Contents

Chapter 1. SUMMARY AND CONCLUSIONS .................................................. 3
   Introduction. ................................................................. 3
   Current Activities .......................................................... 4
   Findings and Conclusions. .................................................. 5
       supply ................................................................. 5
       Requirements .......................................................... 7

2. SUPPLY ........................................................................... 15
   Aggregate Supply. .......................................................... 15
   Specialty Supply ............................................................ 23
   Locational Distribution ................................................... 30
   Summary. ................................................................. 38

3. REQUIREMENTS ................................................................. 45
   Introduction. ................................................................. 45
   Economic Models. .......................................................... 47
       The Bureau of Labor Statistics Model .............................. 47
       Bureau of Health Manpower Model ................................. 49
       The Framework ......................................................... 50
       The Baseline Configuration .......................................... 53
       Contingency Modeling ............................................... 59
       Productivity ............................................................. 61
       The Graduate Medical Education National Advisory
       Committee Model ..................................................... 62
       Comparison of the BHM and GMENAC Models ................. 72
       Productivity ............................................................. 77
       Locational Requirements ........................................... 80

BIBLIOGRAPHY. ................................................................. 85

List of Tables

Table No. ........................................................................... Page

1. Derivation of Male and Female MD Retirement Rates and Death Rates by 5-Year Age
   Cohort ........................................................................... 16
2. MD First-Year Enrollment Projections Using 1977 First-Year Enrollment as Base,
   to 1987 ........................................................................... 17
3. DO First-Year Enrollment Projections Using 1976 First-Year Enrollment as Base,
   to 1987 ........................................................................... 17
4. First-Year Enrollments in Medical and Osteopathic Schools Projected Under the Basic
   Assumption; 1978-79 Through 1987-88. .................................. 18
7. Supply of Active Foreign-Trained Physicians, Using Basic Methodology,
       Projected 1975-91(1) ..................................................... 20
8. Basic, High, and Low Projections of the FMG Active Supply ..................................... 20
Contents—continued

Table No.  Page

9. Supply of Active Physicians by Country of Medical Education Using Basic  22
   Methodology: 1974 and Projected 1975-90
10. Supply of Active Physicians by Country of Medical Education Using Basic  22
    Methodology: Actual 1974, 1975; Projected 1980-90
11. Data Sources on Physician Specialty Supply ........................................... 24
12. Internship and Residency Data Sources .................................................. 25
    Linear Regressions
15. Percent Distribution of FMG First-Year Residency Projections Using Simple Linear  31
    Regressions
17. Supply of Active Physicians, by Specialty :Actual 1974; Projected 1980-90) ...  33
18. Patient Care MDs by Selected Specialties and for High and Low States, 1976 .....  34
19. Non-Federal Physicians Providing Patient Care in Metropolitan and Nonmetropolitan  34
    Areas, 1963-75
21. Percent of New Physicians Expected To Enter Primary Care ...........  37
22. Projected County Classes of Newly Practicing Physicians ....................  37
23. Usual Source of Care for Urban Underserved Areas .................................. 38
24. Estimated Principal-Provider Patient Loads of General Practitioners, Family  41
    Practitioners, and General Internists
25. Comparisons of Supply With Requirements Using Different Models  46
26. 1960’s Projections of Physician Requirements in 1975  47
28. Population Matrix Used in the BHM Model ............................................. 51
29. Health Care Categories Used in the BHM Model ....................................... 51
30. Projected Shifts in Age and Income Distribution, 1970-90 ....................... 52
31. Projected Utilization Growth Factors, 1975-90 ...................................... 53
32. Prevalence of Selected Chronic Conditions Reported in Health Interviews,  53
    by Family Income
33. Number of Disability Days per Person per Year by Family Income, 1973. ......  54
34. Number of Physician Visits per Year by Poor and Not Poor Status and for Whites  55
    and Others, 1964 and 1973
35. Number of Discharges From and Average Length of Stay in Short-Stay Hospitals,  55
    by Income Status and Color, 1964and 1973
36. Estimated Growth in Per Capita Utilization, Four Forms of Health Care ......  56
37. Increase in Demand From Population and Per Capita Utilization Changes,  56
    1975 to 1990, BHM Model
38. Dependence of Trend Projections on Alternative Starting Dates in the Baseline Data  64
39. Comparison of Linear Versus Logarithmic Extrapolation of Utilization Data ..  65
40. Allocation of Physicians by Type and Setting of Care for the 1975 Base Year,  66
    BHM Model
41. Illustrative Computation of Manpower Requirements ............................. 67
42. Specialty Areas and Subspecialties for Which Requirements Estimates Are Being  68
    Planned or Considered by GMENAC
43. The Average Practice Profile of General Surgeons ................................... 71
44. Proportion of Persons Whose Experience With Physician Visits Is Beyond the  71
    Critical Threshold
45. Percent of Ethnic Groups Dissatisfied With Aspects of the Medical Care System  72
46. Regional Differences in Certain Health-Care Statistics, United States, 1969-70  79
47. Shortage, Adequate, and Surplus Levels of Primary Care Physicians .......... 80
48. Need for Primary Care Physicians and Psychiatrists in 1990 ........................ 81
Table No.                                      Page
49. Criteria for Unmet Need Calculation by Area ................................. 82
50. Physician Encounters per Physician and Physician Encounters per Physician Hour by
     Selected Cohorts, National Health Service Corps, 1976 ..................... 84

List of Figures

Figure No.                                      Page
1. Diagram of Projection of Supply of Active Physicians Through 1990 .............. 21
2. Trend Data on Number of First-Year Residents: Total, Primary, Nonprimary Care
3. Trend in Number of First-Year Allopathic Residents in Four Selected Specialties .... 26
4. Projection of Active Physicians by Specialty .................................. 29
5. Frequency Distribution of Physician Availability Indexes—Primary Care Physicians
     and Surgeons for the 204 HSAs .................................................. 35
6. Per Capita Utilization of Physician office Services, 1966-76 .................... 57
7. Per Capita Utilization of Short-Term Hospital Services, 1966-76 ............ 58
8. Per Capita Utilization of Dental office Services, 1966-76 ..................... 59
9. Per Capita Utilization of Community Pharmacy Services, 1966-76 ........... 60
10. Non-Price-Related Per Capita Utilization Trends, Physician Office Services, 1966-76. 61
11. Non-Price-Related Per Capita Utilization Trends, Short-Term Hospital Services, 1966-76. 62
12. Non-Price-Related Per Capita Utilization Trends Dental Office Services, 1968-76 ... 63
13. Non-Price-Related Per Capita Utilization Trends, Community Pharmacy Services, 1966-76. 64
15. GMENAC Model for Estimating Physician Requirements ............................ 69
16. Consumer Satisfaction With Physician Services .................................. 73
17. Consumer Satisfaction With Physician Services, by Nature of the Experience ...... 74