

A REPORT ON MEDICAID-HOME HEALTH AIDE
SERVICES IN NEW YORK CITY

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EXECUTIVE SUMMARY

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The Human Resources Administration's need to project the impact of State Department of Social Services (SDSS) regulations requiring HRA assessment of patient need and authorization of home health aide services and its interest in alternative approaches through which proper control could be exercised required an analysis of how community-based, certified home health agencies in New York City annually provide 5,000 patients with approximately 11 million dollars of home health aide services reimbursed by Medicaid.

The following report briefly describes the six home health agencies serving New York City and the procedures and criteria they use to assess patient need, authorize home health aide (and other) services, and supervise paraprofessional home health aides. Most significantly, home health agencies were found to be able to assess patient need and deliver home health aide services within one or two days of referral.

Because the Visiting Nurse Service of New York (VNS) provides almost all Medicaid reimbursed home health aide services (97% of all hours of service), an analysis of its aide-patients was conducted. From a sample of 113 cases, patient background -- including age, source of referral, prior home care experience, and living arrangement -- was described. More important, the allocation and use of aide service in terms of weekly hours of service, length of stay, and discharge reason were analyzed. This effort identified that more than two-thirds of the cases were subsequently referred to HRA for its home care services. This interdependence of the two delivery systems can be attributed in part to the need of some patients for a transitional period of skilled nursing and personal care services before HRA home care would be appropriate. For others, aide service is a bridge providing immediate assistance with personal care, while HRA processes applications for its home care services. The rate of referrals (and their timing) varied, however, in different parts of the city, with East and South Queens showing the lowest level of referral to HRA.

Using the data yielded by this analysis of the VNS aide caseload, projections were made of the number of HRA interventions required by full compliance with the SDSS regulations calling for HRA assessment, authorization, and periodic recertification of aide services. An estimated 10,000-11,000 interventions, city-wide, not only would strain HRA resources, but slow down the processing of applications for its services. Most important, full compliance would ignore the interdependence of the current systems, which in large part is based on the time it now takes HRA to assess need and authorize service.

While full compliance would not be practical or cost-effective, the irregular pattern of referral of aide patients to HRA suggests that by taking no action HRA would forgoe an opportunity to bring some greater rationality, coordination, and control to the interdependent systems. Accordingly, a plan for targeted intervention -- aimed at cases not referred by home health agencies after 12 weeks of aide service -- was proposed as a measure which with minimum HRA effort (300-400 interventions) would satisfy the objectives of the SDSS regulations within the context of New York City's complexly related home care systems.

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I. Home Health Aide Services

A. The Service

New York State Department of Social Service regulations define home health aide services as "personal care and other related supportive services provided...under the direction and supervision of a registered professional nurse from a certified home health agency and, in addition, by the appropriate agency professional therapists when the aide carries out simple procedures as an extension of physical, speech, or occupational therapy."¹ Like home attendant services, most home health aide activity is devoted to personal care and housekeeping services aimed at helping ill persons at risk of institutionalization remain in their familiar home setting. Home health aides differ from home attendants (under both the present and the vendORIZED program) in that they can perform such simple, medically-related tasks as the care of dressings and catheters and the extension of special therapies and that they work under the more regular and intensive supervision of registered professional nurses and professional therapists.

B. Providing Agencies

Under Medicaid, three types of organizations are involved with the authorization and delivery of home health aide services: (1) municipal, voluntary, and proprietary hospitals; (2) community-based, certified home health agencies; and (3) voluntary and proprietary homemaker-home health aide agencies.² These three organizational types are contractually linked as illustrated by the following hypothetical example.

¹18 NYCRR 505.23 (a)(2).

²Private physicians also serve as the primary health provider in a small proportion of cases.

A 50 year old stroke patient, Mrs. Smith, is hospitalized and on discharge requires a mix of physical therapy, monitoring of her vital signs by a professional nurse, and personal care services by a home health aide. Because no hospital staff includes home health aides, the case would be referred to the contracted community-based home health agency. Moreover, as a Medicaid recipient without any Medicare coverage, Mrs. Smith would be directly transferred to the agency because the Medicaid reimbursement rate set by New York State (115% of the community-based agency rate) is inadequate to meet the cost of hospital delivered services. (If Medicare was involved, Mrs. Smith could become a patient of the hospital home care department which would retain responsibility for coordinating all service delivery including nursing and aide service provided by the home health agency. But new cost limits set by the Health Care Financing Administration which were to have taken effect July 1, 1979 do not differentiate between hospital and community-based agencies. Consequently the extinction of hospital based home care is imminent if present challenges to HCFA's decision are unsuccessful.)

Depending on Mrs. Smith's circumstances, the home health agency could assign one of its own staff aides or place a service order with a contracted voluntary or proprietary homemaker-home health aide agency. If a contract aide were assigned, that agency would bill the home health agency, whose nursing staff would be responsible for supervising the worker. Should the certified home health agency provide its own aide, the homemaker-home health aide agency would not be involved in service delivery. Finally, the home health agency, would bill Medicaid \$7.61 for each hour of aide service delivered to Mrs. Smith.

Accordingly, the hub of the home health aide service delivery system in the community-based home health agency. With rare exception,³ it is

³Jacobi Hospital's Home Care Department provides its own nursing supervision and contracts with Upjohn for aide service. In 1978 36 patients received home health aide services, reimbursed almost exclusively by Medicare.

always integral to the assessment, provision, and supervision of home health-aide services. It therefore would be appropriate to describe briefly the six community-based home health agencies serving New York City.

1. Visiting Nurse Service of New York

The Visiting Nurse Service of New York (VNS) is by far the city's largest home health agency serving in 1978 about 56,000 different patients in Manhattan, Bronx, and Queens through 363,104 professional and 421,527 home health aide visits. Fees for these services exceeded 22 million dollars and supported -- in addition to 512 administrative, business, and special therapy staff -- the full-time equivalent of 271 nurses and 133 home health aides. Through contracts with Self-Help, Upjohn, and Path, VNS purchased the equivalent full-time service of 1,036 contract aides, who delivered over 1.8 million hours of home health aide service.

VNS delivers services through seven District Centers -- two in both Manhattan and the Bronx and three in Queens -- and its central headquarters in Manhattan. While intake, billing, and utilization review are organized centrally, each District Center is responsible for case assessment, service delivery, and supervision.

2. Visiting Nurse Association (Brooklyn)

The Visiting Nurse Association (VNA) serves approximately 28,000 patients in the borough of Brooklyn. In 1977 VNA delivered approximately 115,000 nursing and therapy visits and 33,000 home health aide visits through its four district centers: North, East, South and West Brooklyn. Fees for these services were approximately 3.7 million dollars.

In general, each of the centers is staffed by one Senior Supervisor, three to four Assistant Supervisors, 25 to 30 nurses, four home health aides, a certified social worker, a physical therapist, five business agents, and support staff. VNA contracts with Self-Help, ERAGS (Brooklyn-Haitian Ralph Avenue General Services), and the Federation of the Handi-

capped for additional home health aide services. Unlike VNS, intake at VNA is the responsibility of each district; only billing and utilization review are dealt with centrally.

3. Nursing Sisters Home Visiting Service, Inc.

Brooklyn is also served by the Nursing Sisters who, in addition to operations in Nassau and Suffolk counties, maintain offices in Park Slope, Marine Park, Bay Ridge, and Flatbush.⁴ Brooklyn accounts for approximately 60 percent of the agency's activity: an estimated 1978 caseload of 4,200 different patients that received 28,000 nursing visits, 14,000 home health aide visits, and roughly 6,000 physical, speech, and occupational therapy and social work visits. Fees for these Brooklyn based services approximated 1.2 million dollars.

Each of the Nursing Sisters Brooklyn offices is directed by a coordinator of health services who supervises (depending on office size) 5 to 10 nurses, 1 to 2 home health aides, one part-time social worker, 2 to 3 clerical staff, and contracted therapists. In addition, Nursing Sisters contracts with Self-Help and BRAGS for home health aide services. Billing and utilization review are the responsibility of the central office, but intake, assessment, service delivery, and supervision are handled by the district offices.

4. Group Health Insurance: Home Health Homemakers Service

GHI's home health agency, which was certified in June 1976, presently serves patients in Manhattan and Queens. In 1978, its second full year of operation, GHI served 673 patients, of whom approximately 40 percent lived in Manhattan and 60 percent lived in Queens. GHI delivered, in 1978, 5,053 nursing visits and a total of 2,915 special therapy visits;

⁴Nursing Sisters does not serve the Williamsburg, Brownsville, and East New York neighborhoods.

the latter number reflecting its particular interest in physical, speech, and occupational therapy.⁵ GHI also made 6,640 home health aide visits amounting to almost 25,000 hours of service.

At the close of 1978, GHI staff for both its Manhattan and Queens centers included two supervising nurses, the full-time equivalent of 10 nurses, two and a half physical therapists, one speech pathologist, one occupational therapist, 27 home health aides, and four support staff. Unlike other home health agencies which contract for home health aides with separate organizations, GHI draws on its large complement of homemakers - home health aides to fill work assignments. Intake, billing, and utilization review are dealt with centrally, and each center assumes responsibility for patient assessment, service delivery, and supervision.

5. Visiting Nurse Association (Staten Island)

VNA/SI is the only certified home health agency on Staten Island. In 1978 it served 3,797 patients through 38,381 professional visits and 11,799 home health aide visits accounting for approximately 1.5 million dollars in fees. At any one point in time VNA/SI has an active caseload of approximately 750 patients.

Located in one office, VNA/SI has, in addition to administrative and special therapy staff, 32 nurses and 11 staff home health aides. The agency contracts with Richmond Home Needs and Homemakers Upjohn for approximately 25 contract aides.

6. Dominican Sisters of the Sick Poor

The Dominican Sisters home health agency maintains five offices: Ossining, Hampton Bays, North Bronx, South Bronx, and Harlem. Because its Harlem office has not delivered home health aide service in 1979,

⁵By comparison, VNS delivered 11,479 special therapy visits and 348,140 nursing visits.

the following brief description is confined to services delivered in the Bronx, where almost half (45%) of the agency's total caseload resides.

In the first half of 1979, the agency served 653 patients in the Bronx with 3,295 nursing visits. In addition, the Dominican Sisters offer physical therapy, social work, and (in the South Bronx only) advocacy services. In the same period, a total of 4,539 home health aide visits amounting to 20,439 hours of service were delivered by eleven staff aides and contract aides from Self-Help. Most of this service was delivered in the North Bronx, as caseload data for December 31, 1978 show 51 of 113 (45%) North Bronx patients received home health aide services as compared to 18 of 135 (13%) South Bronx patients. Of the total agency's home health aide service, Medicaid paid for 59%, Medicare for 19%, and 22% were delivered without reimbursement.

The organization of the Dominican Sister's district offices and the assessment and supervision procedures used by agency staff are similar to those described for other community-based home health agencies.

C. Agency Procedures

1. Assessment

With only slight — and apparently not significant — variations, each of these community-based home health agencies follow similar operational procedures. Most agency referrals originate with hospital discharge or home care departments (in excess of 75 percent) and regardless of likely reimbursement source are processed similarly. Cases are assigned for nursing assessment by geographic responsibility within each agency and district center. All agencies stated that cases can if necessary be assessed within 24 hours of referral and that most cases are assessed within a day or two of referral.

