services in locality
✘	✘	Local government ability to pay (for additional social services)
		Rural Factors
✔	O	Population age 60 and over, in localities outside SMSA
✔	O	Land area (square miles)
✔	✔	Population age 60 and over, not in institutions, and living in low population density localities
		Minority-Specific Factors
✔	✔	Low-income minority population age 60 and over
O	✔	Minority population age 60 and over, at or below 125% poverty threshold
O	O	Minority population age 60 and over
O	O	Minority population age 65 and over
		Local Agency Cost Factors
✘	O	Local salary cost differences
✘	✘	Minimum base amount

Source: JLARC staff analysis.

Exhibit 5

Examples of "Strong Case" and "Weak Case" Factors

(Complete analysis for all factors is provided in Appendix B)

"Strong Case" Example:	Population Age 60 and Over, At or Below Poverty Threshold
Rationale for Inclusion:	Clear federal requirement that formula reflect "greatest economic need," which is defined in terms of income at or below poverty threshold.
Rationale for Exclusion:	None for exclusion; equity problems in applying same poverty threshold statewide, when local costs of living may vary.

"Weak Case" Example:	Population Age 75 and Over
Rationale for Inclusion:	Larger proportion of persons age 75 and over are impaired or homebound (therefore, in "greatest social need"), compared to persons age 60 and over
Rationale for Exclusion:	
Equity problems	-- Larger proportion of persons age 75 and over are in nursing homes, therefore outside OAA target population.
	-- Large number of persons age 75 and over are not impaired or homebound, adding to imprecision of measuring target population.
Practical problem	-- This factor has been subject to precedent-setting legal challenge in Florida. Court ordered it taken out of Florida formula, on grounds that it discriminates against areas more heavily populated by minorities (minorities have lower average life expectancies).

Source: JLARC staff analysis.

- population age 60 and over, not in institutions, and living in localities with low population densities; and

- low-income minority population age 60 and over, not in institutions.

Four of these five factors are essentially included in Virginia's funding formula, although some are in modified form.

Refinements could be made to two of the factors: (1) population age 60 and over; and (2) population age 60 and over, living in localities with low population densities. These factors could be refined by subtracting persons age 60 and over who are in institutions, such as nursing homes, prisons, Department of Mental Health, Mental Retardation and Substance Abuse Services facilities, and perhaps homes for adults. Individuals who are in these kinds of institutions should already be receiving (if needed) many of the services provided under Title III, but under alternative arrangements and funding. Therefore, treating these populations in the funding formula as potential clients of most Title III programs may not be appropriate.

However, two concerns with subtracting institutionalized individuals from the population of elderly persons should be noted. One is that a Title III program, the Long-Term Care Ombudsman Program, is designed to serve primarily institutionalized persons. This program, however, accounts for less than 5 percent of the funds spent on Title III programs. Consequently, funding for this particular program could be alternatively based on instutionalized population estimates alone, while funding for other programs would be based on non-institutionalized population estimates, although this refinement could make the funding formula itself slightly more complicated. The second concern is that the Older Americans Act does not explicitly exclude institutionalized persons from receiving Title III services. But, as already mentioned, many services comparable to Title III services are already provided for institutionalized persons through alternative arrangements and funding. Therefore, subtracting institutionalized populations would focus these factors more on the remainder of elderly persons who would not already be receiving similar services.

Another refinement that could be made is in the way "rural" localities are defined for the formula. Currently, a locality is designated as "rural" if it is outside a Standard Metropolitan Statistical Area (SMSA) or if it has a population density of 50 persons per square mile or less. The purpose of the "rural" distinction is to reflect "geographic isolation," which is part of the federal law defining "greatest social need" (OAA, 302(21)). As discussed in greater detail in Appendix B, "geographic isolation" appears to have a more direct and complete link with population density alone, than with SMSA designations. When examining the population densities of all Virginia localities (in Appendix B), there appear to be two naturally occurring clusters: those with population densities of 250 persons per square mile or less, and those with more. Therefore, it appears more appropriate to designate localities in the "low population density" cluster as having a greater likelihood of older persons experiencing "geographic isolation," compared to the current method.

Inclusion of a new factor — number of homebound or impaired elderly who are not in institutions — is essentially a policy decision. Inclusion of this factor would result in an additional "social need" indicator in the formula more directly reflecting elderly persons who are impaired or homebound.

In addition, there are three other potential factors which could be included in the formula as policy decisions. They do not rate as highly on the criteria as the five factors listed above. But the case for excluding them from consideration is not overwhelming, either. These three potential factors are:

- adjustments to the poverty threshold, to take into account different regional costs of living, housing costs, or medical costs;

- population age 60 and over with limited or no English speaking ability, and not in institutions; and

- minority population age 60 and over (including individuals above as well as below the poverty threshold), and not in institutions.

The first of these factors would be an adjustment to the way "economic need" and "low income" indicators are defined when a poverty threshold is used. The last two factors might more directly represent "social need" in the formula than it is currently, by representing those elderly individuals who may experience isolation due to language, social, racial or ethnic differences.

FEASIBILITY OF INCLUDING THE MOST APPROPRIATE FACTORS

In this analysis, a "feasible" factor is one which can be accurately represented in the formula with available data. There may be varying levels of accuracy with which different factors can be represented. For example, a variable which is measured with Census data may not be as recent as desired. Overall, JLARC staff found that some factors appear feasible, others appear not feasible, and still others can be represented only with problematic data.

There are essentially two steps in assessing the feasibility of appropriate factors. The first is to determine whether there are any available sets of data that come reasonably close to representing a given factor, as it was conceptualized when evaluating its appropriateness. This first step entails determining whether the data can be divided according to the sub-population specified in the factor, and for each locality (or planning district) in Virginia. If so, then the second step is to assess how well the data represent the factor, by examining whether there are any potential problems or sources of inaccuracy.

The feasibility criterion is applied only to factors which have already been determined to be appropriate to the formula. If a potential factor is inappropriate for the formula, then the accuracy of potential data sources is irrelevant. For example, high-quality data are available from the Department of Corrections on the total number of jail inmates in each locality. But the total number of jail inmates has little to do with the distribution and needs of the aging population, so it is not appropriate as a factor to be included in the funding formula, even though the data are of high quality and updated weekly.

Factors Using VEC Population Projections and Adjustments

Exhibit 6 summarizes the best available data sources for the most appropriate factors. Three factors shown in Exhibit 6 can be represented by projections generated by the Virginia Employment Commission (VEC). These three factors are: population age 60 and over; population age 60 and over, in localities with low population densities; and minority population age 60 and over.

VEC projections are used by the VDA in the current funding formula, and they appear to be the most appropriate source of data for these three factors. The advantage of using these projections is that they build on the most recent population estimates by forecasting change in the population, such as through deaths and migration, rather than ignoring these expected changes. While projections have the disadvantage of adding forecasting error to the estimates, this error would seem to be relatively minor in magnitude, compared to the error associated with the alternative approach of ignoring these expected changes in population.

Some adjustments can be made to these three factors, to take into account the population of persons age 60 and over who live in institutions. Populations age 60 and older in three types of institutions can be estimated: nursing homes, State correctional facilities, and Department of Mental Health, Mental Retardation, and Substance Abuse Services (DMHMRSAS) facilities.

The population in nursing homes can be approximated from State Heath Department licensing records, which are updated each year. Licensing records indicate the capacity of each nursing home, the occupancy rate, and the locality in which each nursing home is located. However, the total nursing home population includes persons who are younger than age 60, as well as persons age 60 and over. The proportion of nursing home residents who are age 60 and over can be approximated from Department of Medical Assistance Services (DMAS) records. This statewide proportion can be multiplied by the number of occupants in each nursing home in each locality, to approximate the number of nursing home residents age 60 and over in each locality. This resulting number, in turn, can be subtracted from the VEC population projection for persons age 60 and over in each locality. But there does not appear to be any readily available data indicating the number of nursing home residents age 60 and older who are minorities. Therefore, the VEC population projection for minority persons age 60 and over cannot be adjusted for nursing home residents.

Exhibit 6

Best Available Data Sources for Most Appropriate Factors

Factor	Data Source
Population age 60 and over	VEC projection for given year
Population age 60 and over, in institutions	Dept. of Health* Dept. of Corrections* DMHMRSAS*
Population age 60 and over, at or below poverty threshold	U.S. Census**
Number of homebound or impaired elderly	Problematic
Population age 60 and over, in low pop. density localities	VEC projection for given year
Low-income minority population age 60 and over	U.S. Census**
Adjustments to poverty threshold	
Regional housing costs	U.S. Census**
Regional cost of living	Problematic
Regional avg. medical costs	Problematic
Population age 60 and over, with limited Engl. speaking ability	U.S. Census**
Minority population age 60 and over	VEC projections for given year

*Collected annually, or more frequently

**Collected decennially

Source: JLARC staff analysis.

Adjustments for populations in State correctional and DMHMRSAS facilities can be made more straightforwardly. The Department of Corrections and DMHMRSAS have automated records which can generate counts of persons in each facility who are age 60 and older, and who are minorities. These counts can also be subtracted from VEC population projections, to estimate the number of older persons in each locality who are not in institutions.

If adjustments for older persons in homes for adults were judged to be appropriate, estimating the size of this population in each locality would be problematic, given currently available data. The Department of Social Services has records on the capacity of licensed homes for adults, but no records on occupancy rates, nor on residents of these homes. As a result, there is currently no centrally located data source for estimating the number of persons age 60 and older who are living in homes for adults.

An additional point should be made concerning the inclusion of Hispanics (or "persons of Spanish origin") in VEC projections and Census data. The Census Bureau states that "persons of Spanish origin may be of any race." Therefore, the VEC projections and the Census data include "nonwhite" Hispanics in their "nonwhite" racial classification, which is currently used to represent the population of minority older persons. Although white persons of Spanish origin are excluded from minority classification, those with limited English-speaking abilities could be represented in the funding formula with a separate factor, which is discussed further below.

VDA Data on Recipients and Persons On Waiting Lists for Core Services

As discussed in Appendix B, one possible approach to represent the number of homebound and impaired elderly is to use VDA data on recipients and persons on waiting lists for core services. The VDA is required by federal regulation to keep "objectively collected and statistically valid data" on unmet need for supportive services, nutrition services, and multipurpose senior centers in each PSA. These data are generally in the form of waiting lists that are sent from local agencies on aging to the VDA. The VDA also keeps records on how many individuals actually receive these services. The VDA updates these waiting lists and records annually. Together, these counts may represent the number of recipients and persons on waiting lists for services in each PSA.

There are at least three possible concerns with using such a factor in the funding formula. One is that the data are under the control of local agencies, and they might have incentive to inflate the figures. However, to implement the federal requirement for "objectively collected and statistically valid data," the VDA is continuing to support the development of an effective system of uniform assessment for basic services. Once local agency case managers are making assessments uniformly, problems of inaccuracies in the data should be reduced, especially if the information is audited from time to time. VDA staff indicate, however, that at the present time, assessment procedures vary greatly from one local agency to another.

A second potential concern is that keeping lists of recipients and waiting lists for core services (such as in-home services, home delivered meals, and transportation services) might pressure local agencies to shift their emphasis away from other, non-core services (such as consumer counseling). But keeping lists for core services would not necessarily mean that agencies would have to shift their priorities from one program to another. An older person on a waiting list (and not actually receiving a core service) would count as much as an actual recipient of the service.

A third concern is that longer lists of recipients and potential recipients might reflect different abilities and local resources of agencies for outreach and publicity. It is clear that including such a factor would provide an incentive for all agencies to increase the lengths of their waiting lists. But as long as recipients and persons on waiting lists were assessed as having a social need, according to uniform criteria, they would provide a more solid, direct measure of existing need compared to a more abstract statistical estimate of a more general population. Unfortunately, assessment procedures currently are not uniform across local agencies, according to VDA staff.

In sum, VDA staff have stated that their data on unmet needs are too problematic to be used in the funding formula. This situation yields a more fundamental problem with the current formula: although a "social need" indicator which represents the number of homebound and impaired elderly is clearly appropriate for inclusion in the formula, there is currently no feasible data source for this factor.

VDA staff indicate that they have already recognized this problem in the past, and have found it difficult to resolve. However, future refinement of their unmet need data provides one possible option for developing a proxy measure for this factor. Alternative approaches may also be available to VDA, such as: (1) requiring other State agencies to add new items to their regular data collection efforts, and (2) developing a sample survey — possibly with the help of an outside consultant — to collect the needed data. The advantages and disadvantages of these alternative approaches to resolve this problem should be assessed by the VDA in the near future.

Factors Using Income Data and Poverty Thresholds

The only currently available data source which distinguishes persons who are above versus below the poverty threshold, and who are age 60 and older, is Census data. Institutionalized persons are not included in these counts. A problem with this data source, however, is that it is collected only once every ten years. Consequently, in some years a funding formula using these data may be relying on fignres that are ten or even eleven years old. Although the 1990 Census will become available soon, the problem will re-emerge after a few years.

One approach to address this problem would be to generate projections. Staff at the North Carolina State Data Center developed a regression method of projecting the population below the poverty threshold, and similar methods have been used in Minnesota and New York.

However, these kinds of projections have major technical difficulties. One is that the poverty thresholds themselves change from one year to the next, so that predicting the number of persons with incomes at or below the threshold becomes a moving target. Another is that if predictor variables in the regression model are redefined by changes in federal laws, the entire modeling process may have to start all over again, and existing projections would be inaccurate. Further, decisions would have to be made concerning who would make these projections (such as VEC staff, or an outside consultant), how frequently, and who would fund this activity.

Staff who developed the North Carolina projections recommended using Census data instead of projections, for two reasons. First, in the course of their analysis, they observed that local proportions of the statewide poverty population did not appear to fluctuate over time nearly as much as the absolute numbers of individuals. In other words, a locality's proportion of the statewide total poverty population appeared to change relatively little from one Census year to the next (ten years later), even though the absolute number of persons changed more dramatically. Local proportions are used in the Title III funding formula. Second, they found the technical difficulties that came with their projection method were greater than the original problems associated with using old Census data. In conclusion, there is some probability that projecting poverty populations would produce more (instead of less) error than simply using old Census estimates. Determining whether this probability is high or low would require careful modeling and analysis of these kinds of projections, which has not yet been done in Virginia.

A related potential factor shown in Exhibit 6 is an adjustment to the definition of "income below the poverty threshold," to take into consideration differences in housing costs, other costs of living, or medical costs. Making some adjustment along these lines with currently available data is not necessarily impossible, but it would require considerable work to overcome major data problems.

There are two data requirements for making this kind of an adjustment. The first is valid and reliable data from all localities on which to base this adjustment, such as data on local housing costs, local costs of living, or local average unreimbursed medical costs.

The second requirement is having Census data that can accommodate alternative definitions of poverty thresholds, or adjustments to personal income levels. To illustrate this second requirement, suppose a policy decision were made to take different local housing costs into account when defining the poverty population, and that valid data indicated that a locality's housing prices were higher than those of other localities by 25 percent of the poverty threshold, on average. It would then become necessary for the Census data to show how many people had incomes that are at or below 125 percent of the poverty threshold.

The first data requirement can be met only for local housing costs, and not for local costs of living or local average unreimbursed medical expenses. Local housing costs are collected in the Census, in the form of median housing value and median rent, for each locality. No data on local cost of living nor on unreimbursed medical expenses for elderly persons appear to be collected for all localities in Virginia. Therefore, attempting to construct an adjustment based on these last two variables would be highly speculative.

The second data requirement would be difficult to meet with available Census data, for all localities or planning districts in Virginia, without major problems or potential sources of inaccuracy. The U.S. Census Bureau publishes numbers of persons with incomes at or below different percentages of the poverty level (such as 125 percent, or 149 percent of the poverty threshold). But it is unrealistic to expect percentage adjustments based on different local costs (such as housing costs, for example) to coincide with the few alternative percentages which the Census Bureau uses in its publications. Alternatively, the Census Bureau also publishes numbers of individuals with income levels in increments of $2500 or $5000. However, these increments are still too large to be useful for refining the definition of poverty populations.

Yet another alternative approach is to use automated data from the Census Bureau. The Census data set would consist of a sample of actual records collected during the Census. However, these samples are designed more for statewide analysis of the data, rather than locality-by-locality analysis; further, not all Virginia localities or planning districts are represented in this sample. Consequently, inferring the number of individuals with incomes at or below a specified level could be subject to large amounts of error for many PSAs.

Factor Representing Persons with Limited English Speaking Ability

Finally, a factor that represents persons with a language barrier can be represented with Census data. However, the problem of Census data being collected once in ten years would apply to this factor as well.

Summary of Conclusions

Among the five factors assessed to be most appropriate in this analysis, two appear to be feasible in terms of being represented accurately with available data:

- population age 60 and over, and not in institutions; and
- population age 60 and over, not in institutions, and living in localities with low population densities.

It is feasible to represent another two of the five factors with Census data:

- population age 60 and over, at or below poverty threshold, and not in institutions; and
- minority population age 60 and over, at or below poverty threshold, and not in institutions.

Census data is the only currently available source of information for these two factors. The problem with using Census data is that it is collected only once every ten years, and the potential for inaccuracy increases with time. However, the magnitude of the inaccuracies may not be very great when observing local proportions of the total statewide populations; and the Title III funding formula generally uses local proportions in its calculations. Furthermore, successfully reducing this problem with projections for the intervening years between Census years appears to be very difficult.

Finally, one of the five factors does not appear to be feasible with currently available data:

- number of homebound or impaired elderly.

Three additional potential factors that are somewhat appropriate, and that could be considered as available policy options, appear to have varying degrees of feasibility:

- minority population age 60 and over, and not in institutions. This factor can be represented accurately, except minority residents of nursing homes cannot be subtracted from the total, given currently available data.

- population age 60 and over with limited or no English speaking ability, and not in institutions. This factor can be represented using Census data, although it has the same problems associated with Census data being collected once every ten years.

- adjustments to income levels or poverty threshold. This factor is so problematic that it is virtually not feasible with currently available data.

III. Relationships Among Factors in the Formula

Assuming the factors in the formula are appropriate and feasible, the next question is: Exactly how should these factors be used in relation to each other to determine the share of funding each local agency should receive?

Some executive directors of local agencies have said that the VDA has provided no rationale concerning why the factors in the formula are weighted as they are. In the absence of this kind of rationale, local agencies involved in the recent lawsuit have alleged that the VDA has manipulated the weights in the formula to maintain the status quo in the funding going to local agencies over the years.

In developing a rationale for relationships among factors in the formula, two technical questions must be considered. The first question is: should the different factors be summed, or should they be multiplied, in their effects on the proportion of funding going to each local agency? The second technical question is: if the factors are summed in their effect, what weight should be given to one factor in relation to another? These two questions are addressed in the following sections of this chapter.

ASSUMING ADDITIVE VERSUS MULTIPLICATIVE RELATIONSHIPS AMONG FACTORS

Federal regulation indicates that factors in the funding formula should reflect:

- economic need,
- social need, and
- low-income minority individuals.

These three classes of factors are not mutually exclusive. For example, a PSA having a high concentration of low-income minority individuals may also have a high concentration of individuals "in greatest economic need" (that is, with incomes below the poverty line).

The VDA recognizes that low-income minority individuals may already be among those "in greatest economic or social need"; yet it also recognizes that federal regulation requires "particular attention to low-income minority individuals." Therefore, the current formula essentially sets aside 10 percent of the funding to be allocated solely on the basis of the concentration of low-income minority individuals in each local area. The other 90 percent is allocated on the basis of other factors representing economic need and service need (including social need). Given the explicit provision for "particular attention" in the federal regulation of the funding formula, such an approach for providing an explicit "add-on" for low-income minority individuals appears to be reasonable. (However, the specific percentage of funding set aside for this purpose does not appear to emerge so clearly from the federal regulation; instead, it appears to be a State-level policy decision.) Thus, the "low-income minority" factor has a reasonable additive effect in relation to the other factors collectively, because this relationship can be interpreted as an explicit "add-on."

But there is flexibility for choosing how "economic need" and "service need" relate to each other in the funding formula. The funding formula can quite reasonably assume either an additive or a multiplicative relationship between these two sets of factors. The difference in either assumption is in the starting point.

Under the additive assumption, which is currently used by the VDA in the formula, all local agencies would have some funding in proportion to their constituents' economic needs, regardless of their constituents' service needs. At the same time, all local agencies would have some funding in proportion to their constituents' service needs, regardless of their constituents' economic needs.

In contrast, the multiplicative assumption requires that funding be dependent on both economic and service need at the same time. Those local agencies with a greater concentration of constituents in economic need would have a higher proportion of their constituents' service needs funded. This assumption, in turn, is premised on the notion that funding for the local agencies is so limited that only a fraction of the full service needs can be met with Title III funds; therefore, Title III funding should be targeted more to the areas that have greatest economic and service need, before allocating money on the basis of either economic need or service need alone. A multiplicative assumption is currently used by the Commonwealth for some other funding formulas, such as the Standards of Quality funding formula for public education.

Each alternative assumption has its technical advantages and disadvantages. The additive assumption has two major technical advantages. One is that it produces a formula that is relatively simple and easy to understand. The other is that no matter how many factors are included, all of the proportions produced by the formula sum to 1, with no need for additional adjustments. A major disadvantage of the additive assumption is that it requires some relative weight to be given to each factor; and it may be difficult to derive weights for economic need and service need that are not arbitrary.