The nursing assessment draws on the physician's orders and an evaluation of medical and social needs as determined by the home visit.

All agencies appear to meet their assessment responsibility swiftly and thoroughly. Moreover, in cases where a particular service such as home health aide is unquestionably indicated at the time of referral, the nurse can arrange to have an aide accompany her on the assessment visit so as to explain the patient's needs and immediately initiate service.

The nurse develops a plan of care which is reviewed by at least one supervisory level. The plan should take into account patient needs and resources as well as any limitations imposed by the identified source of reimbursement. If home health aide service is required, the decision to assign a staff or contract aide is shaped by several criteria of which the most important are hours of service and complexity of the patient's needs. The agencies usually assign a contract aide to cases requiring more than three hours of service four times weekly which do not present overriding complicating factors. Staff aides generally are reserved for briefer and more infrequent visits. The decision to assign a contract aide is influenced, however, by the contract agencies' greater ease and speed in identifying workers for either full time placements (i.e., 35 hours/week) or a placement that can be combined with one other to constitute a full work week. This consideration is vital to employees whose wages -- which generally range from \$3.25 to \$3.50 per hour -- require the guarantee of full work weeks.

It should be noted that as personal care services account for an increasing proportion of home health agency services -- almost half of all visits made and a substantially larger share of staff and contract service hours -- that patient assessment, service planning, and the supervision of paraprofessional aides have emerged as primary tasks for the cadre of professional nurses. It appears that these professionals complete the assessment and service planning tasks swiftly and thoroughly. Care, appropriate both in kind and amount, can be provided within 24 hours of referral.

2. Aide Supervision

As noted above, the supervision of paraprofessional home health aides has become a major responsibility for the professional staff of home health agencies: one addressed through various combinations of site visits, extensive record keeping, and telephone checks. All aides are visited by a nurse when first assigned to a patient, and this "placement visit" focuses on explaining the care plan and services to be delivered. If required, the nurse uses this visit to give the aide any special training or instruction.

Following this initial visit, the patient is regularly visited by a supervising nurse: at least every two weeks for Medicare patients and at least once a month for others. Because nurses visit a large proportion of cases weekly or bi-weekly to deliver nursing services, monitoring of home health aides is, in effect, often more frequent than indicated by the schedule of supervisory visits.

While direct observation of the patient and aide constitute a major element of nursing supervision, records maintained by the aide also play a significant role. Each agency requires both staff and contract aides to complete a time and activity log for each visit made. These standardized logs are sent in weekly or daily by the aide and become a part of the patient record. They enable supervising nurses to check on hours of service and to compare ordered services with reported services. Though obviously not foolproof, activity logs permit nurses to check whether unauthorized services (which might harm the patient) are delivered and whether aides are failing to give services required by the plan of care.

Two agencies, VNA and VNA/SI, require contract aides to call central office daily. Others use the telephone to spot check aide punctuality in cases where there is any suggestion of poor performance.

Finally, it should be noted that the assignment of a nurse to each

case and her familiarity with the patient and aide constitute a critical reference point for all parties. Complaints and questions can be easily directed to a known professional who is capable of quickly responding to the situation. Access to this type of direction is critical to the quality of care delivered by paraprofessionals to debilitated and often dependent patients.

3. Reauthorization and Utilization Review

The need for home health aide services is periodically reviewed by senior administrative staff of each home health agency. Cases in which care is coordinated by hospital home care departments are formally reviewed and reported on monthly. All other cases are reviewed at least every 60 days. And all cases are reviewed for the appropriateness of services upon discharge.

Utilization review procedures require the selection of a sample of cases representative of the agencies' services, including home health aide. Quarterly utilization reviews conducted by multi-disciplinary teams of senior staff evaluate the necessity of admission, the length of stay, the use of services in terms of over- or under-utilization, and the completeness of case records. At VNS, for example, the utilization committee comprises patient service supervisors, staff nurses, and the quality assurance coordinator. Its assessment of the appropriateness of service planning and delivery of aide service during the period from January to June 1979 found underutilization to be more of a problem than over utilization, both in terms of not providing a necessary service and not providing enough of it.

D. Delivery of Home Health Aide Service

The distribution of home health aide service, whether funded by Medicaid or other fee sources, is highly skewed to areas in which VNS

provides service. Table 1 presents an estimate of aide services provided in 1978 and reveals far more use of aide services in Queens and far less use in Brooklyn than demographics would suggest.⁶ Of the half million aide visits, approximately 200,000 (40%) were Medicaid reimbursed. Among these Medicaid cases the disparity between usage in Queens and Brooklyn is further accentuated. Almost two-thirds of all Medicaid aide visits were made in Queens as compared to only two percent in Brooklyn.

This disparity can be attributed for the most part to the magnitude and quality of VNS aide services. VNS has established its aide service as a viable -- and perhaps the most attractive -- option for immediate home care services, which has led in turn to further expansion as hospital discharge staff turn to VNS for service. Although historical caseload data are not available with which to trace this pattern, VNS appears to have reached a critical mass which fuels the continuing expansion of its aide service.

In the past year, VNS accounted for approximately 90 percent of the patients receiving Medicaid/aide services and provided all but 3 percent of the hours of service (Table 2). For practical purposes, VNS can be considered the provider of Medicaid/home health aide services in New York City. Accordingly, a closer examination of its caseload is warranted.

⁶Department for the Aging data for 1975 show 278,444 persons 65 or older in Brooklyn and 269,810 in Queens.

TABLE 1
Home Health Aide Visits, 1978

| Borough | All Fee Sources | | Medicaid | | |
|---------------|-----------------|------|----------|-----------------|-----------------------------|
| | # visits | % | # visits | % of all visits | Distribution by Borough (%) |
| Manhattan | 91,340 | 18.0 | 31,011 | 33.3 | 15.1 |
| Bronx | 80,728 | 15.8 | 37,338 | 46.3 | 13.2 |
| Queens | 264,667 | 51.9 | 131,755 | 49.8 | 64.1 |
| Brooklyn | 61,000 | 12.0 | 4,510 | 7.4 | 2.2 |
| Staten Island | 11,799 | 2.3 | 320 | 6.9 | .4 |
| TOTAL | 510,034 | | 205,494 | 40.3 | |

TABLE 2
 Estimated Delivery of
 Medicaid/Home Health Aide Service by Agency

| Agency | Visits | | Hours | | Caseload | |
|-----------------------|---------|------|-----------|------|----------|------|
| | # | % | # | % | # | % |
| VNSNY (1) | 194,132 | 94.5 | 1,403,648 | 96.7 | 4,860 | 90.2 |
| VNA (2) | 4,358 | 2.1 | 18,295 | 1.3 | 350 | 6.5 |
| Dominican Sisters (3) | 5,356 | 2.6 | 24,118 | 1.7 | 100 | 1.9 |
| GHI (4) | 676 | .3 | 3,490 | .2 | 34 | .6 |
| VNA/SI (5) | 820 | .4 | 1,161 | .1 | 29 | .5 |
| Nursing Sisters (6) | 152 | .1 | 720 | — | 15 | .3 |
| TOTAL | 205,494 | | 1,451,432 | | 5,388 | |

Sources

1. Data for morbidity cases April - June 1979, projected annually; caseload projected from Jan. - March 1979 data.
2. Data for all cases February - June 1979, projected annually.
3. Data for January - June 1979, projected annually. Bronx data adjusted by agency wide rate of 50% Medicaid reimbursement.
4. Data for January - June 1979, projected annually.
5. Data for 1978.
6. Data for 1978.

II. VNS Patient Profile

A. Case Record Review

1. Case Selection

To develop a better understanding of what types of patients receive Medicaid/home health aide services, the quantity and duration of those services, and their impact -- at least in terms of discharge reason -- Vera staff reviewed the case records of a sample of VNS patients. The selection of a random sample encountered two difficulties. First, the total number of Medicaid/home health aide patients served by VNS was unknown. VNS staff, however derived a rough estimate of 1,000 - 1,200 patients served in a single week. Second, the distribution of this caseload among the seven VNS District Centers also was not known. To select a representative sample, billing records for January 1979, organized by Medicaid number, were used. Given the information available at the time of case selection, it was assumed that a sample of 125 cases would reflect at least 10% of the caseload of each District Center.

With the cooperation of VNS, Vera staff reviewed a total of 113 case records in the seven centers; 12 records could not be found at the time of Vera's visit. Subsequent to this case review, a special computer analysis of the VNS caseload indicated that a total of 1,481 different persons received Medicaid/home health aide services in January 1979. Accordingly, the 113 cases reviewed reflected a sample size of 7.6 percent rather than the anticipated 10 percent. More important, the computer analysis revealed a caseload distribution among the seven District Centers that differed from that yielded by the billing records used to select the sample. As Table 3 shows, most of the underestimation of caseload size was concentrated in the West Queens and South Queens centers.

TABLE 3: VNS CASELOAD AND SAMPLE SIZE

| District Center | 1 Vera Sample | 2 VNS Caseload Data | 3 10% Sample |
|-----------------|------------------|------------------------|-----------------|
| WM | 15 | 176 | 18 |
| EM | 14 | 145 | 14 |
| WEx | 14 | 155 | 16 |
| EBx | 11 | 106 | 11 |
| WQ | 15 | 332 | 33 |
| EQ | 16 | 183 | 18 |
| SQ | 28 | 384 | 38 |
| TOTAL | 113 | 1,481 | 148 |

1. Derived from VNS estimates and January 1979 billing records.
2. Based on special computer analysis of all VNS cases January-March, 1979.
3. 10% of column 2.

Note: Tables 3-17 describe the 113 sample cases and use the following abbreviations for VNS District Centers:

WM = West Manhattan EM = East Manhattan
WEx = West Bronx EBx = East Bronx
WQ = West Queens EQ = East Queens SQ = South Queens

Time constraints did not permit the review of additional cases, but this skewing of the sample does not appear to have significant implications for the findings reported below. When making projections about the potential staff demands entailed by various DSS response options (Section IV), however, data generated by the special computer analysis describing the size and geographic distribution of the full VNS caseload have been used.

2. Caseload Dynamics

Of the 113 reviewed cases, 79 were opened before January 1, 1979, and 34 were opened during that month (Table 4). "Opened" refers only to a continuous authorization for home health aide services active in January 1979. As described below, a large proportion of the cases had received aide services prior to the current episode, but for such reasons as hospitalization or the delivery of DSS home care, the service had been terminated only to be reinstated at a later date. For example, a patient might have received aide service from March to June 1978 when a home attendant was placed. But following a hospitalization in October, the patient was discharged to VNS aide service in November which still was being delivered in January 1979. With regard to hours of authorized service, length of stay, and discharge reason, the following analysis would consider only the episode beginning in November. The history of prior aide and DSS home care services will be separately noted.

Of the 113 cases open in January 1979, 81 had been closed by October 15, 1979. The remaining 32 cases (28% of total) had received aide services continuously at least since January 1979 (Table 4).