Conversely, the major advantage to the multiplicative assumption is that it does not require an arbitrary weight for service need versus economic need. Instead, relative economic need is the weight. That is, assuming the full service need cannot be fully covered by Title III funds for most areas, the service need is funded in proportion to the economic need of the local area. The major disadvantage is that using multiplication probably results in a more complicated formula. In order to get all local AAA funding proportions in the formula to sum to 1, an additional "correct summation adjustment" may be needed.

As already mentioned, the current formula is constructed under an additive assumption. Exactly how the formula can be constructed to reflect a multiplicative assumption, including a "correct summation adjustment," are illustrated more concretely in Appendix C.

Given that either assumption has both technical advantages and disadvantages, the choice of one over the other is primarily a public policy decision. All other states that have Title III funding formulas use an additive assumption. Thus, Virginia's current use of an additive assumption appears acceptable.

WEIGHTS FOR FACTORS IN ADDITIVE RELATIONSHIPS

The federal government allows states considerable flexibility in choosing not only what factors to include in their funding formulas, but also what emphasis to place on each factor. The diversity of choices is illustrated in Exhibit 7, which shows the weights different states give to factors in their formulas. In the case of Virginia, the VDA has authority to choose weights from a wide range of possible values. Choosing one specific set of values over all others, however, may not be a very straightforward policy decision.

One criterion which the State may choose to use, at least for weighting some factors, could be differences in the average cost of providing services to one target population compared to another. The advantages of an approach using cost data is that it uses information that could be objectively collected. But this approach has its disadvantages as well. The cost information needed may be relatively difficult to collect in a uniform and comprehensive format from one local agency to another. Furthermore, cost data may have limited relevance for defining the weights of some factors. For example, if the costs of providing services for persons below the poverty threshold are the same as for persons above the poverty threshold, the usefulness of basing weights on cost data is questionable. Do equal costs imply that no additional allocation should be made for older persons below the poverty threshold? Should equal costs for persons below the poverty level mean that the factor should be dropped from the formula? Obviously, in this situation the weight for this factor would have to be based on something else.

At the same time, the State may also make policy decisions regarding the targeting of money to certain groups of older persons, and these decisions may not be anchored in any external, objective criteria. In fact, it is possible to develop a rationale for weights which takes into account both objective criteria (such as different cost conditions) and policy decisions (for targeting more money to specific groups) simultaneously. For example, such a rationale can be developed for the weights used in the current formula.

The weights in the current formula can be interpreted as allocation decisions to certain types of older persons. Further, under an additive relationship, weights can

Exhibit 7

Weights Currently Used in Virginia and in Other States in the South and Mid-Atlantic Regions

	VIRGINIA	Alabama	Arkansas	Florida	Georgia	Kentucky	Louisiana	Maryland	Mississippi	New Jersey	New York	North Carolina	Pennsylvania	South Carolina	Tennessee	West Virginia
Population aged 60 and over	.30	.20	.55	.35	.60	.24	.333	.50	.50	.60	.108	.40		.50	.60	.30
Low income population aged 60 and over	.50	.20	.28	.35	.20	.26	.300	.50	.50	.20	.649	.20	1.00		.30	.30
Rural population aged 60 and over	.10				.067	.26						.20			.05	
Low income minority population aged 60 and over	.10			.15		.24					.027				.05	
Minority population aged 60 and over		.04	.09		.067					.10	.108	.20				.10
Population aged 75 and over					.066		.033			.10	.108					.20
Land area		.20					.333									.10
Population aged 60 and over living alone		.16														
Population aged 60 and over and disabled				.15												
Base amount divided among AAAs in state		.20	.08											.50		

NOTE: "Low income" is defined in Florida and Tennessee as at or below 125% of the federal poverty level; in all other states it is defined as at or below 100% of the poverty level.

Source: The National Resource Center on Minority Aging Populations, Intrastate Funding Formulas, 1990.

be interpreted as a "carve-out" of the total funding to be distributed based on concentrations of individuals in a particular group (such as low-income minority individuals age 60 and over). Under this "carve-out" interpretation, then, 30 percent of the funds are distributed according to the distribution of persons age 60 and over, 10 percent according to the distribution of older persons in "rural" localities, and so on.

The illustrative example shown in Table 1 is based on the assumption that the current formula is used to allocate a total of $18.2 million. When considering the allocations on a per-person basis, the formula allocates $5.85 for each person age 60 or older living in any PSA.

If the person also lives in a "rural" locality, an additional $5.38 is allocated. This additional allocation might be justified in objective terms of costs, if the average per-person cost of providing the same service in rural areas is nearly double the average statewide cost. Or the additional allocation could be a policy decision to target that much money to persons identified as "geographically isolated".

If the person also has an income at or below the poverty level, then the formula allocates an additional $83.81. This additional allocation reflects a policy decision to target that much money to persons belonging to a special group identified as "in greatest economic need" through federal regulation.

Table 1

Illustrative Example of Per-Person Allocations

Factor	Current Weight	Total Dollars	Statewide Number of Persons in Category	Dollars Allocated per Person
Pop. age 60+	.30	5,460,000	932,720*	5.85
Rural pop. 60+	.10	1,820,000	338,020*	5.38
Poverty pop. 60+	.50	9,100,000	103,581**	83.81
Minority poverty	.10	1,820,000	37,446**	48.60

* Based on VEC 1990 projection.

** Based on 1980 Census data.

Source: JLARC staff analysis; Virginia Department for the Aging, State Application for Funding Under Title III of the Older Americans Act, As Amended, 1989.

If the person who has low income is also non-white, then the formula allocates an additional $48.60 to the local agency for that person. This additional allocation also reflects a policy decision to target money to a special group explicitly identified by federal regulation.

There are several possible ways to arrive at policy decisions for targeting specific groups. One is having specific weights handed down by the Governor or the General Assembly. In the absence of an executive or legislative mandate, the VDA has authority to use any weights it deems appropriate. Therefore, if there are some special groups which the VDA deems appropriate for targeting, the VDA can legitimately do so.

However, the VDA works with 25 local agencies on aging that have competing needs, interests, and viewpoints. Therefore, it is beneficial in the long run for the VDA to reassess periodically the funding formula, and to have a decision-making process that allows all local agencies a chance to provide some input in deciding what weights to use in the formula. The VDA created the most recent version of the formula through a task force which had representatives from local agencies across the State, and then conducted public hearings statewide before implementing the new formula. This process appears to be adequate. Efforts to enhance the participation of local agency directors in periodic reassessments could increase the sensitivity of the formula to changing local conditions across the State.

In conclusion, the weights which the VDA currently uses in the funding formula appear to be acceptable. The federal government appears to impose little constraint on the weights the VDA may choose. The weights are a product of a public policy-making process, which has reflected diverse local interests across the State.

There does not appear to be a strong statistical basis for determining the weights, and there will always be differences in opinions across the State concerning how the factors should be weighted. However, changing the formula every year could cause problems for local agencies.

It is the VDA's responsibility to maintain continuity in the funding process, sensitivity to local perspectives, and leadership in providing a rationale for the weights that are chosen. Therefore, the VDA should reassess the formula at least every two biennia, with local agencies participating in the assessment process.

IV. Conclusions

The current formula appears to be a reasonable and acceptable means for distributing Title III funds. It has much in common with other states' formulas, so the VDA appears to interpret federal laws and guidelines for the intrastate funding formula in a way that is consistent with other states' interpretations. Each factor currently used in the formula appears to be consistent with federal and State laws and guidelines, and to promote equity. The statistics used in the current formula appear to represent the factors reasonably well, although improvements and refinements are recommended below. The weights used in the formula are primarily a policy decision. The weights used appear to be legitimate choices of the VDA, although the VDA has authority to choose from a wide range of possibilities.

However, there are some ways in which the current funding formula could be improved.

Recommendation (1). **The Virginia Department for the Aging should consider adding a more direct measure of social need to the funding formula. This additional factor should reflect the number of homebound and impaired elderly who are not institutionalized. The Department should assess the advantages and disadvantages of future alternative approaches for developing a measure to represent this factor, such as: refinements of the Department's "unmet need" data collection; a sample survey (which may be contracted with an outside consultant); and data requests from other State agencies.**

Recommendation (2). **The Virginia Department for the Aging should consider subtracting populations of institutionalized older persons, when possible, from factors in the formula, as described in Chapter II of this report. These populations include older persons who are institutionalized in nursing homes, State correctional facilities, DMHMRSAS facilities, and perhaps homes for adults.**

Recommendation (3). **The definition of "rural localities" should be based on population density differences alone, rather than on inclusion or exclusion in a Standard Metropolitan Statistical Area, when determining the "rural population" factor in the formula.**

Recommendation (4). **The Virginia Department for the Aging should consider stating further some rationale explaining how the factors in the formula relate to each other, and why particular weights are assigned to the factors. The Department should consider basing the values of some weights on differences in costs of providing services to different target groups.**

In addition, three potential factors do not appear as appropriate as the current factors for inclusion in the formula, but are sufficiently appropriate to be considered as viable policy options:

- population age 60 and over with limited English speaking ability, as a social need factor addressing federal regulations that refer to language barriers.

- minority population age 60 and over (regardless of income level), as a social need factor addressing federal regulations that refer to cultural or social isolation.

- adjustments to the poverty indicators used in the formula, to take into account local differences in cost of living or housing costs. This policy option would require better data than is currently available on older persons' incomes within each locality, and on local cost of living differences.

Appendixes

Appendix A

JLARC Study Mandate

HOUSE JOINT RESOLUTION NO. 130

House Amendments in [ ] - February 13, 1990

Requesting the Joint Legislative Audit and Review Commission to study intrastate funding formula and data sources.

Patron—Glasscock

Referred to the Committee on Rules

WHEREAS, the Older Americans Act requires the Virginia Department for the Aging, as the designated state unit on aging, to develop a formula for the distribution within the Commonwealth of funds received under Title III of the Older Americans Act of 1965, as amended; and

WHEREAS, the Older Americans Act requires that the Virginia Department for the Aging take into account, to the maximum extent feasible, the best available statistics on the geographical distribution of individuals aged sixty or older in Virginia; and

WHEREAS, such formula must reflect the proportion of persons age sixty and over in greatest economic or social need with particular attention to low income minority individuals; and

WHEREAS, the Virginia Department for the Aging and the area agencies on aging that receive these Older Americans Act funds, as well as supplemental state funds, desire to develop a formula based on the best available statistics concerning the geographic distribution of individuals age sixty or older and reflecting the proportion of those individuals with greatest economic need or greatest social need in Virginia, with particular attention given to low income [minority] individuals; and

WHEREAS, there is a need to obtain or develop factors and statistics that most accurately reflect such distribution and need and that will be responsive to demographic changes over a period of time; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the Joint Legislative Audit and Review Commission is requested to study the intrastate funding formula to develop and recommend the best available set of factors, statistics, and weights that will reflect the distribution and need of the aging population of the Commonwealth for equitable intrastate distribution of federal funds granted under the Older Americans Act together with the Commonwealth's matching and supplemental appropriations.