3. Source of Referrals

As Table 5 demonstrates, 80 percent of the 99 patients for whom the referral source was known were referred by hospitals. Slightly more than half (52%) were referred by voluntary and proprietary hospitals, while

TABLE 4
 OLD/NEW CASES; OPEN/CLOSED CASES

| | District Center | | | | | | | TOTAL | |
|------------------------------|-----------------|----|-----|-----|----|----|----|-------|----|
| | WM | EM | WBx | EBx | WQ | EQ | SQ | # | % |
| Case opened in Jan. 1979 | 7 | 4 | 7 | 4 | 2 | 2 | 8 | 34 | 30 |
| Case opened before Jan. 1979 | 8 | 10 | 7 | 7 | 13 | 14 | 20 | 79 | 70 |
| TOTAL | 15 | 14 | 14 | 11 | 15 | 16 | 28 | 113 | |
| Cases open as of 10/15/79 | 0 | 4 | 2 | 0 | 7 | 3 | 16 | 32 | 28 |
| Cases closed as of 10/15/79 | 15 | 10 | 12 | 11 | 8 | 13 | 12 | 81 | 72 |

TABLE 5: SOURCE OF REFERRAL

| | WM | EM | WBx | EBx | WQ | EQ | SQ | # | TOTAL | % |
|-----------------------------------|----|----|-----|-----|----|----|----|-----|-------|------|
| | # | # | # | # | # | # | # | # | # | % |
| Municipal Hospital | 3 | 1 | 1 | 2 | 3 | 3 | 15 | 28 | 24.7 | 28.2 |
| Voluntary or Proprietary Hospital | 10 | 7 | 9 | 6 | 5 | 8 | 6 | 51 | 45.1 | 51.5 |
| M.D. | 1 | 2 | 1 | — | — | — | 1 | 5 | 4.4 | 5.0 |
| Other | 1 | 2 | 2 | 3 | 6 | — | 1 | 15 | 13.2 | 15.1 |
| Unknown | — | 2 | 1 | — | 1 | 5 | 5 | 14 | 12.3 | — |
| N | 15 | 14 | 14 | 11 | 15 | 16 | 28 | 113 | | |

28% were referred by municipal hospitals. Not all of these patients had been hospitalized, however, as some were referred by emergency room and outpatient clinic staff. Private physicians accounted for only five percent of patient referrals, while other sources -- patients, patient families, and senior centers and service programs -- accounted for the remaining 15 percent.

The pattern of referrals was roughly comparable among the seven District Centers, with the most notable variation being the role played by municipal hospitals in South Queens. Here municipals referred almost two-thirds (65%) of the patients, as compared to 17 percent in the other six Centers. Conversely, voluntary and proprietary hospitals provided only 26 percent of the South Queens referrals, as compared to 60 percent of the other six Centers.

4. Prior Home Care Experience

For almost half (49%) of the 113 sample cases, VNS records indicate no prior home care experience. A fifth (20%) of the patients had received home health aide services at some time prior to the current episode, and another 16 percent had received DSS home care services (Table 6). Seventeen patients (15% of total) had received both aide and DSS services in the past. These data suggest the recurring need for home care either from home health agencies or DSS, as well as a significant degree of service mobility for patients who move from one delivery system to another. The data also point to the growth of the service population, as for half this was their first -- but for most probably not last -- experience with home care.

5. Patient Age

Patient age, calculated as of January 1, 1979, was available in 112 of the 113 cases. As expected, most patients receiving aide service are elderly; more than half (53%) being 75 or older, and a fifth being 85

TABLE 6: PRIOR HOME CARE EXPERIENCE

| | District Center | | | | | | | TOTAL | |
|------------------|-----------------|----|-----|-----|----|----|----|-------|------|
| | WM | EM | WBx | EBx | WQ | EQ | SQ | # | % |
| Home Health Aide | 1 | 2 | — | 1 | 2 | 7 | 10 | 23 | 20.3 |
| DSS Home Care | 4 | 2 | 2 | 2 | 4 | 1 | 3 | 18 | 15.9 |
| Aide + DSS | 3 | 5 | 2 | 2 | 2 | — | 3 | 17 | 15.0 |
| None | 7 | 5 | 10 | 6 | 7 | 8 | 12 | 55 | 48.6 |
| N | 15 | 14 | 14 | 11 | 15 | 16 | 28 | 113 | |

TABLE 7: PATIENT AGE

| AGE | District Center | | | | | | | TOTAL | |
|--------|-----------------|------|------|------|------|------|------|-------|------|
| | WM | EM | WBx | EBx | WQ | EQ | SQ | # | % |
| 25-34 | — | 1 | — | — | 1 | 1 | — | 3 | 2.6 |
| 35-44 | — | 1 | 2 | — | 1 | 1 | — | 5 | 4.4 |
| 45-54 | 1 | 2 | 3 | — | — | 1 | 1 | 8 | 7.1 |
| 55-64 | 4 | — | 2 | 4 | 1 | — | 6 | 17 | 15.1 |
| 65-74 | 3 | — | 2 | 1 | 2 | 6 | 6 | 20 | 17.8 |
| 75-84 | 3 | 3 | 2 | 3 | 6 | 5 | 10 | 37 | 33.0 |
| 85+ | 4 | 1 | 3 | 3 | 4 | 2 | 5 | 22 | 19.6 |
| Mean | 73.3 | 68.3 | 64.7 | 73.0 | 73.9 | 69.2 | 73.6 | 71.2 | |
| Median | 71 | 76 | 70 | 76 | 79 | 74 | 75 | 75 | |

TABLE 8
PATIENT LIVING ARRANGEMENT

| Arrangement | District Center | | | | | | | TOTAL | |
|-------------------|-----------------|----|-----|-----|----|----|----|-------|------|
| | WM | EM | WBx | EBx | WQ | EQ | SQ | # | % |
| Lives alone | 11 | 10 | 9 | 3 | 9 | 8 | 15 | 55 | 57.5 |
| Lives with others | 4 | 4 | 5 | 8 | 6 | 8 | 13 | 48 | 42.5 |
| N | 15 | 14 | 14 | 11 | 15 | 16 | 28 | 113 | |

or older (Table 7). Less than a third (29%) of the patients were younger than 65. The mean age of the 112 patients was 71.2 years and the median age was 75 years. While the mean age for each District Center ranged from 65 years in the West Bronx to 74 years in West Queens, the median age for each center fell in the 70 to 79 year range.⁷

6. Living Arrangements

VNS records indicate that slightly more than half (58%) of the 113 patients lived alone (Table 8). This figure must be used cautiously, however, as some of those living alone are able to draw on the resources and assistance of nearby family. Conversely, some of those patients who share a residence derive no support -- and in several cases suffer -- from that circumstance. The incidence of patients living alone is strikingly higher in Manhattan (72%), as compared to the Bronx (48%) and Queens (54%). This pattern probably reflects the impact of housing styles and family mobility.

7. Allocation of Home Health Aide Services

Using the amount of aide service authorized for each patient as of the first day of service in January 1979, it is possible to construct a frequency distribution of the amount of weekly aide service authorized by each District Center (Table 9).⁸ Overall, the mean amount of aide service

⁷This sample of aide-patients is somewhat older than the sample of all New York City home health agency patients analyzed in the Home Care Association of New York State's recent study Home Care In New York State. There 31.3 percent of the patients were younger than 65, 25 percent were 65 to 75, 30.4% were 75 to 84, and 13.2 percent were older than 84.

⁸For patients admitted in January 1979 this figure represents the initial allocation. For previously opened cases it is the authorization as of January 1. Over the course of this current admission, two-thirds of the cases (67%) received one amount of service; 18 percent of the patients received increased amounts of aide service; 9 percent received decreased amounts; and six patients (5%) received amounts both greater and smaller than the amount allocated as of January 1979.

TABLE 9
DISTRIBUTION OF HOURS OF WEEKLY AIDE SERVICE BY DISTRICT CENTER

| HOURS OF AIDE SERVICE PER WEEK | HOURS OF AIDE SERVICE PER WEEK | | | | | | | | | | TOTAL CASES | | HOURS OF WEEKLY SERVICE | |
|--------------------------------|--------------------------------|------|-------|-------|------|------|------|------|---|-------|-------------|---|-------------------------|--|
| | WM # | FM # | MIX # | FBK # | WQ # | EQ # | SQ # | # | % | # | % | # | % | |
| 3 | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | |
| 6 | 2 | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | |
| 9 | 3 | | | | | | | | | | | | | |
| 12 | 2 | | | | | | | | | | | | | |
| 15 | 1 | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | |
| 20 | 1 | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | | |
| 40 | 1 | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | |
| 56 | 2 | | | | | | | | | | | | | |
| 70 | 2 | | | | | | | | | | | | | |
| 84 | | | | | | | | | | | | | | |
| 168 | 1 | | | | | | | | | | | | | |
| N | 15 | 14 | 14 | 11 | 15 | 16 | 28 | 113 | | 3,358 | | | | |
| MEAN | 37.2 | 31.5 | 15.1 | 23.3 | 19.2 | 42.1 | 33.2 | 29.7 | | | | | | |
| MEDIAN | 12 | 20 | 12 | 20 | 12 | 40 | 35 | 20 | | | | | | |
| MODE | 9 | 20 | 12 | 20 | 20 | 40 | 40 | 20 | | | | | | |

65.0%

17.0%

8.5%

9.4%

was 29.7 hours weekly, and the median allocation was 20 hours weekly. Using ranges comparable to DSS home care programs, we find 30 percent of the aide cases received from 1 to 12 hours of service weekly; 26 percent received from 13 to 20 hours; 9 percent received from 21 to 39 hours; and 35 percent received 40 or more hours. Although only two cases received 24 hours - 7 days a week aide service, the comparatively high hour (40+) cases consumed a disproportionate amount of all services delivered. Although only 35 percent of the caseload, high hour cases received 65 percent of the hours of delivered aide service. Conversely, the 56 percent of the caseload allocated 20 or fewer hours of service weekly received only 26 percent of the hours of delivered aide service.

Table 9 also demonstrates significant variations in service authorization by borough and District Center. The mean amount of weekly aide service ranges from 19 hours in the Bronx to 32 hours in Queens to 34 hours in Manhattan. Grouping West Queens with the two Bronx Centers however, reveals a more interesting pattern (Table 10). While mean allocations shift slightly, the more significant finding concerns the distribution of service. Persons receiving from one to 12 hours of weekly service account for less than 10 percent of the East Queens and South Queens caseload; roughly a third of the Manhattan caseload; and half of the combined Bronx and West Queens caseload. Equally striking is the comparative distribution of high hour cases. Only 15 percent of the combined Bronx-West Queens caseload received 40 or more hours weekly as compared to 38 percent in Manhattan and 52 percent in West and South Queens.