The Commission shall complete its work in time to submit its findings and recommendations to the Governor and the 1991 Session of the General Assembly pursuant to the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.

Appendix B

Applying Criteria of Appropriateness to Potential Factors

JLARC staff compiled a list of potential factors to consider for Virginia's intrastate funding formula, as shown in Exhibit 4 in Chapter II. Each potential factor was evaluated according to two criteria:

- how consistently the potential factor helps the VDA to implement federal or state laws or guidelines; and

- how well the potential factor promotes equity (recognizing that definitions of equity can vary).

An additional consideration for evaluating the potential factor was its distinctiveness from other factors to be used in the formula.

The potential factors evaluated fall into six general categories: (1) total older American population, (2) economic need factors, (3) social need factors, (4) rural factors, (5) minority-specific factors, and (6) local agency cost factors.

TOTAL OLDER AMERICAN POPULATION

This general category can be represented by one of two alternative factors: local population age 60 and over, or else local population age 60 and over who are not in institutions (such as nursing homes, correctional facilities, or other similar long-term residential institutions).

Local population age 60 and over can be considered to represent the distribution of all elderly persons. Inclusion of local population age 60 and over as a factor in the intrastate funding formula is supported by the federal regulation that prohibits area agencies on aging from using an older person's income or resources to deny or limit that person's receipt of services financed under Title III of the Older Americans Act (45 CFR 1321.17(f)(3)). The Virginia Department for the Aging (VDA) has stated in its guidelines for local agencies on aging: "Every Virginian age 60 and over is eligible to receive services provided with Title III funds."

Further, according to the Older Americans Act, the federal government allocates Title III funds to the states primarily on the basis of each state's population aged 60 and over (OAA, 304(a)(1)). The vast majority of states with intrastate funding formulas include local population age 60 and over as a factor (the only exceptions are Alaska, Nevada, Pennsylvania, and Utah).

This factor promotes horizontal equity, in that every person age 60 and over is counted equally as a potential client. Emphasizing this factor alone in the formula, however, would ignore vertical equity.

A potential problem of vertical equity with this factor is that it may include not only those populations that have greater need for Older Americans Act services, but those that have less need as well. By counting all people age 60 and over, the factor may include those who are fully able to care for themselves, and therefore do not require any Title III services. The factor also counts those who can afford to pay for alternative arrangements as much as those who cannot.

Further, this factor may appear to be inconsistent with some federal regulations. One regulation states that persons "age 60 or over who are frail, homebound by reason of illness or incapacitating disability, or otherwise isolated, shall be given priority in the delivery of services" (45 CFR 1321.69). Another states that the formula should "reflect the proportion...of persons age 60 and over in greatest economic or social need, with particular attention to low-income minorities" (45 CFR 1321.37(a)). However, these regulations do not state explicitly that the target groups are to be the *only* beneficiaries of Title III services. Therefore, these regulations do not expressly forbid some provision in the formula for all persons legally eligible to receive Title III services, in addition to the targeted higher-priority groups.

In conclusion, it appears that including in the formula all persons age 60 and over makes some provision for all potential clients of Title III programs. Even though more specific target populations are specified for receiving higher priority in delivery of services and targeting of funding, some consideration apparently should be made as well for all persons who are legally eligible to receive these services.

This factor could be refined by excluding, when appropriate, persons age 60 and over who are in institutions, such as nursing homes, prisons, and Department of Mental Health, Mental Retardation and Substance Abuse Services facilities, and perhaps homes for adults. Individuals who are in these kinds of institutions should already be receiving (if needed) many of the services provided under Title III, but under alternative arrangements and funding. Therefore, treating these populations in the funding formula as potential clients of most Title III programs may not be appropriate.

However, two concerns with subtracting institutionalized individuals from the population of elderly persons should be noted. One is that a Title III program, the Long-Term Care Ombudsman Program, is designed to serve primarily institutionalized persons. This program, however, accounts for less than 5 percent of the funds spent on Title III programs. Consequently, funding for this particular program could be alternatively based on instutionalized population estimates alone, while funding for other programs would be based on non-institutionalized population estimates, although this refinement could make the funding formula itself slightly more complicated. The second concern is that the Older Americans Act does not explicitly exclude institutionalized persons from receiving Title III services. But, as already mentioned, many services comparable to Title III services are already provided for institutionalized persons through alternative arrangements and funding. Therefore, subtracting institutionalized populations would focus these factors more on the remainder of elderly persons who would not already be receiving similar services.

ECONOMIC NEED FACTORS

There are various ways to define economic need for the funding formula. The Older Americans Act itself defines "greatest economic need" as "the need resulting from an income level at or below the poverty threshold established by the Office of Management and Budget" (OAA, 302(20)). But the federal government has allowed alternative definitions of economic need in instrastate funding formulas: states have used not only alternative poverty thresholds as a criterion for economic need, but also completely different criteria such as eligibility for Supplemental Security Income or Medicaid, and unemployment rates. Further, some individuals advocate local government ability to pay as a way to represent economic need in the funding formula.

Potential Factors Using Poverty Threshold

Three alternative factors based on the federal poverty threshold have been used by the states in their funding formulas. All are relatively minor variations of the same basic factor:

- population age 60 and over, at or below poverty threshold;
- population age 65 and over, at or below poverty threshold; and
- population age 60 and over, at or below 125% of poverty threshold.

There is clear support in federal law for inclusion of such a factor in Virginia's intrastate funding formula. The formula is required by federal regulation to "reflect the proportion...of persons age 60 and over in greatest economic or social need" (45 CFR 1321.37(a)). Further, the Older Americans Act definition of "greatest economic need" is clearly stated in terms of the poverty threshold.

Literal interpretation of the federal laws would imply that the first version of this factor is most appropriate. The federal regulation refers to persons age 60 (not 65) and over. The Older Americans Act defines greatest economic need in terms of "at or below the poverty threshold," not 125 percent of the poverty threshold.

But there is a potential problem of equity with a factor based on the poverty threshold: applying a single poverty threshold statewide may not accurately represent varying poverty conditions across the State. It can be argued that different regional costs of living, including different housing costs, result in different levels of economic hardship when a single income level is used statewide as the poverty threshold. Likewise, individuals who have the same income level but different medical costs may consequently have different levels of economic hardship. These problems are reflected in a statement from the 1989 VDA application for Title III funds:

> Economic need should not be defined in terms of the poverty level only. A person who has an income below the poverty level and who receives means-tested public benefits (Medicaid, SSI, and Food Stamps) may have less economic need than a person who is not receiving and is not eligible to receive public benefits. A person who has a moderate income but has high expenses for health and medical care (including equipment) or for housing may have a greater economic need than someone who has low expenses.

Further, VDA guidelines to local agencies on aging define economic need as follows:

> (1) the person is in economic need, i.e.,
>
> (a) has an income at or below the poverty level or
>
> (b) has expenses disproportionate to his income and is not receiving means-tested public benefits...

The federal government does not prohibit the states from applying any adjustment to the intrastate funding formulas to account for differences in regional cost of living, housing costs, or individuals' medical costs. Therefore, if the State were to define vertical equity in terms of any of these factors, it is free to adjust its definition of "economic need" accordingly. Consequently, the State could adjust the incomes to which the poverty threshold is applied, so that regional cost differentials are taken into account (provided that the necessary data are available).

With this kind of an adjustment, the rationale for this factor as it represents economic need could be stated as follows. Local population age 60 and over, whose incomes are at or below the poverty threshold (with adjustments for local cost differentials), reflects the proportion of individuals in greatest economic need, because:

- In those regions of the State without unusually high housing costs or other costs of living, elderly individuals whose incomes are at or below the OMB poverty threshold are less able to pay for Title III services through alternative arrangements, compared to those whose incomes are above the threshold.

- In those regions of the State with unusually high housing costs or other costs of living, elderly individuals must pay these extra costs of living before they can pay for Title III services through alternative arrangements. Therefore, elderly individuals whose incomes (minus the extra regional costs of living) are at or below the OMB poverty threshold are less able to pay for Title III services through alternative arrangements.

- Some Planning and Service Areas (jurisdictions of local agencies on aging, called PSAs) may have higher proportions of elderly individuals with unreimbursed medical costs than others. These individuals must pay these costs before they can pay for Title III services through alternative arrangements. Therefore, individuals whose incomes (minus these unreimbursed medical costs) are at or below the OMB poverty threshold are less able to pay for Title III services through alternative arrangements.

Some hypothetical examples may illustrate this rationale more concretely. Suppose a person age 60 or over has an annual income of $5,000, and that the poverty threshold for this person is defined as $5,500. If this person lives in any part of the State, he or she is classified as below the poverty threshold, and is recognized as being less able to pay for Title III services through alternative arrangements, compared to people who are classified as being above the poverty threshold.

But suppose the person has an annual income of $7,000 instead of $5,000. Furthermore, suppose that the person lives in a locality where housing costs on average are $200 more per month than in the rest of the State. This condition means that the person in the given locality must annually pay $2,400 more for housing, before being able to pay for Title III services through alternative arrangements. Therefore, in this case, the person's income minus the average difference in housing costs ($7,000 - $2,400 = $4,600) is found to be below the poverty threshold, and so this person is classified as being less able to pay for Title III services through alternative arrangements.

A similar case can be made for planning and service areas (PSAs) which have higher proportions of elderly individuals with unreimbursed medical costs. Suppose an older person has an income of $7,000 and unreimbursed medical costs of $2,400. This situation means that the person must pay $2,400 in unreimbursed medical bills, before being able to pay for Title III services through alternative arrangements. Similarly, the person's income minus the medical costs is less than the poverty threshold, so the person is classified as being less able to pay for Title III services through alternative arrangements.

Whether currently available data can adequately represent regional costs of living and unreimbursed medical costs is another issue (addressed in Chapter II). At this point, however, it appears that adjusting the poverty threshold according to regional costs of living or unreimbursed medical costs is an option that can meet the criteria of appropriateness.

Potential Factors Based on Supplemental Security Income and Medicaid

Proportion of population under the poverty threshold is not the only possible indicator of poverty in a PSA. Alternative indicators could be based on eligibility criteria used for other social programs.