If we assume that comparable assessment criteria and practices are followed in all VNS centers, these striking variations would have to relate to patient condition and circumstance. It could be assumed that persons

TABLE 10
HOURS OF SERVICE WEEKLY: REGROUPED DISTRICT CENTERS

| Hours/Week | Manhattan | Bronx + WQ | East + South Queens |
|------------|-----------|------------|---------------------|
| 1-12 | 34% | 50% | 9% |
| 13-20 | 21% | 30% | 25% |
| 21-39 | 7% | 5% | 14% |
| 40+ | 38% | 15% | 52% |
| N | 29 | 40 | 44 |

TABLE 11
USE OF MEDICALLY RELATED AIDE SERVICE

| <u>Aide Service</u> | WM # | EM # | WEX # | EX # | WQ # | EQ # | SQ # | TOTAL # | TOTAL % |
|--|---------|---------|----------|---------|---------|---------|---------|------------|------------|
| Medically-Related | 5 | 7 | 1 | 1 | 6 | 2 | 12 | 34 | 30.1 |
| Housekeeping or Personnel Care Only | 10 | 7 | 13 | 10 | 9 | 14 | 15 | 79 | 69.9 |

living alone and persons with greater medically related needs might require more extensive aide service. But in these two Queens centers, whether or not one lived alone seems not to make any difference in terms of authorized service; 11 of 23 patients living alone received 40 or more hours weekly as did 12 of 21 patients living with someone else. And, as described more fully below, the need of medically related aide services also does not correlate with increased amounts of aide service.⁹ Of the nine patients who lived alone and were in need of medically-related aide services, only five received 40 or more hours of service weekly. In sum, the general indices abstracted from the case records do not explain the pattern of higher hours of aide service in West and South Queens.

8. Medically - Related Aide Services

The formal work assignment forms prepared by VNS nurses for home health aides specify what services are to be delivered and on what schedule. This analysis considers all orders for catheter, ostomy, or eye care, for taking temperature or pulse, and for changing dressings as indicating a need for more medically related aide service. Other patients received typical housekeeping services and assistance with the activities of daily living. As Table 11 shows, fewer than a third (30%) of the 113 patients received such medically related aide services. In the Bronx, only two of 25 patients (8%) did so. In Queens the proportion rose to 34 percent and in Manhattan to 41 percent. These data for the Bronx -- combined with the finding that 80 percent of the Bronx patients received 20 or fewer hours of aide service weekly -- suggest that the Bronx caseload probably resembles that of DSS's housekeeping program. They do not, as noted above,

⁹Eight of 16 patients with medically related aide services received 40 plus hours, as did 15 of 28 patients without such needs.

adequately explain the service allocation pattern in Queens.

9. Length of Stay/Discharge Reason

Several obstacles make it difficult to reach generalized conclusions concerning the length of time during which patients continuously received home health aide services. Among the 113 sample cases from January 1979, 32 were still active on October 15, 1979. The length of stay for these cases is therefore not yet known. A second problem relates to exceedingly long stay cases, such as a case first opened in 1972 and still receiving services in January 1979. Even a small proportion of such cases -- 14 of the 113 sample cases (12%) were open for more than three years -- distorts the value of common measures of central tendency. As a result, it is necessary to avoid discussion of mean or median length of stay and focus on distribution patterns of different case types.

The following analysis will examine the length of stay, discharge reason, and relationship with DSS home care for cases receiving less than 40 hours of aide service weekly and for cases receiving 40 or more hours of service. For all cases in each category, the length of stay in weeks was calculated, and the findings are summarized by four week intervals (Table 12 and Figure 1).

Among the 73 cases receiving less than 40 hours of aide service weekly almost 20 percent were discharged within four weeks, a third within 12 weeks, almost half within 20 weeks, and almost two-thirds within 36 weeks. Patients receiving 40 or more hours weekly were discharged at a slower rate; only five percent in the first four weeks, a quarter within 12 weeks; a third within 20 weeks; and a half within 36 weeks. Figure 2 suggests that the discharge rate of high hour group is in large part due to the relative lack of discharges in weeks one through 12.

TABLE 12
 LENGTH OF SPAY OF CLOSED CASES;
 NUMBER OF OPEN CASES

| LENGTH OF SPAY IN WEEKS | WM | | EM | | WEX | | EDX | | WR | | EQ | | SQ | | TOTAL | | ALL HOURS | | | |
|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|-------|------|-----------|------|------|------|
| | <10 | 10+ | <10 | 10+ | <10 | 10+ | <10 | 10+ | <10 | 10+ | <10 | 10+ | # | % | # | % | # | % | | |
| Open | | | 1 | 3 | 2 | | | | 6 | 1 | 1 | 2 | 8 | 8 | 18 | 24.7 | 14 | 35.0 | 32 | 28.3 |
| 209+ | | | | | | | | | 1 | | | | | | 1 | 1.4 | 1 | 2.5 | 1 | .9 |
| 157-208 | | | | | | | | | | | | | | | | | | | | |
| 105-156 | | | | | | | | | | | | | | | | | | | | |
| 53-104 | | 1 | | | | | | 1 | 2 | | | 2 | 2 | 5 | 6.8 | 3 | 7.5 | 8 | 7.1 | |
| 49-52 | | | | | | 1 | | | | | 1 | | | 2 | 2.7 | | | 2 | 1.7 | |
| 45-48 | | | | | | | | | | 1 | | | | | | | | 1 | .9 | |
| 41-44 | | | | | | | | 1 | | | | | | 1 | 1.4 | | | 1 | .9 | |
| 37-40 | | 1 | | | | | | | | | | | | | | | | 1 | .9 | |
| 33-36 | | | 1 | | | | | 1 | | 1 | | | | 2 | 2.7 | 2 | 5.0 | 4 | 3.5 | |
| 29-32 | | | | | 2 | | | 1 | | | | | | 3 | 4.1 | 1 | 2.5 | 4 | 3.5 | |
| 25-28 | | | 1 | | 1 | | | 1 | | | | | | 2 | 2.7 | 2 | 5.0 | 4 | 3.5 | |
| 21-24 | | | | | 1 | | | 1 | | 1 | | | | 3 | 4.1 | 1 | 2.5 | 4 | 3.5 | |
| 17-20 | 1 | | | | | | | 2 | 1 | | | | | 6 | 8.2 | 2 | 5.0 | 8 | 7.1 | |
| 13-16 | 1 | | 1 | | 1 | | | | | | 2 | | 1 | 5 | 6.8 | 2 | 5.0 | 7 | 6.2 | |
| 9-12 | 3 | 1 | | | | | 1 | | | | 2 | 1 | 2 | 9 | 12.3 | 4 | 10.0 | 13 | 11.5 | |
| 5-8 | 1 | 1 | | | | | | | 1 | | 1 | 1 | 1 | 3 | 4.1 | 4 | 10.0 | 7 | 6.2 | |
| 1-4 | 3 | | 3 | | | | 2 | | | | | 2 | 2 | 13 | 17.8 | 2 | 5.0 | 15 | 13.3 | |
| TOTAL | 9 | 6 | 9 | 5 | 13 | 1 | 9 | 2 | 12 | 3 | 6 | 10 | 15 | 13 | 73 | | 40 | | 113 | |

LENGTH OF STAY: CLOSED CASES

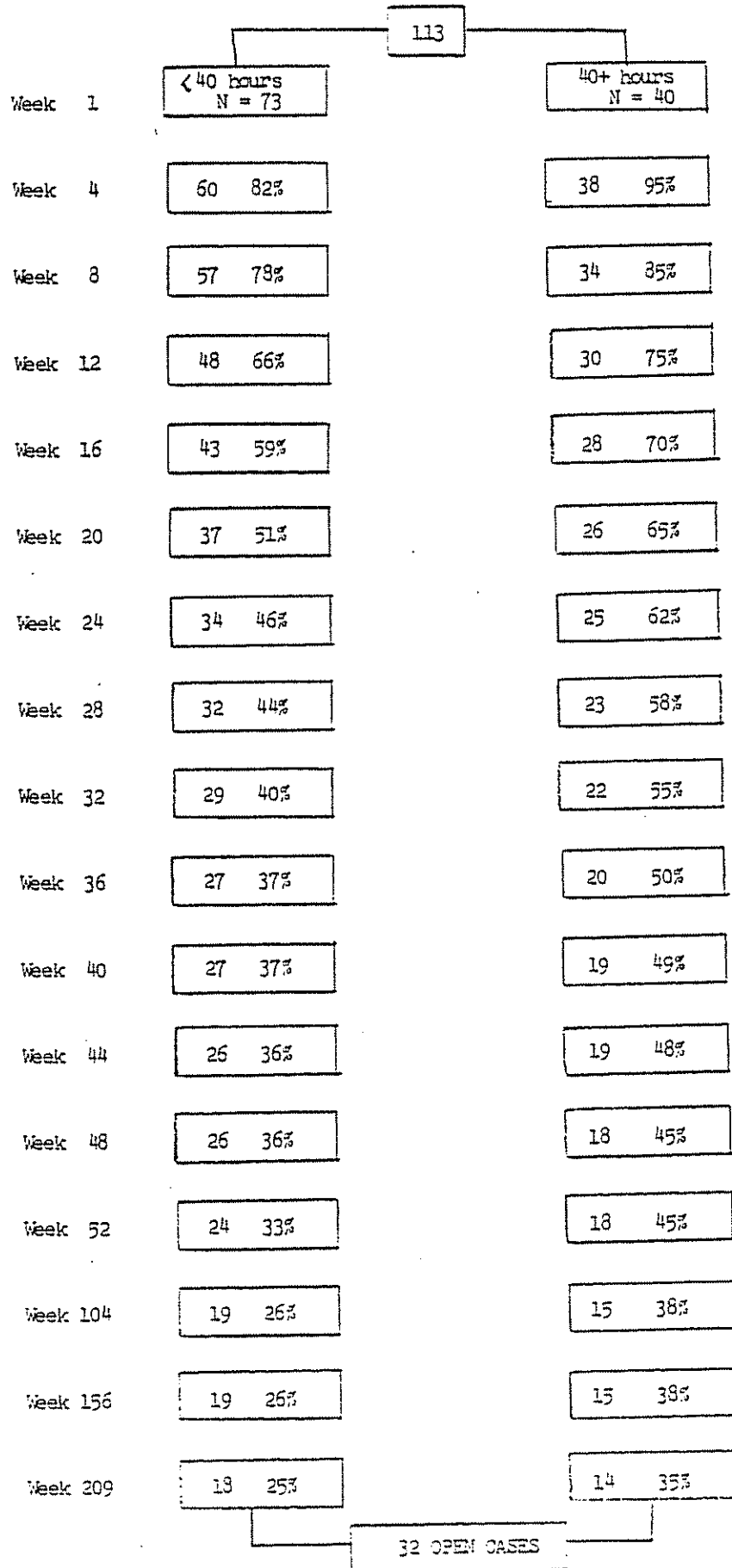
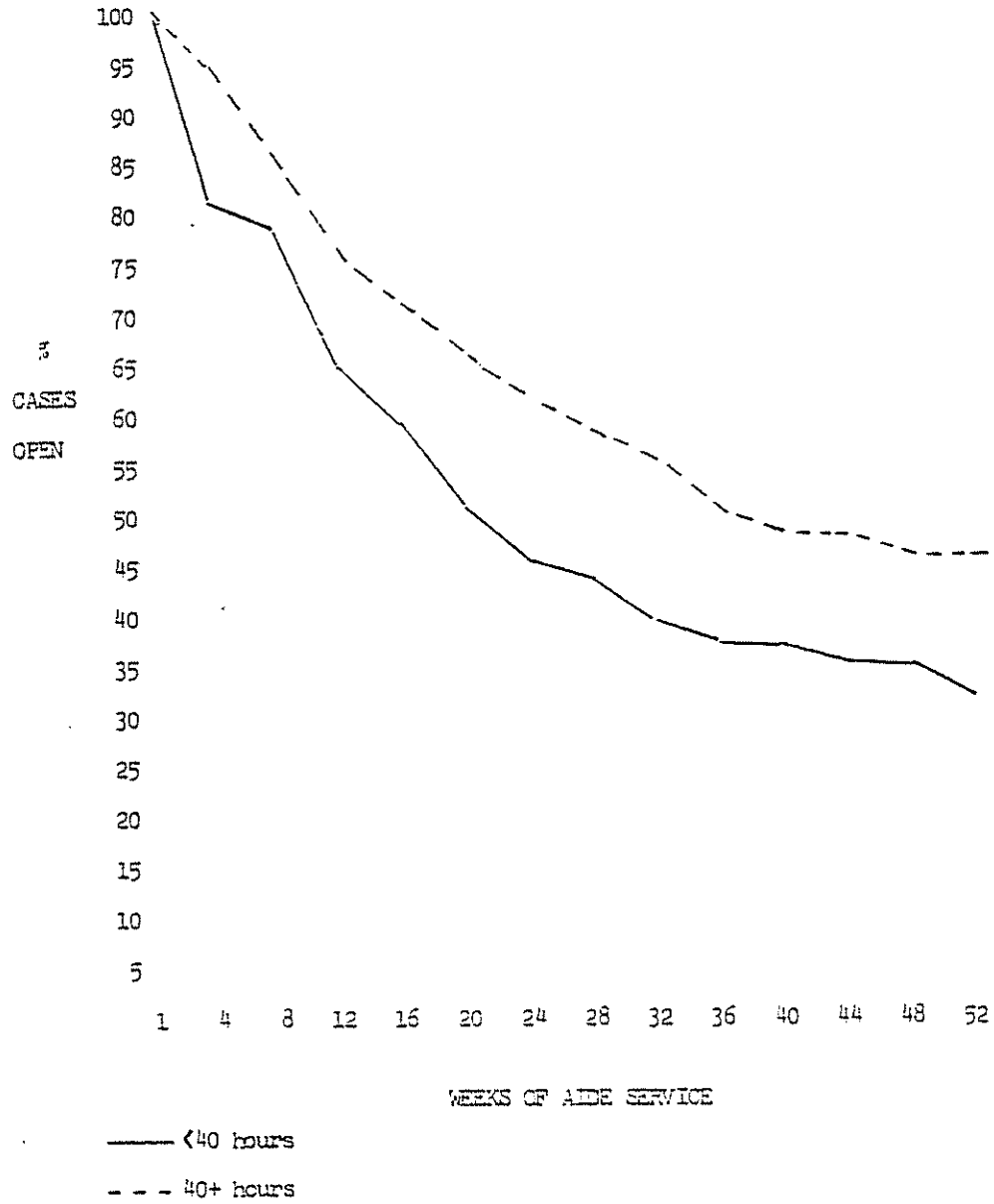


FIGURE 2: LENGTH OF STAY, WEEKS 1-52



If we examine cases closed within 36 weeks of service a strong relationship with DSS home care services is found (Table 13). Thirty-six of the 46 low hour cases (78%) were referred to DSS for home care, with 32 patients being transferred to DSS services and 4 discharged to hospitals with pending applications. Fifteen of the 20 high hour cases (75%) were referred to DSS, with 11 transferred and 4 discharged with pending applications.

Forty-seven cases remained open longer than 36 weeks. Of the 27 receiving less than 40 hours weekly, 18 (67%) were referred to DSS: five were transferred to DSS services, two were discharged with pending applications, and 11 applications are still pending (Table 14 and Figure 3). Only nine of the original 73 low hour cases (12%) were neither closed by week 36 nor referred to DSS for home care.¹⁰

Of the 20 high hour cases open longer than 36 weeks, nine (45%) were referred to DSS: five were transferred, one was discharged with a pending application, and three are still awaiting DSS services. All of the 11 non-referred cases remain open. Thus 11 of the original 40 high hour cases (28%) were neither closed by week 36 nor referred to DSS for services.

As Table 15 demonstrates, slightly more than two-thirds (69%) of the 113 cases were referred to DSS, while only 18 patients (16%) continue to receive aide service without any referral to DSS. District Centers, however, varied in their reliance on DSS home care services. Table 16 shows that the Queens centers — especially East and South Queens — referred a significantly smaller proportion of cases to DSS.

¹⁰It is difficult to determine from the case records, but it appears that many cases open longer than 36 weeks were referred to DSS well before that time.

TABLE 13
PATIENTS DISCHARGED WITHIN 36 WEEKS

| | WM | | EM | | WEX | | EEX | | WR | | EQ | | SQ | | TOTAL | | ALL HOURS | | | |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|-----------|------|----|------|
| | <1/0 | 1/0+ | <1/0 | 1/0+ | <1/0 | 1/0+ | <1/0 | 1/0+ | <1/0 | 1/0+ | <1/0 | 1/0+ | <1/0 | 1/0+ | # | % | # | % | | |
| DSS HC | 7 | 2 | 5 | 1 | 8 | - | 5 | 2 | 3 | - | 2 | 6 | 2 | - | 32 | 69.6 | 11 | 55.0 | 43 | 65.2 |
| closed with M-11Q pending | 1 | 1 | 1 | 1 | 1 | - | - | - | - | 1 | - | - | 1 | 1 | 4 | 8.7 | 4 | 20.0 | 8 | 12.1 |
| hospitalized | - | - | 1 | - | - | - | - | - | - | - | - | - | 1 | 3 | 2 | 4.3 | 3 | 15.0 | 5 | 7.6 |
| Other close | 1 | 1 | 1 | - | 1 | 1 | 2 | - | - | - | 2 | - | 1 | - | 8 | 17.4 | 2 | 10.0 | 10 | 15.2 |
| TOTAL | 9 | 4 | 8 | 2 | 10 | 1 | 7 | 2 | 3 | 1 | 4 | 6 | 5 | 4 | 46 | | 20 | | 66 | |
| Referred to DSS | 8 | 3 | 6 | 2 | 8 | - | 5 | 2 | 3 | 1 | 2 | 6 | 3 | 1 | 36 | 78.3 | 15 | 75.0 | 51 | 77.3 |

TABLE 14
 CASES SIMILAR OF PATIENTS WITH LENGTH OF STAY
 GREATER THAN 36 WEEKS

| | WM | | EM | | WDX | | ERX | | WQ | | DQ | | SQ | | TOTAL # % | TOTAL # % | ALL # % | |
|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------------|-----------------|---------------|----|
| | <110 | 110+ | <110 | 110+ | <110 | 110+ | <110 | 110+ | <110 | 110+ | <110 | 110+ | <110 | 110+ | | | | |
| DSS | - | 1 | - | - | - | - | - | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 5 | 18.5 | 5 | 10 |
| M-11Q pending | - | - | 1 | 3 | 1 | 1 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 11 | 40.7 | 14 | |
| M-11Q prog/closed | - | 1 | - | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 7.4 | 3 | |
| other close | - | - | - | - | - | - | - | - | - | 1 | 1 | 1 | 1 | 1 | 2 | 7.4 | 2 | |
| open | - | - | - | - | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 3 | 7 | 25.9 | 11 | |
| TOTAL | 0 | 2 | 1 | 3 | 3 | - | 2 | - | 9 | 2 | 2 | 4 | 10 | 9 | 27 | | 20 | |

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FIGURE 3: CASE STATUS,
LENGTH OF STAY LONGER THAN 36 WEEKS

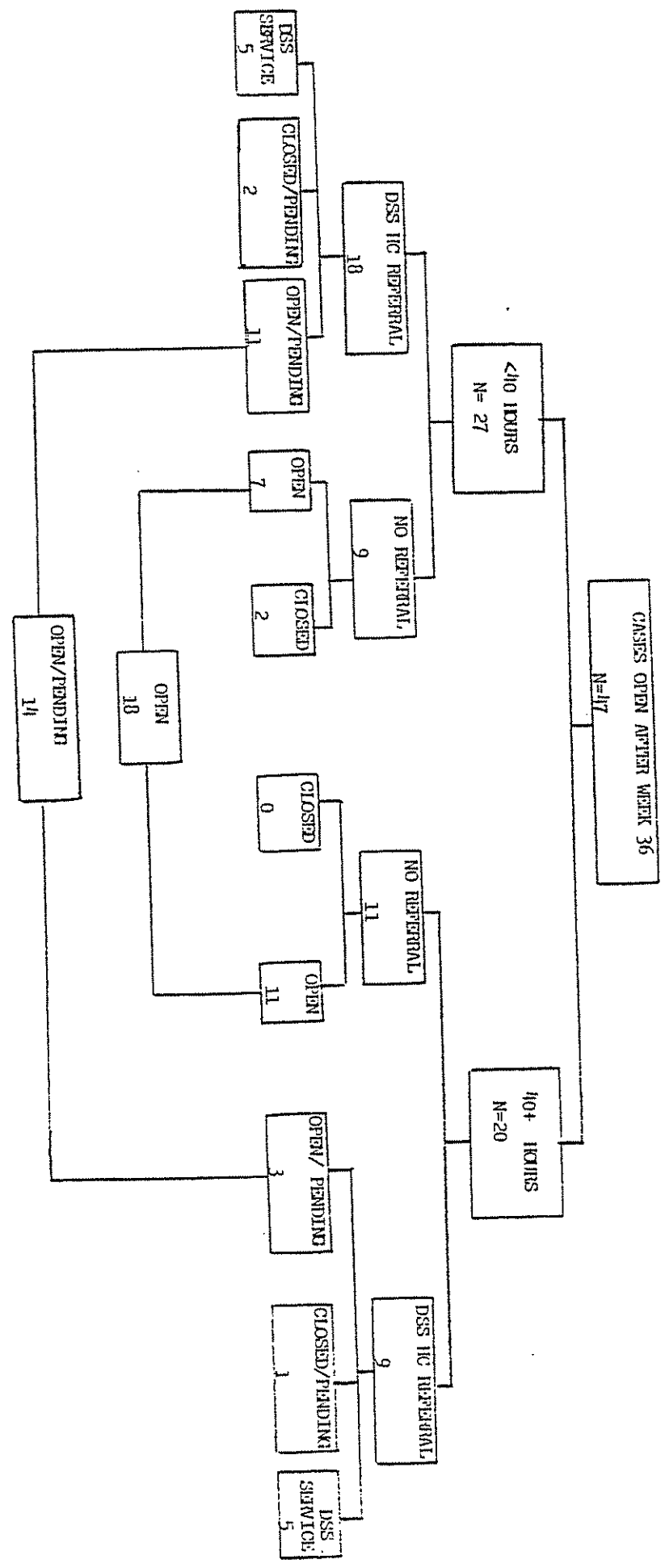


TABLE 15: CASE STATUS (10/15/79)

| | Low Hours: 40 | | High hours: 40+ | | TOTAL | |
|----------------------------------|---------------|-----------|-----------------|-----------|-------|------|
| | 36 weeks | 37+ weeks | 36 weeks | 37+ weeks | # | % |
| <u>CLOSED</u> | | | | | | |
| DSS Home Care | 32 | 5 | 11 | 5 | 53 | 46.9 |
| Discharged with M-11Q pending | 4 | 2 | 4 | 1 | 11 | 9.7 |
| Hospitalized | 2 | 1 | 3 | — | 6 | 5.3 |
| Other Discharge | 8 | 1 | 2 | — | 11 | 9.7 |
| <u>OPEN</u> | | | | | | |
| M-11Q pending | — | 11 | — | 3 | 14 | 12.3 |
| No DSS referral | — | — | 7 | 11 | 18 | 15.9 |
| TOTAL | 46 | 20 | 27 | 20 | 113 | 99.3 |