The eligibility criteria for Supplemental Security Income and Medicaid could be regarded as more stringent tests of poverty than matching an individual's income level with the poverty threshold. To be eligible for Supplemental Security Income (SSI), an individual must have an income level that is far below the poverty level, and assets below a prescribed limit as well. To be eligible for Medicaid, an individual must be incurring medical expenses (including nursing home expenses), because the federal government pays the health care provider, not the individual. Medicaid asset limits generally are more stringent than those for SSI. Medicaid income limits are tied to eligibility for other public assistance programs. Further, Medicaid income limits currently vary by locality. The income limits have three locality groupings, based on local cost of living estimates made in 1975. Finally, before an individual's income is applied to Medicaid income limits, medical expenses (including nursing home expenses) are subtracted out. All in all, some may regard the populations served by SSI and Medicaid as more severely impoverished than the total population with income below the poverty threshold.

Proponents for including SSI and Medicaid recipients in the funding formula can give several reasons. One is that they serve as indicators of specific impoverished populations. Another is that Virginia has used both indicators in its funding formula in the past, and California currently uses SSI recipients in its funding formula. Further, counts of SSI recipients and Medicaid enrollees are updated annually, in contrast to factors represented by Census data (which are collected once every ten years).

Proponents for Medicaid in particular can provide some additional reasons for its inclusion. One is that it recognizes the burden that medical expenses can place on an individual's economic need, which is also recognized in the VDA guidelines and the VDA application for Title III funds. Another is that it recognizes different costs of living in different regions of the State, which can also have an impact on an individual's economic need.

A problem with including SSI and Medicaid counts in the funding formula is that there is little explicit support in federal or State law for their inclusion. The laws or guidelines supporting the use of these potential factors are: (1) the general term "greatest economic need" in federal law, and (2) the VDA application for Title III funds, which refers to the role of medical expenses in economic need. In contrast to the Older Americans Act itself, which clearly defines "greatest economic need" in terms of the poverty threshold as defined by OMB, there is no clear reference to the criteria used for SSI or Medicaid in either federal or State law regarding the distribution of Title III funds. Further, a statement in the VDA application does not have the force of law, although it can serve as a state-level statement of intent for implementing laws. In any event, the VDA application reference to medical costs does not have any explicit link to Medicaid enrollees. Because these potential factors appear weak on the criterion of implementing the requirements of federal or State laws and guidelines for Title III funding, further assessment of them must be made on another criterion: promoting equity.

Although SSI recipients and Medicaid enrollees may represent specific poverty populations, there are equity problems with targeting these populations, especially for Title III funding, beyond the broader elderly population with incomes at or below the poverty threshold. Although SSI recipients' incomes are initially below the income limits, they receive Supplemental Security Income to help offset this hardship. There is no guarantee that SSI fully offsets the economic hardships recipients face. But Title III programs and funding do not appear to be intended or designed to compensate for inadequacies that may exist in the Supplemental Security Income programs. Furthermore, it is unclear whether SSI recipients, after receiving SSI payments, are still substantially worse off on average than the broader elderly population whose incomes are below the poverty threshold.

There are also major problems with using Medicaid enrollees in the formula. A large percentage of the elderly population served by Medicaid may already be receiving (through another source) services comparable to those provided by Title III, because they are already in nursing homes. Even if elderly Medicaid enrollees in nursing homes can be distinguished from those who are not, the primary criterion for Medicaid benefits is incursion of medical expenses at a participating institution. It is possible that many elderly, medically indigent individuals do not qualify for Medicaid, or do not incur their expenses at participating institutions. Consequently, Medicaid enrollments may not accurately represent the entire medically-indigent elderly population that would be eligible for Title III services, contrary to the purpose for including it in the formula.

There are some major practical problems with using Medicaid enrollees in the formula as well. Perhaps the biggest problem is the fact that inclusion of Medicaid enrollees in the funding formula has been subject to legal challenge. When the VDA was sued by local agencies on aging in 1988, Medicaid was included in the funding formula at the time. The presiding judge, in a written opinion, had subsequently doubted whether Medicaid should be included in the formula. Furthermore, the three locality groupings used for Medicaid eligibility are based on 1975 data and may be facing legal challenge as well, according to Department of Social Services staff.

In conclusion, the support for including SSI or Medicaid factors in the funding formula is not nearly as clear as the problems. Federal and State laws and guidelines regarding Title III funding appear to provide little support for their inclusion. Further, there is no clear indication that the advantages of these potential factors outweigh their disadvantages in promoting equity. Regional cost of living differences in Medicaid eligibility criteria appear to have problems; alternatively, cost of living differences could be addressed more directly through an adjustment to the way income is applied to the poverty threshold, as discussed above. Although SSI and Medicaid data are updated more frequently than many other potential factors, this fact is insufficient for including them in the formula when their appropriateness is in question. In fact, there is no clear indication that eligibility for SSI and Medicaid more appropriately represents the economic needs of potential Title III clients, beyond the use of an indicator based on the poverty threshold.

Local Government Ability to Pay

An alternative, perhaps complementary, way to represent economic need is through a measure of local government ability to pay. The assumption behind this alternative appears to be that elderly individuals who live in local jurisdictions where the local governments have relatively greater ability to generate revenues have an economic advantage. The economic advantage is that these governments can better afford to provide social programs for the elderly beyond the level provided under Title III funding. This assumption can be taken a step further, so that local support for agencies on aging is analogous to local support for school divisions: local agencies whose jurisdictions include local governments with higher abilities to pay should be expected to rely more on local funding, so that more Title III funds could be distributed to PSAs with lower abilities to pay.

Including this potential factor in the formula would present some problems. One is that federal and State laws and guidelines for Title III funds provide very weak support for including such a factor. The link between local government ability to pay and elderly individuals in "greatest economic need" is quite weak. A jurisdiction's proportion of elderly individuals with "greatest economic need" can be represented more directly by an indicator using elderly individuals' incomes and a poverty threshold. To say that individuals have "greatest economic need" because they live in jurisdictions where the local governments have low abilities to pay for additional social services is tenuous at best.

Including local government ability to pay as a factor for distributing Title III funds could cause some major inequities in the actual delivery of Title III services to elderly individuals. In contrast to school divisions, which the Constitution of Virginia requires local governments as well as the State to fund, there is no legal requirement for local governments to fund their local agencies on aging. Therefore, it is possible for some agencies to receive no financial support from their local governments, even if the local governments have relatively greater abilities to generate revenues. In this situation, these agencies would be receiving less Title III funding from the State, even though they would have no local funding to provide services to the elderly in their PSAs.

In sum, it appears that the link between local government ability to pay and elderly individuals in "greatest economic need" is not sufficiently strong to include the factor as an appropriate part of the funding formula. However, this conclusion does not necessarily preclude this factor from being considered as an indicator of social needs, which is discussed more fully in a following section.

Unemployment Rates

Conceptually, this potential factor is linked to elderly individuals' economic need in a way that is similar to local government ability to pay. The underlying assumption appears to be that elderly individuals who live in PSAs with high unemployment rates are at an economic disadvantage. The economic disadvantage is that the local economies are less able to support Title III programs through local funding, so more federal and State Title III funding should be sent to the corresponding local agencies on aging. However, the link between elderly individuals in "greatest economic need" and this factor is even more indirect than the link with local government ability to pay. Similarly, major inequities could arise if local agencies with low unemployment rates in their PSAs are unable to receive local funding for Title III programs. Consequently, this factor does not appear to be sufficiently appropriate for inclusion in the funding formula.

SOCIAL NEED FACTORS

There are clear federal and state directives that indicate that social needs should be represented in the funding formula, and that help define what constitutes a "social need." Federal regulation requires the state formula to "reflect the proportion...of persons age 60 and over in greatest economic or social need" (45 CFR 1321.37(a)). "Greatest social need" is defined in the Older Americans Act as "the need caused by non-economic factors which include physical and mental disabilities, language barriers, and cultural, social, or geographical isolation including that caused by racial or ethnic status which restricts an individual's ability to perform normal daily tasks or which threaten such individual's capacity to live independently" (OAA, 302(21)). In the 1990 Appropriations Act, the Virginia General Assembly has expressed its intent that Older Americans Act funds and general fund monies be targeted to services which can assist the elderly to function independently for as long as possible.

In addition, federal regulations for implementing Title III require that persons "age 60 or over who are frail, homebound by reason of illness or incapacitating disability, or otherwise isolated, shall be given priority in the delivery of services" (45 CFR 1321.69). "Frail" is defined as "having a physical or mental disability, including having Alzheimer's disease or a related disorder with neurological or organic brain dysfunction, that restricts the ability of an individual to perform normal daily tasks or which threatens the capacity of an individual to live independently" (45 CFR 1321.3).

The VDA has summarized these requirements and definitions in its guideline for local agencies on aging concerning persons with a social need. The VDA states that preferential consideration shall be given to persons with an economic or social need in the provision of Title III services. Further, a person is in social need if he or she:

- is impaired (needs assistance with two or more activities of daily living), or
- is homebound (cannot go out of the house without assistance or supervision), or
- is isolated (deprived of desired access to services and a support system).

There are at least three possible ways social needs can be represented in the funding formula. One way is to use more direct measures of persons age 60 and over with social needs. For example, other states have attempted to represent social needs more directly by including the following factors in their funding formulas:

- population age 60 years and over, with moderate or severe functional limitations;
- population age 60 years and over, with limited or no English speaking ability; and
- population age 60 years and over, living in a rural area (this particular factor is covered in more detail in a separate section below).

Further, an additional potential factor that could serve as a direct measure of social need would be the number of persons who are homebound or impaired, and not in institutions.

Another way to represent social needs in the formula, given that they may be difficult to measure directly, is to use more indirect measures, such as:

- population age 75 and over;
- population age 75 and over, and not in institutions; and
- population age 60 and over, living alone.

A third possible way to represent social needs is in terms of what social services, other than services funded through Title III, may be provided. The assumption behind this approach is that Title III funds should be directed more to localities that do not or cannot provide additional social services. Potential factors under this approach would include: (1) additional social services actually provided in the locality, and (2) local government ability to pay for additional social services.

Direct Measures of Social Need

Attempting to measure "social need" directly means attempting to estimate the population of persons age 60 and over who are (1) impaired, (2) homebound, or (3) isolated. To estimate how many people fall into these categories, two steps are required. One is to determine exactly who should be included in these categories. The second is to consider alternative ways to infer the population from its subsets, given the entire population cannot be observed directly.

The VDA elaborates on what is meant by "impaired," "homebound," and "isolated" as follows:

"Impaired" means limited in the ability to perform at least two activities of daily living. It does not matter whether the limitations in activities of daily living involved household tasks (preparing meals, shopping, managing money, using the telephone, doing housework) or personal care (bathing, dressing, eating, getting in and out of bed or chairs, walking, going outside, using the toilet). When resources are limited, personal care needs should be met first because limitations in personal care reflect a higher level of impairment.

Social need is described in terms of non-economic factors such as homeboundness and isolation. "Homebound" means not being able to leave the house without some assistance or without supervision. The person may be homebound because of a physical impairment, e.g., arthritis, or because of a mental impairment, e.g., Alzheimer's disease. "Isolated" means deprived of desired access to community resources and a support system. The reason for the deprivation may be physical or mental/emotional. The person desires and needs the resource and support but is unable to obtain it. Desired access may be limited because of the culture, race, or ethnicity of the person or because of geography.

It appears that anyone age 60 and over with disabilities resulting in the conditions of being "impaired" or "homebound", as defined above by the VDA, should be included in the "social need" population; but it is not so clear exactly who should be counted as "isolated". Those considered "isolated" include persons in rural areas (which is considered as a separate factor in a following section). Geographic isolation is relatively clear-cut: population sparsity frequently results in a higher proportion of the elderly being further removed in distance from where Title III services originate.

But it is not so clear, from the standpoint of equity, whether isolation always exists because of differences in language, culture, race, or ethnicity. Federal regulation and VDA guidelines acknowledge that isolation may result from these kinds of differences, but they do not state that isolation always occurs where these differences exist. If there is evidence of isolation due to these differences, which could be observed through relative underutilization of Title III programs by persons in these groups, then "social need" factors to address these differences would be appropriate for the formula. But at this time, no clear evidence of such isolation is readily available. Therefore, the option of including non-English speaking, ethnic and racial populations as "social need" factors is primarily a policy decision, rather than a technical decision, at this point. It should be noted, however, that ethnic and racial groups may also be represented by "minority-specific factors", which are also discussed below in a separate section.

A problem with trying to represent directly the elderly population with social needs, especially those who are homebound or impaired, is that no one collects data at the level of detail needed from the entire population. Consequently, an alternative approach is to take a factor that is collected from a subset of the population, and use it to generalize to the entire population. One such alternative factor could be the number of recipients, and potential recipients on waiting lists, of services at each local agency on aging. Although these numbers would be only a subset of the entire elderly population with a need for Title III services, they may be the most direct way to represent the varying proportions of persons in greatest social need from one PSA to another.

Federal laws and regulations require states to collect data regarding the needs for services. According to the Older Americans Act, the VDA State Plan "shall provide that the State agency will evaluate the need for supportive services (including legal assistance), nutrition services, and multipurpose senior centers within the State and determine the extent to which existing public or private programs meet such need" (OOA, 307(a)(3)(a)). Federal regulation elaborates further on this point:

> Each State shall submit objectively collected and statistically valid data with evaluative conclusions concerning the unmet need for supportive services, nutrition services, and multipurpose senior centers gathered pursuant to section 307(a)(3)(A) of the Act....

These data, according to the VDA, are collected by professional case managers at every local agency on aging. The numbers are based on people who have been assessed by a case manager as eligible to receive services, and who are either served by the local agency or put on a waiting list. The advantage of these counts is that they are based on actual, documented cases of people exhibiting the need for services, rather than on a statistical variable that may not exactly match as closely the population needing these services.

But there are problems of equity in using these numbers, too. One potential problem is that persons qualifying for services on the basis of "social need" may not be so clearly distinguished from persons qualifying on the basis of "economic need."

Another potential problem is that assessments may not be uniform across local agencies. Although the VDA stated in its State Plan that it will continue to support the development of an effective system for uniform assessment, VDA staff have indicated that at this time, assessments are not uniform across local agencies. Uniform assessments are necessary for equity in the delivery of Title III services. Further, uniform assessments are necessary for compliance with the federal regulation that the resulting data representing unmet need are "objectively collected and statistically valid."

A third potential problem is that only a portion of the persons who are eligible for services in a PSA may actually come in to the local agency and have their eligibility assessed; further, these portions may vary from one local agency to another, depending on how extensive and effective each local agency's outreach efforts may be. However, an argument can be made that counting persons actually assessed for their eligibility may be a more valid, though relatively conservative, base for estimating the number of individuals with met and unmet social needs within a PSA, than some projection of a broader but unobservable population. But this argument does not really resolve the problem that the gap between assessed and actual need may vary greatly from one PSA to another. This potential problem may be the greatest drawback to this approach.

In sum, a factor representing the number of homebound and impaired persons appears appropriate for inclusion in the formula. Finding a specific way to operationalize this factor, however, appears problematic at this time. Additionally, a case can be made for including, as a "social needs" factor, persons who may be isolated from the delivery of services due to differences in language, culture, race or ethnic group. Including this factor in the funding formula is an option for policymakers.

Indirect Measures of Social Need

A reason for using indirect measures is that directly measuring social need, in practical terms, may be too difficult, and so a "second-best" proxy measure would be needed. This indirect approach would use proxy variables from the entire population, such as: population age 75 and over; or population age 60 and over, living alone. Indirect measures have been used by other states in their formulas, as well as Virginia in the past. But a major drawback to these measures is that their link with "social need," as defined by the federal government and the VDA, is much weaker than with a more direct measure.

Including population age 75 and over in the funding formula can be justified as follows. A larger proportion of persons age 75 and over are more likely to be impaired or homebound, compared to persons age 60 and over. Therefore, including population age 75 and over, in addition to population age 60 and over, would bring about greater representation of "social need" in the formula, in the absence of any other "social need" variable.

The equity problems of including population age 75 and over are similar to those already discussed concerning population age 60 and over. A major problem is that although a greater proportion of persons age 75 and over is more likely to have social needs, a greater proportion in this age group is also more likely to be in institutions such as nursing homes. Although this problem can be resolved by counting only persons age 75 and over who are not in institutions, another problem remains. A large number of persons over age 75 are not impaired or homebound, so they may add considerably to the imprecision of this proxy measure of social need.

An additional practical problem with population age 75 and over stems from a lawsuit in Florida. In that case, the court ruled that this factor should not be included in Florida's funding formula, because it may discriminate against PSAs with higher concentrations of minorities, because minorities have relatively shorter life expectancies. The fact that this case may set a legal precedent could cause some legal problems in Virginia if it were included in Virginia's formula.

The justification for including population age 60 and over, who live alone, has a slightly different aspect. Title III services should be targeted to maintain elderly individuals' independent living for as long as possible. By targeting Title III funds to persons age 60 and over who live alone, their social needs are more likely to be met, and so they will not have to go into nursing homes or other institutions as soon as they would otherwise. The problem with this potential factor is the same as the remaining problem for population age 75 and over: many persons in this category are not impaired or homebound, and so they do not have any social needs beyond those of other persons in their age group. In fact, there may be many persons in this age group who do not live alone, but who do have social needs. Consequently, this variable would be counting some persons with social needs, excluding others with social needs, and probably including many with no social needs. Therefore, this variable is also an imprecise proxy for persons age 60 and over with social needs.

In conclusion, if a more direct measure of social needs is not realistically available, then an indirect measure is perhaps better than no measure. Federal and State laws and guidelines support including some factor representing social needs, and equity may be promoted by recognizing social needs in some way. But because these indirect, proxy measures count some people who should not be, and exclude others who should be counted, their advantages do not seem to outweigh their problems.

Other Local Social Services

Considering other local social services in the formula is premised on the notion that Title III funds should be targeted more to the places where the greatest gaps currently exist in services to the elderly. Federal regulation (45 CFR 1321.1(b)) addresses the fact that other sources of support should be considered in Title III funding:

> Title III provides for formula grants to State agencies on aging, under approved State plans, to stimulate the development or enhancement of comprehensive and coordinated community-based systems resulting in a continuum of services to older persons with special emphasis on older individuals with the greatest economic or social need, with particular attention to low-income minority individuals. A responsive community-based system of services shall include collaboration in planning, resource allocation and delivery of a comprehensive array of services and opportunities for all older Americans in the community. The intent is to use Title III funds as a catalyst in bringing together public and private resources in the community to assure the provision of a full range of efficient, well coordinated and accessible services for older persons.

In particular, some speakers at the most recent public hearings concerning the VDA State Plan have argued that some localities provide enhanced levels of social services for the elderly, while other localities barely provide the most basic services for their elderly. Therefore, they argue, more Title III money should be sent to those localities that would require the greatest degree of upgrading of their services, to ensure that an older Virginian has equal access to services, regardless of locality. One way to accomplish this targeting of Title III funding is to include a factor in the formula which represents the level of other social services for the elderly provided in PSAs, besides Title III programs.

Including a factor such as this one in the formula would promote horizontal equity, in terms of equal access to all social services for the elderly; but inclusion of it would also raise some major problems as well. Localities that provide enhanced levels of social services, beyond those services funded through Title III, would be penalized for assuming greater responsibility on the local level in providing these enhanced services. Such a factor would provide an incentive for decreasing local-level spending for social services to the elderly in all localities, in order to acquire a larger share of Title III funds. In this way, such a factor would promote a more equal level of access, but by reducing local aspiration, so that the common level of access may become lower and lower than it would be without the factor in the formula. This effect would be contrary to the intent "to use Title III funds as a catalyst in bringing together public and private resources in the community" to provide services to the elderly.

An alternative factor, instead of actual local provision of services, would be local government ability to pay (for these additional social services). Title III funding would not be contingent on actual local spending on social services, but would be targeted more to localities which appear to have greater difficulty paying for these additional social services. A problem with this potential factor, however, is that its link with actual social needs is more hypothetical and weaker than other potential indicators of social needs. When examining local government ability to pay as a social need indicator, it appears most appropriate when all localities that have greater levels of need for additional services are also the ones that have lower abilities to pay. But it is possible that some localities with greater social needs (such as cities) are also ones that appear to have higher abilities to pay. Expecting these local governments alone to fund additional services to meet these greater needs may not be realistic, because there is no legal requirement for them to do so, and local government officials may perceive higher-priority constraints on their budgets.

This problem is compounded by the fact that there is no legal requirement for local governments to fund their local agencies on aging. As already mentioned in the discussion of economic needs, it is possible for local agencies to have in their PSAs local governments with relatively high abilities to pay, and yet receive little or no funding from these local governments. In this situation, the local agencies would receive less Title III funding due to local ability to pay, while receiving little or no support from their local governments. In this case, older persons in these localities would actually receive lower levels of service than if such a factor were not included in the formula. Under such circumstances, including local government ability to pay in the formula would promote neither horizontal or vertical equity.

In conclusion, as a potential indicator of social need, local government ability to pay appears to overcome a serious problem that would result from using the alternative, actual local provision of social services. But there are still serious equity problems with using local government ability to pay in the funding formula. Further, support in the federal and State laws and guidelines for including either measure in the funding formula appears to be quite weak. Therefore, these potential factors do not appear very appropriate for inclusion in the funding formula.