TABLE 16
INCIDENCE OF REFERRAL TO DSS HOME CARE
(from admission to 10/15/79)

| | Center | | | | | | | TOTAL |
|-----------------|--------|-----|-----|-----|-----|-----|-----|-------|
| | WM | EM | WBx | EBx | WQ | EQ | SQ | |
| # cases | 15 | 14 | 14 | 11 | 15 | 16 | 28 | 113 |
| # DSS referrals | 13 | 12 | 11 | 9 | 11 | 10 | 12 | 78 |
| % DSS referrals | 87% | 86% | 79% | 82% | 73% | 62% | 43% | 69% |
| | 36% | | 80% | | 56% | | | |

TABLE 17
OPEN CASES: DSS REFERRAL

| | WM | EM | WBx | EBx | WQ | EQ | SQ | TOTAL |
|--------------------------------|----|----|-----|-----|-----|-----|-----|-------|
| # cases | 15 | 14 | 14 | 11 | 15 | 16 | 28 | 113 |
| # open | 0 | 4 | 2 | 0 | 7 | 3 | 16 | 32 |
| # open with no DSS Referral | 0 | 0 | 1 | 0 | 3 | 3 | 11 | 18 |
| % open with no DSS Referral | 0 | 0 | 7% | 0 | 20% | 19% | 39% | 15.9 |
| | 0 | | 4% | | 29% | | | |

Moreover, only four of the 54 (7%) Manhattan and Bronx cases remain open and only one of these has not been referred to DSS (Table 17). In Queens, however, 26 of the 59 sample cases (44%) remain open, and 17 of those 26 (65%) cases have not been referred to DSS. In South Queens alone, 11 of 28 cases (39%) remain open without a DSS referral.

B. Observations

A thorough explanation of these varying patterns of aide service allocation and use would require far more case specific information. Nevertheless, it is possible to discuss briefly some of the factors which seem to lead to higher allocations, longer periods of service, and less reliance on DSS in South and East Queens.

The issue of higher hours can be viewed separately from length of stay and DSS referral, although these issues can be subsequently related. Why South and East Queens have a significantly larger proportion of their caseload receiving 40 or more hours of service weekly should relate to patient need. While imprecise diagnostic labels shed little light on this issue, it is possible that hospitals in these areas -- the major referral source -- think first of VNS home care (including nursing, therapists, and aides) for patients who in other parts of the city might be referred directly to DSS's home attendant program. This referral choice might well reflect hospital staff's past difficulty in quickly obtaining home attendant service. It also could be influenced by an opportunity to maximize Medicare reimbursements which a VNS referral would permit.

VNS district staff in Queens, especially the East and West Centers, raised the difficulty in getting DSS services because of poor transportation. Home attendants and housekeepers are drawn primarily from the ranks of the minority poor, who are not found in large numbers in these areas.

Due to the difficulty in travelling from areas such as Bed-Stuy to East and West Queens, DSS often authorizes home care but cannot place an appropriate worker. In South Queens, however, this explanation should not apply, yet this District Center has the lowest rate of referral for DSS home care.

Accordingly, the response of DSS to referrals for home care could influence the Queens service patterns. A perception by hospital and VNS staff of slow response could account for initial referrals to VNS and its subsequent tendency not to refer cases to DSS. And here we must also consider the likelihood that perceptions change less quickly than reality.

The interaction of hospital utilization review standards and VNS discharge policies also contribute to prolonged lengths of stay for some patients. Utilization review requires patients still in need of teaching (such as diabetics) or of dressing changes to be discharged as soon as acute care is no longer necessary. Discharge planners at Queens Hospital Center, for example, refer cases requiring skilled nursing -- many of which also need aide services -- to VNS not DSS and VNS. Accordingly, as utilization review in hospitals has become more effective, the demand for nursing and aide services has, and will continue to, increase.

VNS will continue to deliver aide services to patients requiring skilled nursing and refer cases needing long-term housekeeping or personal care assistance to DSS only when the provision of skilled nursing services has terminated. Referral to DSS comes only when VNS nurses assess a patient as having moved from recuperative to chronic status. These policies would contribute to a slower rate of referral for DSS home care.

Another factor raised by VNS staff in South Queens which might account for a lower rate of referral is its sense that home health agencies can provide superior service. This understandable sense of self-esteem was strongly shaped by a dislike of the poorly supervised and often unreliable independent contractor-home attendant system. Nurses, in short, were hesitant to transfer cases from VNS supervised and trained aides to a home attendant of unknown quality. In this respect professional self-esteem was abetted by the structure and suspect quality of alternative services.

The imminent vendorization of the home attendant program could help to change these patterns. With community-based vendor agencies responsible for worker recruitment, training, and supervision, DSS should be able to initiate home attendant services far more quickly. This will not eliminate the need for home health aides as a bridge service between hospital referral and DSS home care, as VNS can initiate service within a day or two as compared to the DSS assessment procedure which continues to take at least two to three weeks. But a notable improvement in DSS's response capability should encourage the subsequent transfer of more VNS aide patients to DSS services.

III. State Department of Social Services's Home Health Aide Regulations

A. Summary of Provisions

Section 505.23 of the Official Regulations of the State Department of Social Services issued on October 27, 1978 governs the delivery of home health aide services. Although an explanatory administrative directive has not been issued, SDSS expects that it will closely resemble the directive applicable to personal care services, which notes the need for common methods of assessment, authorization, and case management in personal care and home health aide service.

In addition to specifying the criteria for home health aide selection and training and nursing supervision (to which home health agency practices conform), SDSS prescribes a process of case assessment and service authorization for Medicaid patients significantly different from current practices. As summarized earlier in this report, home health agencies assess all cases similarly regardless of the source of reimbursement. Patients covered by Medicaid require contact with local DSS only to confirm Medicaid eligibility or to process an application for Medicaid. At this time, local DSS plays no role in assessing the need for care or in authorizing any home health services including home health aide service delivered by home health agencies.

The new SDSS regulations call for an assessment and authorization process for Medicaid home health aide service which in most respects parallels that prescribed for personal care service. In brief, SDSS requires the following steps.

1. A request for service received by DSS is referred to a home health agency if the patient is determined to be MA eligible. If a request is directed to a home health agency,

the home health agency notifies DSS of all cases in which Medicaid reimbursement for home health aide services is presumed.

2. The home health agency obtains the physician's orders and forwards a copy to DSS.
3. The home health agency nurse assesses patient need,¹¹ develops a plan of care, and prepares recommendations for the summary of service requirements. The assessment and summary is forwarded to DSS.
4. DSS performs a social assessment, which ideally would be conducted jointly with the nurse performing the nursing assessment.
5. DSS compiles a summary of service requirements -- needs, services, frequency and duration, name of provider, unit cost, and source of payment -- based on physician's orders, nursing assessment, and social assessment.
6. DSS authorizes services, with authorizations for home health aide services not to exceed 120 days, at which time steps 2-6 are repeated.

The regulations further require professional staff of DSS to exercise all case management responsibilities to insure the delivery of all appropriate services from the time of referral through discharge.

B. Observations

Aimed apparently at bringing Medicaid/home health aide costs under

¹¹As with personal care service assessments, a current DMS-1 will be required; if not available the nurse will have to conduct the evaluation.

greater control by the local Medicaid agency, these regulations are not well suited to the constellation of home care services funded by Medicaid in New York City. The regulations would work well in jurisdictions where home health aide and other home care services are delivered through either a single, comprehensive system or separate systems which seldom come into contact.

The Monroe County demonstration program, which assesses all Medicaid patients in need of long term care, illustrates the comprehensive system. Centralized, one-stop intake would permit the coordination implicit in the SDSS regulations. Except for jurisdictions which offer only one kind of service, examples of mutually exclusive home care systems do not come readily to mind.

As the discussion of VNS discharge patterns demonstrates, most home health aide patients in New York City are engaged in both the DSS and home health agency home care systems. The high incidence of interaction reflects an imperfectly rationalized, interdependent system through which the swift delivery of aide services constitutes a transition or bridge to long-term maintenance with DSS home care services. For some patients this transition requires skilled nursing and aide services. For others, aide service is restricted to assistance with housekeeping or personal care, which these patients require immediately upon discharge from a hospital. Whether for the skills involved or the speed at which service is initiated, the VNS data show that more than two-thirds of the aide caseload use the service as a bridge to DSS home care services.

The SDSS requirement of a DSS social assessment and authorization of service prior to its initiation would vitiate the practicality of this imperfect system. To fulfill this requirement would unreasonably delay the initiation of aide service which is critical for medically unstable

patients and being delivered to others precisely because of the time it presently takes DSS to authorize its home care service.

Before estimating the effort required to comply fully with the SDSS regulations and exploring alternative responses, it would be appropriate to review the basic components of home care service in New York City and the issues they raise:

What type of home care a patient receives is determined by three key questions: (1) Who pays for the service? (2) What does the assessing agency deem to be appropriate service? (3) What structural impediments or incentives shape the delivery of service? A patient with Medicare insurance would be entitled to a limited amount of home health aide service if certain prerequisites are satisfied. In brief, if the patient requires aide services to support the delivery of skilled nursing services and if these aide services do not exceed 20 hours per week,¹² Medicare will pay for up to 100 skilled visits -- including nursing, therapy, and aide -- following hospitalization under Part A or without prior hospitalization under Part B. Thus, if a Medicare beneficiary does not require a plan of care built on skilled nursing or if the aide service required exceeds 20 hours weekly, Medicare will not provide coverage. Should the patient's needs meet these criteria, Medicare benefits are exhausted after 100 visits.

A Medicaid eligible patient enjoys more options. In addition to eligibility for home health aide service -- without restrictions on the weekly amount, duration, or need for skilled nursing -- DSS home care services, ranging from housekeeper to homemaker to home attendant, are

¹²With home health agency justification, the 20 hour limit can be but, according to VNS, seldom is increased.

available. Consequently, hospital discharge staff can, depending on their evaluation of client need, refer Medicaid patients either to a home health agency or to DSS, or, as we have seen, to both.

Patients deemed to need skilled nursing and assistance with house-keeping or personal care should be referred to home health agencies. For patients covered by Medicare as well as Medicaid, the home health agency is required to maximize Medicare reimbursement before seeking Medicaid reimbursement.¹³ If covered only by Medicaid, the patient should receive skilled nursing and aide service until the skilled nursing is no longer needed, at which time the cases should be referred to DSS for its home care services.

Medicaid patients without skilled nursing needs should be referred directly to DSS. But, as we have seen, delays in DSS service initiation have encouraged a pattern of dual referrals: one to the home health agency for immediate service until the second to DSS has been processed and service authorized.