RURAL FACTORS

As indicated in the previous section, living in a rural area can be considered a type of social need, because federal laws and State guidelines on social needs explicitly address "geographical isolation." In fact, isolation due to population sparsity appears to be obvious: sparsely populated areas can be expected to have a higher proportion of the elderly being further removed in distance from where Title III services originate. This greater average distance could be seen as a factor which makes delivery of services more difficult and expensive for local agencies on aging serving rural areas.

The question then arises: what is the best way to represent this rural factor, as it affects the social needs of elderly persons? Several alternatives are available: population age 60 and over, in localities outside a Standard Metropolitan Statistical Area (SMSA); land area (in square miles); and population density.

Standard Metropolitan Statistical Area (SMSA)

An SMSA is determined through application of a complex set of definitions by the U.S. Office of Management and Budget. An SMSA generally includes groups of densely populated cities, suburbs, and counties that are economically and socially integrated. There are seven SMSAs which include Virginia localities: Bristol (centered in Bristol, Tennessee), Charlottesville, Danville, Lynchburg, Norfolk, Northern Virginia (centered in Washington, D.C.), Richmond, and Roanoke.

There are a couple of problems with using the SMSA/non-SMSA distinction to represent potential geographic isolation as it affects the social needs of the elderly. One is that there are rural areas within the borders of defined SMSAs, where geographic isolation of the elderly could still occur. The other is that two out of the seven SMSAs are not centered in Virginia (namely, Bristol and Northern Virginia). Even if the elderly in rural areas of these SMSAs are assumed to have relatively easy access, because of their relative proximity, to the urban centers of the SMSAs, these urban centers may be outside Virginia in some cases, and older Virginians may not be eligible for Title III programs from other states. These problems raise the question: what does the SMSA/non-SMSA distinction really have to to with geographic isolation affecting the social need of the elderly, beyond differences in population density? At this point, it appears that the population density of localities has a clearer, more direct link to geographic isolation of elderly persons than the SMSA/non-SMSA distinction.

Land Area

Land area in square miles of PSAs is a measure used by some states to account for geographic isolation. It seems reasonable to assume that land area is related to the average distance between elderly persons and the originating location of local agency on aging services.

But land area may not be the only variable that is related to geographic isolation. For example, two PSAs may have the same land area, but very different population sizes. The PSA with the larger population may have economies of scale in the provision of transportation services, or sufficient economies of scale to have two or more locations as points of origin for local agency services (which may reduce average distances for many elderly persons). Consequently, population size should be taken into account as well as land area when attempting to represent potential geographic isolation.

Population Density

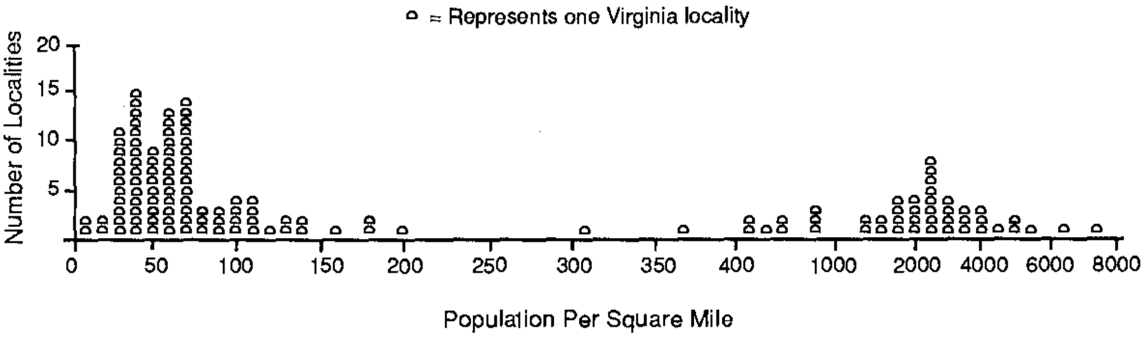
As illustrated above, population density appears to have a more direct and more complete link with geographic isolation, compared to using SMSA designations or land area alone. However, population density should be used as a relative, rather than an absolute, criterion for "ruralness" or likelihood of geographic isolation of elderly persons. For example, some localities may be more densely populated compared to their neighboring localities, but still sparsely populated compared to most localities across the State.

When examining the population density of localities across the State, localities appear to fall into two main groups, as shown in Figure B-1. The two groups consist of: a relatively tight cluster of localities that have relatively low population density; and localities that are outside of this cluster, with higher population densities. Those localities in the lower-density cluster can be regarded, on average, as being more rural, and as being more likely to have elderly persons who are geographically isolated, compared to localities in the other higher-density group.

According to this clustering approach, "rural" localities could be defined as those localities with a population density of 250 persons per square mile or less, while "non-rural" localities would be defined as those with a population density of more than 250 persons per square mile. It should be noted that these thresholds are based on 1987 population estimates for Virginia localities. The specific values of the thresholds should be revised each time new population estimates are available, although the cluster patterns themselves are not likely to show major changes over time.

Figure B-1

Population Density of Virginia Localities



Source: Center for Public Service, University of Virginia, *Virginia Statistical Abstract*, 1989.

An alternative population density threshold would be to use the statewide average population density, which is derived by dividing the total State population by the total State land area. Using 1987 population estimates, the statewide population density would be 149 persons per square mile. The assumption for using this alternative threshold is that those localities below the statewide average have a greater likelihood of having geographically isolated elderly, while those above the statewide average have a smaller likelihood, compared to the State as a whole. The net effect of using this alternative threshold is that it would place the following localities in the "higher-density" group: Henry County, James City County, Montgomery County, and Stafford County (with population densities of 152, 178, 170 and 196 persons per square mile, respectively).

The weakness of this alternative is that using "the State as a whole" as a benchmark can result in a relatively arbitrary number being used as a threshold. The clustering pattern shown in Figure B-1 indicates that the four localities listed above have population densities that resemble most "low-density" localities much more than most "high-density" localities. Because there appears to be a natural clustering pattern of localities, it seems more appropriate to use these clusters for grouping localities according to population density, rather than using the statewide average as the defining threshold.

In sum, the most appropriate factor for representing the likelihood of geographic isolation of elderly persons, or "ruralness," appears to be the number of persons age 60 and over, who are not in institutions, and who live in localities with relatively low population densities.

MINORITY-SPECIFIC FACTORS

Federal regulation explicitly states that "low-income minority individuals" should receive "particular attention" in the funding formula, beyond emphasis given to persons in "greatest economic or social need" (45 CFR 1321.37(a)). Various states have given particular attention to minorities in their formulas through different versions of similar factors. These alternative versions include: low-income minority population age 60 and over (where "low-income" means at or below the poverty threshold); minority population age 60 and over, at or below 125 percent of the poverty threshold; minority population age 60 and over; and minority population age 65 and over.

As discussed in the section on social need indicators, a factor such as minority population age 60 or 65 and over may address isolation due to differences in language, culture, race or ethnicity, that in turn affect individuals' social needs. But a factor which includes both low-income level and minority status seems to address more directly the requirement for particular attention to "low-income minority individuals" in the funding formula, rather than having separate factors for low-income level or minority status.

The federal government appears to allow the states flexibility in how they define "low income" (for example, either defining it in terms of 100 percent, or else 125 percent, of the OMB poverty threshold). But there does not appear to be any explicit reason in federal or State laws and guidelines to define "low income" differently from the criterion for "greatest economic need": having an income at or below the OMB poverty threshold. Therefore, federal and State laws and guidelines appear to be implemented more consistently when "low income" and "greatest economic need" are defined according to the same criteria, including any adjustments deemed appropriate by policymakers for regional cost of living differences or medical costs.

Consequently, the most appropriate factor for addressing the requirement to pay particular attention in the formula to low-income minorities can be characterized as low-income minority population age 60 and over, with the following definitions. Low-income means income at or below the OMB poverty threshold, with any adjustments for cost of living differences or medical costs, as chosen by policymakers for defining "economic need."

LOCAL AGENCY COST FACTORS

This set of potential factors reflects different circumstances local agencies on aging may face in providing services, which may affect their costs. There are two types of potential factors in this category: (1) local salary cost differences; and (2) a minimum base amount, to cover the fixed costs of operating small-scale agencies.

Local Salary Cost Differences

This issue is a concern among localities with relatively higher costs of living. Because local agencies on aging must compete with other potential employers, in some localities they are forced to pay higher wages in order to recruit and retain their staff. This wage difference drives up their operating costs significantly. It has been argued that this cost differential should be recognized if a rural factor is used in the formula, because higher salary costs are analogous to rural agencies' higher costs of providing services due to higher transportation costs.

A problem with this potential factor is that it has no clear reference in federal or State law. In contrast, the Older Americans Act (OAA, 302(21)) refers to "geographical isolation" in defining "greatest social need," which supports inclusion of a rural factor in the formula.

Another possible problem with this potential factor is the choice of targeting money based on client needs versus agency needs. Up to this point, all potential factors for the funding formula were examined in terms of identifying client needs and target populations. Considering higher salary costs, however, shifts attention to the needs of agencies. While there are federal laws and regulations which address the organization and management of local agencies on aging, they do not appear to address how Title III money is to be targeted to the agencies. References to the provision of services, as it affects the targeting of funding, appear to be made primarily in terms of client needs. This focus implies that client needs are to be given greater attention in the funding formula than agency needs. Further, there does not seem to be enough Title III and State funding to meet all client needs. Consequently, it can be argued that it is inappropriate to have a formula directly reflecting agency needs, while there are clients in other PSAs whose needs are unmet due to a lack of resources.

Yet, it can be counterargued that the State as an employer has recognized local differences in the cost of competing for personnel. But the State has done so when it has also recognized the full costs of the services to be provided. If Title III funding were sufficient to meet the full costs of all client needs through the funding formula, recognizing the different costs of competing would promote equity. However, at this time Title III funding is not sufficient to meet the full costs of the services that meet all clients' needs; consequently, equity may not be promoted if some clients have funding targeted to them on the basis of agency needs rather than client needs, while other clients remain with their needs unmet.

In conclusion, it is unclear whether equity is promoted by including a factor in the formula representing different local salary costs. Further, there appears to be little support in the federal and State laws for including such a factor in the formula.

Minumum Base Amount

In implementing the funding formula, the VDA has stated that no local agency on aging "will receive less than $100,000." The notion behind this kind of provision is that although some local agencies may have a relatively small scale of operation, they would still have fixed costs that must be paid. The minimum base ensures that smaller agencies can pay the fixed costs.

While this provision is not an explicit factor in Virginia's formula, some other states have explicitly made the base amount a factor in their formulas. This alternative approach does not appear necessary either to meet federal laws better, or to promote equity better. Therefore, Virginia's current practice of ensuring a minimum base amount, after the formula has been computed, appears to be appropriate.

Appendix C

The Funding Formula Under a Multiplicative Assumption

The funding formula is currently constructed using an additive assumption. Each factor is weighted and added to the others, to produce the proportion of statewide funding a given local area agency on aging receives.

Proportion of funds going to local AAA = (Pop age 60+) (.30)
+ (Rural) (.10)
+ (Poverty) (.50)
+ (Minority poverty) (.10)

where

Pop age 60+	= Proportion total population aged 60+
Rural	= Proportion rural residents aged 60+
Poverty	= Proportion poverty population aged 60+
Minority poverty	= Proportion minority poverty population aged 60+

In contrast, a funding formula using a multiplicative assumption could be constructed as in the following illustration. In this illustration, suppose that the "minority poverty" factor continues to have an additive effect, in relation to the other factors, such that:

Proportion of funds going to local AAA =
(Pop age 60+, Rural, Poverty) (.90) + (Minority poverty) (.10).

Further, suppose that the "service need" factors (Pop age 60+ and Rural) have a multiplicative effect with the "economic need" factor (Poverty). As stated in Chapter III, the multiplicative assumption requires that funding be dependent on both service and economic need at the same time. Those local agencies with a greater concentration of constituents in economic need would have a higher proportion of their constituents' service needs funded. This assumption, in turn, is premised on the notion that funding for the agencies is so limited that only a fraction of the full service needs can be met with Title III funds; therefore, Title III funding should be targeted more to the areas that have greatest service and economic need, before allocating money on the basis of service need or else economic need alone.

The next question is how to operationalize this multiplicative effect, so that "Poverty" becomes a weight that can be multiplied with the "service need" factors. One way is to convert "Poverty" from a local proportion to a "Relative Poverty Ratio." This ratio is similar in concept to the Composite Index used in funding the Standards of Quality for public education, and the "Local Revenue Index" used in funding the State and Local Hospitalization Program. The Relative Poverty Ratio would be defined as:

$$\text{Relative Poverty Ratio} = \frac{\text{Local PSA Poverty Rate}}{\text{Statewide Poverty Rate}}$$

where

Local PSA Poverty Rate = Number of persons in PSA age 60+ with incomes at or below poverty level, divided by number of persons in PSA age 60+

Statewide Poverty Rate = Total number of persons statewide with incomes at or below poverty level, divided by total number of persons statewide age 60+.

The Relative Poverty Ratio represents how large the elderly poverty rate in a PSA is, compared to the statewide elderly poverty rate. For example, suppose the statewide elderly poverty rate is 10 percent, and a certain PSA has an elderly poverty rate of 20 percent. Then the PSA has a Relative Poverty Ratio of 2.0, meaning that the PSA has twice as many older persons under the poverty threshold, compared to the statewide norm, when controlling for the total number of older persons. On the other hand, suppose another certain PSA has an elderly poverty rate of 5 percent. Then the PSA has a Relative Poverty Ratio of 0.5, meaning that the PSA has half as many older persons under the poverty threshold, compared to the statewide norm. More generally, if a PSA has a ratio that is greater than 1.0, then the PSA has a higher rate of elderly poverty than the statewide norm; if the ratio is less than 1.0, then the PSA has a lower rate of elderly poverty than the overall rate observed statewide.

The "service need" factors ("Pov age 60+" and "Rural") can be multiplied by the Relative Poverty Ratio, to increase or decrease each local agency's share of funding in proportion to the elderly poverty rate in its PSA. In this way, rather than having some arbitrary weight assigned to "Poverty" (as it is done under the additive assumption), the Relative Poverty Ratio becomes the weight, and this new weight now has a more meaningful and objective rationale: those PSAs with higher proportions of elderly persons in poverty will have proportionately greater weight given to their service needs than those with lower proportions of elderly persons in poverty.

A technical problem with multiplying factors by weights is that the sum of the proportions may not add up to 1 (when they should), without some additional adjustment in the formula. This problem can be illustrated more concretely with an example.

Suppose there is a state with two PSAs, with values for the factors shown in Table C-1. PSA 1 has 40 percent of all persons age 60 and over, 80 percent of persons age 60 and over who live in rural localities, and 50 percent of minorities age 60 and

Table C-1

Hypothetical Values for Illustrative Example

Factor	PSA 1	PSA 2
Pop age 60+	0.40	0.60
Rural	0.80	0.20
Relative Poverty Ratio	0.75	1.50
Minority Poverty	0.50	0.50

over with incomes at or below the poverty threshold. In addition, PSA 1 has a Relative Poverty Ratio of .75, meaning that its elderly poverty rate is 75 percent of the total statewide poverty rate. In contrast, PSA 2 has 60 percent of all persons age 60 and over, 20 percent of persons age 60 and over who live in rural localities, and 50 percent of minorities age 60 and over with incomes at or below the poverty threshold. PSA 2 has a Relative Poverty Ratio of 1.50, meaning that its elderly poverty rate is 150 percent of the statewide poverty rate.

Further, suppose the funding formula is now:

Proportion of funds going to local AAA =
(Pop age 60+) (Relative Poverty) (.675) +
(Rural) (Relative Poverty) (.225) +
(Minority poverty) (.10).

The assigned weights of .675 and .225 require some additional explanation. Together, they add to .900, so that collectively "Pop age 60+", "Rural", and "Relative Poverty" account for 90 percent of the funding allocation. In the current formula, "Pop age 60+" and "Rural" have weights of .30 and .10, or a 3-to-1 ratio; similarly, .675 and .225 have a 3-to-1 ratio.

Applying the values in Table C-1 to this alternative funding formula, the proportion of funding for PSA 1 and PSA 2 would be:

(see next page)

Proportion of funds going to PSA 1 =

(.40) (.75) (.675) +	[Line 1]
(.80) (.75) (.225) +	[Line 2]
(.50) (.10)	[Line 3]

= .2025
+ .135
+ .05 = .3875

Proportion of funds going to PSA 2 =

(.60) (1.5) (.675) +	[Line 1]
(.20) (1.5) (.225) +	[Line 2]
(.50) (.10)	[Line 3]

= .6075
+ .0675
+ .05 = .7250.

The problem in this example is that the two proportions should sum to 1, but instead, .3875 and .7250 sum to 1.1125. This problem occurs because of the multiplication occurring in "Line 1" and "Line 2" of each calculation. "Line 1" of PSA 1 and PSA 2 should sum to .675; instead they sum to .810. Likewise, "Line 2" of PSA 1 and PSA 2 should sum to .225; instead they sum to .2025. However, "Line 3" of PSA 1 and PSA 2 sum to .10, as intended.

A solution to this problem is to put in a "correct summation adjustment" in "Line 1" and "Line 2" of the formula. This adjustment can be defined as:

$$\text{Correct summation adjustment} = \frac{\text{Target summation}}{\text{Raw actual summation}}$$

For "Line 1", this adjustment would be .675 /.810, or .8333; for "Line 2" it would be .225 /.2025, or 1.1111. A formula including these adjustments would be:

Proportion of funds going to local AAA =
(Pop age 60+) (Relative Poverty) (Sum Adjustment) (.675) +
(Rural) (Relative Poverty) (Sum Adjustment) (.225) +
(Minority poverty) (.10) .

When the calculations are made with these adjustments, everything sums correctly:

Proportion of funds going to PSA 1 =

(.40) (.75) (.8333) (.675) +	[Line 1]
(.80) (.75) (1.1111) (.225) +	[Line 2]
(.50)(.10)	[Line 3]

= .1688
+ .150
+ .05 = .3688

Proportion of funds going to PSA 2 =

(.60) (1.5) (.8333) (.675) +	[Line 1]
(.20)(1.5) (1.1111) (.225) +	[Line 2]
(.50)(.10)	[Line 3]

= .5062
+ .075
+ .05 = .6312.

The basic approach used in this example can be applied to more PSAs than two, and to any additional "social need" factors that may be added to the formula. A conclusion to be drawn from this illustration is that having a multiplicative assumption may provide a more meaningful rationale for weighting "economic need" in relation to "service need", but it has a price: a more complicated formula. While this technical complication could make the formula itself more difficult to understand and explain, it is easy to handle on the computer.

Appendix D

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 Aging.

COMMONWEALTH of VIRGINIA

THELMA E BLAND
COMMISSIONER

Department for the Aging
700 East Franklin Street
10th Floor
Richmond, Virginia 23219-2327

TELEPHONE (804) 225-2271
TTY (804) 225-2271

OCT 3 1990

October 3, 1990

MEMORANDUM

To: Mr. Phillip Leone

From: Thelma E. Bland Thelma E. Bland

Subject: "Review of the Funding Formula for the Older Americans Act"

Thank you for providing us with a copy of the draft report of the "Report of the Funding Formula for the Older Americans Act." I look forward to your presentation of your study findings to members of the Joint Legislative Audit and Review Commission on October 10, 1990.

We concur with the four recommendations contained in your study. After the Commission has reviewed and released the report, we plan to convene a work group to follow up on your recommendations. At this time, we plan to use your recommendations in the development of our FY 1992-1994 State Application for Federal Funds (funds authorized by the Older Americans Act). Our state application will include our funding formula as an appendix.

Again, we appreciate the work you and your staff have done in reviewing our current funding formula. We are especially appreciative of the leadership provided by Dr. Gregory Rest. If you need additional information from us prior to the meeting of the Joint Legislative Audit and Review Commission on October 10, 1990, please let us know.

TEB/lmw

pc: ✓Dr. Gregory Rest
Wm. Heyward McElveen

JLARC Staff

RESEARCH STAFF

Director

Philip A. Leone

Deputy Director

R. Kirk Jonas

Division Chief

Glen S. Tittermary

Section Managers

John W. Long, Publications & Graphics
● Gregory J. Rest, Research Methods

Project Team Leaders

Teresa A. Atkinson
Linda E. Bacon
Stephen A. Horan
Charlotte A. Kerr
Susan E. Massart
Robert B. Rotz
Wayne M. Turnage

Project Team Staff

James P. Bonevac
Craig M. Burns
Andrew D. Campbell
Julia B. Cole
Joe K. Feaser
Stephen P. Fox
Joseph J. Hilbert
Lisa J. Lutz
Laura J. McCarty
Deborah L. Moore
Barbara W. Reese
Phoebe A. Roaf
E. Kim Snead

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Section Manager

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Administrative Services

Charlotte A. Mary

Secretarial Services

Angela R. Mitchell
Becky C. Torrence

SUPPORT STAFF

Technical Services

Desiree L. Asche, Computer Resources
Kim S. Hunt, Associate Methodologist
Betsy M. Jackson, Publications Assistant

Interns

Mary S. Delicate
Leslie J. Little
Kimberly S. Williams

● *Indicates staff with primary assignments to this project*

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Suite 1100, General Assembly Building
Capitol Square, Richmond, VA 23219
(804) 786-1258