A third factor influencing home care service is the organization of the work force. Service allocations in DSS's home attendant program long have clustered around 40 hours weekly, partially in response to the workers' need for a full work week. DSS housekeeping clients, who receive from four to 12 hours of service weekly, are served by workers who customarily combine two or three assignments to constitute a full work week. Among the home health agencies, the work patterns of staff aides on agency salary are roughly comparable to DSS housekeepers, as

¹³Home health agencies were unable to provide data describing the magnitude of Medicare maximization. While agency staff uniformly described the priority assigned to Medicare maximization, data describing the number of patients served first by Medicare until reaching the 100 visit limit or no longer needing skilled nursing and subsequently served by Medicaid were not available.

they spend short periods of time with several patients over the course of a week.

Patients receiving more than 12 hours of aide service weekly are served by aides secured through contracts with voluntary and proprietary homemaker-home health aide agencies such as Self-Help and Homemakers Upjohn. Discussions with staffs of the home health and contract agencies suggest that the forces which encourage the clustering of home attendant service allocations around 40 hours per week also strongly influence the allocation home health aide services. The need for a full work week combined with often inadequate transportation and the difficulties of scheduling worker assignments unquestionably contributes to a similar pattern. Among the 133 sample cases, for example, of the 50 cases that received more than 20 hours of service weekly, only 10 received less than 40 hours of service weekly.

The VNS caseload data described above and this general overview of the provision of home care raise several questions concerning the interdependence of the system's reimbursement sources, service programs, and workforce.

- How rational or effective is the present system's interdependence?
- To what extent do home health agencies maximize Medicare reimbursement? What are the major obstacles to maximization and can these be overcome? Would initial assessments of all home care patients by home health agencies lead to increased Medicare reimbursement?
- Should DSS take a more active posture in assuring that aide patients no longer in need of skilled services be referred to more appropriate and less expensive DSS services? What actions would this involve and what would they cost?
- Given the impression gained from the case record review that most aide patients receive no more than housekeeping and personal care services, should these patients in fact be assigned aide services? Or should they receive skilled nursing and needed therapy from the home health agency and housekeeping or personal care services from DSS? While cost effective, would such a division of services affect quality of care? Or is this concern overstated in light of the prevalence of contract aide service in the present system?

° Are the distinctions drawn first between housekeepers and personal care workers and second among the personal care workers -- homemakers, home attendants, and home health aides -- major obstacles to more rational service allocations and cost-containment goals? Would the meshing of at least the personal care titles permit greater flexibility in scheduling and perhaps diminish the incentives for 40 hour allocations? Should all titles be meshed to permit maximum flexibility? Could patients be assigned to home care workers, reimbursements claimed from third party payors, and home care workers paid according to a sliding scale pegged to the tasks required?

° Do alternatives exist to the present home health agency provision of interim aide service pending DSS assessment, authorization, and initiation of its services? Are the numbers of such cases adequate to suggest the employment by home health agencies of housekeepers and home attendants, who would be reimbursed at lower rates than home health aides? Alternatively, could home health agencies, after assessing patient need, refer likely housekeeping clients directly to housekeeper vendors who would provide service on the basis of presumptive eligibility? For patients in need of home attendant service, could such a direct referral mechanism operate once the program is vendorized? If not feasible with vendors, should HRA employ a core staff of home care workers to fill these interim, presumptive service needs?

° If the vendor referral mechanism cited above was feasible, could home health agencies become the initial intake point for all home care in New York City? Would this maximize Medicare and other third party reimbursements, while containing Medicaid costs through the provision of the most appropriate and least costly service package?

Answers to these questions will shape the future delivery of home care in New York City. The following section, however, is confined to analysis of the effort required to comply with the SDSS regulations governing home health aide services. It also considers the potential consequences of DSS taking no action and the possibilities of limited DSS intervention aimed at some greater rationalization of the present home care system.

IV. Potential HRA Responses

The following material attempts to evaluate the potential costs and benefits of several different responses HRA could make to the SDSS regulations governing home health aide service. These options do not describe all possibilities, but are offered to define two extreme and one middle range response.

A. Full Compliance

Full compliance with SDSS regulations would require an initial social assessment of all persons referred for home health aide services, prior authorization for the delivery of aide services, and ongoing case management tasks including responsibility for all changes, terminations, and periodic extensions of service.

Projections based on VNS data alone suggest that full compliance with regard to admissions, terminations, and recertifications would entail a significant demand on HRA staff resources. When projected annually, data for January-March 1979 indicate 1,060 new cases in Manhattan, 908 in the Bronx, and 1,720 in Queens: a total of 3,688 new admissions each requiring a social assessment.¹⁴

To gauge the demand for discharge and recertification interventions, the histories of the 57 cases (of the 113 sample cases) admitted from November 1978 through January 1979 will be used. All 18 Manhattan cases and 15 of the 16 Bronx cases had closed by October 15, 1979, thus suggesting that in these boroughs all admissions would require a subsequent discharge intervention within a year. In Queens, 19 of 23 cases (83%) closed, indicating an annual projection of 1,420 discharge interventions.

¹⁴SDSS regulations specify social assessments for all cases in which home health agencies receive a request for aide service. This analysis deals only with admitted cases, thus underestimating the potential number of initial assessments.

Admissions and discharges thus would generate an estimated total of 7,526 interventions annually: 2,120 in Manhattan, 1,816 in the Bronx, and 3,140 in Queens.

Added to these tasks would be the need for HRA approval of all recertifications -- extensions of service -- which must not exceed a 120 day period. If only the 57 cases admitted from November through January are considered, we find in Manhattan that two of 18 cases would require once recertification and one case two recertifications. Of the 16 Bronx cases, four would require one and one case would require three recertifications. And in Queens six of the 23 cases would require one recertification, one case would require two, and five cases would require three. Extrapolating this small sample to project the number of recertifications required by all cases admitted over a nine month period¹⁵ shows that the Manhattan caseload would call for 176, Bronx 296, and Queens 1,287 recertifications.

Estimating the number of recertifications generated by the old caseload -- those patients admitted before January 1979 -- is more speculative. But it is probably conservative to project an average of one recertifications for each old case active in January: a total of 233 in Manhattan, 285 in the Bronx, and 756 in Queens.

VNA data for Brooklyn project approximately 475 interventions: 225 admissions, 225 discharges, and 25 recertifications (see Appendix A). Because the caseloads of the other home health agencies operating in the city are so small, a four borough estimate of HRA interventions over a 12 month period would approximate 10 to 11 thousand, not including changes in service or any other case management task (Table 18).

¹⁵This allows 13 weeks to lapse in a 52 week period and yields the number of recertifications in the first year of operation.

TABLE 18
PROJECTED HRA ACTIONS: FULL COMPLIANCE

| Borough | TYPE OF ACTION | | | | Total |
|-----------|----------------|------------|-----------------------------|-----------------------------|------------|
| | Admission | Discharge | New Case Recertification | Old Case Recertification | |
| Manhattan | 1,060 | 1,060 | 176 | 233 | 2,529 |
| Bronx | 908 | 908 | 296 | 285 | 2,397 |
| Queens | 1,720 | 1,420 | 1,287 | 756 | 5,183 |
| Brooklyn | <u>225</u> | <u>225</u> | <u>25</u> | <u>—</u> | <u>475</u> |
| TOTAL | 3,913 | 3,613 | 1,784 | 1,274 | 10,584 |

This projection of HRA interventions is quite rough in large part due to the present interaction between the home health aide and HRA home care caseloads. A significant proportion of aide patients are discharged to HRA home care services and therefore might not require an additional discharge intervention. Others would have applications for HRA home care pending when recertification would be required, thus clouding HRA's responsibility for patient re-assessment.

Yet, even if these projections grossly over-estimate additional HRA activities, they point to a significant increase. While FAS and GSS could measure impact on regular operations, it is safe to assume that these increased responsibilities would inevitably slow down the process through which FAS and GSS authorize and deliver housekeeper, homemaker, and home attendant services.

Formal compliance with SDSS regulations, which aim at greater accountability and cost-effectiveness, thus would appear to generate

significant costs. In addition to the significant demand on HRA resources and the concomitant impact on its own home care services, perhaps the most significant consequence would be the inevitable delay in the initiation of home health aide service. As noted above, home health agencies can assess patient need and place an aide within one to two days. Patients just discharged from acute hospital care and in need of skilled nursing and personal assistance require this level of responsiveness. The introduction of HRA social assessments by GSS staff and prior authorization by FAS staff, it appears, would lengthen the process to the point of endangering patient health in a significant proportion of cases.

Further complicating SDSS's requirement of prior authorization of aide service is the fact that aide service often is used by hospital discharge planners as a bridge or transition between acute care and long-term maintenance on DSS home care. Utilization review requires early hospital discharge which in some cases necessitates a relatively short period of skilled nursing and personal care before the patient has fully recuperated. In other cases personal care or housekeeping services are essential to patient maintenance, even though the need for skilled nursing is not present. As a result, hospital discharge planners often refer cases simultaneously to both home health agencies and HRA. This provides for immediate aide service and starts the process for securing HRA services in the near future.

In sum, the context of New York City's complexly interrelated home care service system makes full compliance with SDSS regulations impractical. It would require significant HRA resources, slow down the delivery of its home care services, and perhaps most important seriously undermine the utility of home health aide service as a bridge service between

hospital care and HRA home care. The interdependence of the service systems precludes full compliance as a rational, cost-effective approach.

B. No HRA Intervention

By taking no action HRA of course would not alter the present system. This response, however, could lead to SDSS penalties and sanctions. Moreover, the analysis of VNS discharge data demonstrates that HRA already plays a major role in the delivery of aide service, specifically in terms of transferring stabilized patients from aide to home attendant or housekeeper service. Yet the data revealed that the extent and timing of HRA's involvement varies in different parts of the city. Although the data are not conclusive, it appears that the procedures and mechanisms for transferring appropriate patients from home health aide to HRA home care services could be enhanced, thus leading to greater Medicaid cost-effectiveness. By failing to take any action, HRA would forgoe some potential cost savings accruing from a more rationally interdependent service system, while exposing itself to possible SDSS penalties.

C. Targeted Intervention

Targeted intervention which carefully linked increases in DSS staff activity with the potential for Medicaid cost savings could help to bring a greater degree of control and rationality to the interrelated systems that deliver home health aide and HRA home care services. As the responsible Medicaid agency, HRA could focus its assessment and case management resources on the most problematic home health aide cases -- those receiving high hours of care for long periods of time without having been referred to HRA. The definition of high hours and long periods would determine the additional responsibilities HRA would assume through a targeted intervention strategy. Because so large a proportion of aide

patients are referred to HRA for long term home care, such an approach would avoid the duplication of effort entailed by full compliance. Yet by bringing to HRA's attention either unknown cases or cases referred to HRA but still awaiting service, a limited intervention strategy could identify cases requiring priority attention. Given the higher cost of aide service, such an effort could help to reduce Medicaid home care costs.

For example, HRA could require notification from home health agencies of all aide patients at the time of their first recertification, 13 weeks after service commenced. Notification would indicate whether a patient had been referred to HRA for home care (and for control purposes the referral date), or if a referral had not been made, a justification for the extension of more expensive aide service. This approach could encourage more careful review of patient status and need by home health agencies and permit HRA to target its resources on the evaluation of problem cases. It also would be timed to permit full Medicare maximization, in that most patients would exhaust the 100 visit allowance during 13 weeks of service.

If we examine the 57 sample cases admitted between November 1978 and January 1979, we find that all 18 Manhattan cases and 16 Bronx cases had been discharged or referred to HRA within 12 weeks. In Queens, 17 of 23 new cases had been referred or discharged within 12 weeks; two cases closed between weeks 17 and 25; and four cases remained open without referral to HRA. From this small sample, one could project no additional HRA responsibility in Manhattan and the Bronx. In Queens, however, roughly a quarter (26%) of the 1,290 cases admitted from January to September -- 335 cases -- would require notification and, if warranted, HRA follow-up and evaluation during the first 12 months of operation.

Such an approach, it appears, would satisfy the spirit of the SDSS regulations which aim at greater coordination, control, and cost containment. But by addressing the complex interdependence of home care services in New York City, it would not generate the significantly greater increases in staff costs and processing time entailed by formal compliance with SDSS regulations.

Accordingly, HRA could propose to SDSS — which informally has expressed interest in alternative plans — a limited intervention plan to substitute for compliance with the regulatory procedures currently prescribed by SDSS. In this way, HRA could exercise its responsibility in a cost-effective manner — a goal which neither full compliance nor taking no action would allow.

D. A Final Observation

The suggested plan for targeted intervention of course does not address the basic issues (discussed briefly earlier in this report) that will shape the future delivery of home care services in New York City. Targeted intervention only meets HRA's immediate need to respond to SDSS regulations governing home health aide service.

The city's ability to meet responsibly the growing demand for long-term care will require significantly more thorough and comprehensive measures. The effective delivery of long-term care ultimately depends on: how the components of the continuum of care are defined; how patient need is assessed and necessary services identified; what organizations provide different types of care and with what types of personnel; and how different services, workers, and reimbursement sources are integrated to provide the highest quality, most cost-effective care.

APPENDIX A

An Analysis of Medicaid/Home Health Aide Services
Delivered by VNA of Brooklyn, February through July, 1979

To develop some understanding of the use of Medicaid/home health aide services in Brooklyn, the billing records of the Visiting Nurse Association for the period from February through July 1979 were reviewed. In this time, 116 different persons received home health aide services reimbursed by Medicaid: 93 who opened new cases and 23 who had received services in January 1979. Extrapolating to a full year, VNA opens approximately 225 new cases annually and closes approximately an equal number. At any one time, VNA serves a caseload ranging from 20 to 30 patients (Table 1). In terms of the receipt of Medicaid/home health aide service, 67 of these 116 cases were both opened and closed in the five month period under analysis. Of the remaining 49 cases, only one case was open from at least January through June; 21 were opened prior to February; and 27 were recorded as still active at the end of June.*

Ninety-six of the 116 patients (82.7%) were women and 20 were men (Table 2). The mean age of male patients was 49 years as compared to 58 years for the females. Overall, the VNA aide patients had a mean age of 57 years, and approximately a quarter fell into each of the following age groupings: under 50, 50 - 59, 60 - 69, 70 or older.

As Table 3 shows, only 8 patients (7% of all 116 patients) received more than 20 hours of aide service weekly. Seventeen patients received only one visit before service was terminated, presumably because patient

*The 21 prior openings could be backtracked, but time did not permit and a different billing system would have limited the data's use. Billings after June have not yet been processed.

status or alternative resources rendered the service inappropriate. And a slightly larger number of patients -- 18 or 16% of the total -- received generally brief and infrequent visits amounting to less than 8 hours weekly. Most VNA patients received from 12 to 20 hours of aide service weekly through a schedule of three, four, or five 4-hour visits. Twenty-four cases (21% of total) were assigned four hour aide visits three times weekly; 47 cases (40% of total) five times weekly; and 2 cases (2% of total) four times weekly. These 73 cases account for 63 percent of the full caseload and 73 percent of the 99 patients visited more than once.

Only eight patients received more than 20 hours of service weekly. One patient received four hours daily, seven days a week for a little longer than a month. Six patients received 40 hours weekly (5 x 8): two for approximately two weeks; one for roughly two months; and three whose still active cases were opened in June. And one patient received 8 hours of service daily for almost six weeks.

The length of stay can be determined from the billing records for 67 of the 116 patients (58%). As Table 4 shows, 54 cases (80%) were closed within four weeks of opening; 10 cases (15%) within 5 to 8 weeks; and 3 cases (4%) within 9 to 12 weeks. No case that both opened and closed between February and June remained open longer than 12 weeks. The mean length of stay for the 10 patients with 3 x 4 service was 3.9 weeks and 3.5 weeks for the 24 patients with 5 x 4 service.

Table 5 sheds some light on the 49 cases that did not both open and close during the February through June period. As would be expected, these patients received home health aide services over a longer period of time. Roughly a quarter (26%) received at least 5 weeks of service as compared to 15 percent of the other caseload. And billing records

show only 45 percent — as compared to 80 percent — receiving less than five weeks of service.

By arbitrarily assuming that all cases of indefinite duration received services for an additional four weeks, a projection of the length of stay for all 116 cases can be made. Using this assumption, 46 percent of the cases would receive service from 1-4 weeks; 28 percent from 5-8 weeks; 15 percent from 9-12 weeks; and 4 percent for 13+ weeks. While this distribution is hypothetical for cases suspected of receiving more than four weeks of service, it demonstrates that slightly less than half (46%) of the total caseload receive less than four weeks of service.

These data suggest significant differences between the VNS aide patients and those served in Brooklyn by VNA. VNA serves a younger population — mean age of 57 as compared to 71 for VNS — with fewer hours of service per patient. While only 7 percent of VNA's patients received more than 20 hours of weekly aide service, approximately 43 percent of VNS caseload received more than 20 hours of service weekly. And VNA discharged patients far more rapidly than VNS. Only one VNA patient received service for more than 30 weeks as compared to 42 percent of the VNS caseload.

TABLE 1
VNA Medicaid/Home Health Aide Caseload

| Case Type | Month | | | | |
|-------------------|----------|-------|-------|-----|------|
| | February | March | April | May | June |
| Previously Opened | 23 | 18 | 25 | 27 | 16 |
| New | 13 | 28 | 23 | 14 | 15 |
| Closed | 18 | 21 | 21 | 25 | N/A |

TABLE 2
All Patients
Age Distribution

| | Female | Male | Total | |
|--------|----------|----------|----------|------------|
| | | | # | % |
| 1-12 | 1 | 3 | 3 | 2.6 |
| 13-19 | 3 | - | 3 | 2.6 |
| 20-29 | 4 | 1 | 5 | 4.3 |
| 30-39 | 5 | 1 | 6 | 5.2 |
| 40-49 | 8 | 3 | 11 | 9.6 |
| 50-59 | 24 | 7 | 31 | 27.1 |
| 60-69 | 23 | 5 | 28 | 24.5 |
| 70-79 | 18 | - | 18 | 15.7 |
| 80+ | <u>8</u> | <u>1</u> | <u>9</u> | <u>7.8</u> |
| | 94* | 20 | 114 | |
| Mean | 58 yrs. | 49 yrs. | 57 yrs. | |
| Median | 60 yrs. | 56 yrs. | 60 yrs. | |

* Missing 2 cases

TABLE 3

Service Allocations - All Patients

| Allocation Schedule | Hours/week | Cases | | Visits | | Hours | |
|------------------------|------------|-------|------|--------|------|-------|------|
| | | # | % | # | % | # | % |
| One visit | — | 17 | 14.7 | 17 | .9 | 53 | .7 |
| 3 x 4 | 12 | 24 | 20.7 | 391 | 21.6 | 1564 | 20.6 |
| 4 x 4 | 16 | 2 | 1.7 | 28 | 1.5 | 112 | 1.5 |
| 5 x 4 | 20 | 47 | 40.5 | 1123 | 61.9 | 4492 | 59.2 |
| 7 x 4 | 28 | 1 | .9 | 34 | 1.9 | 136 | 1.3 |
| 5 x 8 | 40 | 6 | 5.2 | 30 | 4.4 | 640 | 8.4 |
| 7 x 8 | 56 | 1 | .9 | 39 | 2.2 | 312 | 4.1 |
| Other | — | 18 | 15.5 | 101 | 5.6 | 281 | 3.7 |
| TOTAL | — | 116 | — | 1813 | — | 7590 | — |

TABLE 4

Service Use: "Open to Close" Patients

| Schedule | Hours/week | Allocation | | | | | | Full length of stay (wks) | | | |
|-----------|------------|------------|------|--------|------|-------|------|---------------------------|---------|--------|-----|
| | | Cases | | Visits | | Hours | | 1-4 | 5-8 | 9-12 | 13+ |
| | | # | % | # | % | # | % | | | | |
| One visit | — | 17 | 25.4 | 17 | 2.4 | 53 | 1.8 | 17 | - | - | - |
| 3 x 4 | 12 | 10 | 14.9 | 117 | 16.7 | 468 | 15.5 | 7 | 1 | 2 | - |
| 4 x 4 | 16 | 1 | 1.5 | 18 | 2.6 | 78 | 2.5 | - | 1 | - | - |
| 5 x 4 | 20 | 24 | 35.8 | 414 | 59.1 | 1656 | 55.0 | 17 | 6 | 1 | - |
| 7 x 4 | 28 | 1 | 1.5 | 34 | 4.9 | 136 | 4.5 | - | 1 | - | - |
| 5 x 8 | 40 | 2 | 3.0 | 24 | 3.4 | 192 | 6.4 | 2 | - | - | - |
| 7 x 8 | 56 | 1 | 1.5 | 39 | 5.6 | 312 | 10.4 | - | 1 | - | - |
| Other | 28 | 11 | 16.4 | 38 | 5.4 | 122 | 4.1 | 11 | - | - | - |
| TOTAL | — | 67 | | 701 | | 3011 | | 54 | 10 | 3 | |
| | | | | | | | | (80.6%) | (14.9%) | (4.5%) | |

TABLE 5

Service use: Patients with opening date prior to 2/1/79 or active as of 7/1/79

| Schedule | Hours/week | Allocation | | | | | | Minimum length of stay (wks) | | | |
|----------|------------|------------|------|--------|------|-------|------|------------------------------|---------|---------|---------|
| | | Cases | | Visits | | Hours | | 1-4 | 5-8 | 9-12 | 13+ |
| | | # | % | # | % | # | % | | | | |
| 3 x 4 | 12 | 14 | 28.6 | 274 | 24.6 | 1,096 | 23.9 | 5 | 4 | 3 | 2 |
| 4 x 4 | 16 | 1 | 2.0 | 10 | .9 | 40 | .9 | 1 | - | - | - |
| 5 x 4 | 23 | 23 | 46.9 | 709 | 63.8 | 2,836 | 61.9 | 9 | 7 | 4 | 3 |
| 7 x 4 | 28 | - | - | - | - | - | - | - | - | - | - |
| 5 x 8 | 40 | 4 | 8.2 | 56 | 5.0 | 448 | 9.8 | 3 | 1 | - | - |
| 7 x 8 | 56 | - | - | - | - | - | - | - | - | - | - |
| Other | — | 7 | 14.3 | 63 | 5.7 | 159 | 3.5 | 4 | 2 | 1 | - |
| TOTAL | — | 49 | | 1,112 | | 4,579 | | 22 | 14 | 8 | 5 |
| | | | | | | | | (44.9%) | (28.6%) | (16.3%) | (10.2%) |