AD-A075 260 GENERAL RESEARCH CORP MCLEAN VA F/G 15/5
THE QUALIFIED MILITARY AVAILABLE PROJECTION SYSTEM. VOLUME I. O--ETC(U)
SEP 78 D F HUCK, A CREWS, G P SICA MDA903-75-C-0204
UNCLASSIFIED GRC-CR-224-VOL-1 NL

1 OF 1
AD A 075260

END
DATE FILMED
11 -79
DDC

ADA075260

report

DDC RECEIVED OCT 19 1978 E

CR-224

LEVEL II

The Qualified Military Available Projection System

VOLUME I – OVERVIEW AND DETAILED METHODOLOGY

A075347 V2

By:

Daniel F. Huck, Project Director
Alison Crews
Geraldine P. Sica

Submitted to:

The Assistant Secretary of Defense
(Manpower, Reserve Affairs & Logistics)
The Pentagon
Washington, D. C. 20301

September 1978

This document has been approved for public release and sale; its distribution is unlimited.

DDC FILE COPY

GENERAL RESEARCH CORPORATION
7655 Old Springhouse Road, McLean, Virginia 22101

79 10 18 037

report (2)

(14) GRC-CR-224-VOL-1

(6) # The Qualified Military Available Projection System.

VOLUME I. OVERVIEW AND DETAILED METHODOLOGY.

(9) Final rept. 1977-1978

By:

(10) Daniel F. Huck, Project Director
Alison Crews
Geraldine P. Sica

Submitted to:

The Assistant Secretary of Defense
(Manpower, Reserve Affairs & Logistics)
The Pentagon
Washington, D. C. 20301

(11) September 1978 (12) 68

DDC
RECEIVED
OCT 19 1979
E

This document has been approved for public release and sale; its distribution is unlimited.

(15) MDA903-75-C-0204

GENERAL RESEARCH CORPORATION
WESTGATE RESEARCH PARK, McLEAN, VIRGINIA 22101

410 304

LB

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER CR-224	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Overview and Detailed Methodology (Vol. I)		5. TYPE OF REPORT & PERIOD COVERED Final Report 1977-78 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Kenneth A. Goudreau Geraldine P. Sica Alison Crews		8. CONTRACT OR GRANT NUMBER(s) MDA903-75-C-0204
9. PERFORMING ORGANIZATION NAME AND ADDRESS General Research Corporation 7655 Old Springhouse Rd. McLean, Va. 22102		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS OASD (MRA&L) Directorate for Accession & Retention Washington, D.C. 20310		12. REPORT DATE September 1978 13. NUMBER OF PAGES 60
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)		15. SECURITY CLASS. (of this report) Unclassified 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)
Approved for public release, distribution unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)
Qualified Military Available (QMA) Projection Methodology; Mobility Estimates; Population Estimates; Fitness Estimates.

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)
Volume I details the methodology used to estimate and project Qualified Military Available (QMA) populations by race, sex, education, mental group, and geographical boundaries. The QMA is the population of 17-21-year-old persons who have no prior military service and who are physically and mentally qualified for such service. Volume II contains detailed program and file documentation.

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

CONTENTS

Chapter		Page
ABBREVIATIONS AND ACRONYMS		vi
1	INTRODUCTION	1-1
	Background	1-1
	QMA Profile Capabilities	1-1
	Report Classification	1-2
	Additional Reports	1-5
	Methodology	1-9
2	DESCRIPTION OF THE FILES	2-1
	Introduction	2-1
	Static Files	2-1
	Updateable Files	2-6
3	GROWTH RATES	3-1
	Introduction	3-1
	Mortality Data	3-1
	Mobility	3-5
	Aging State Public Use Sample	3-9
	Creation and Accumulation of State Growth Rates	3-9
4	DEVELOPMENT OF MILITARY AVAILABLE PROFILE	4-1
	Introduction	4-1
	Conversion of State Growth Rates to County Group Growth Rates	4-2
	Creation of MA File by County Group	4-2
	Conversion of County Group MA to Arbitrary Boundaries	4-4
5	DEVELOPMENT OF THE QMA FILE	5-1
	Introduction	5-1
	Regional Fitness Proportions	5-1
	Veterans' Adjustment	5-2
	Regional Fitness to County Group Fitness Proportions	5-4
	Creation of Qualified County Group Population	5-4
	Creation of Qualified State/County Populations	5-5
	QMA Files by Arbitrary Boundaries	5-7

Accession For
NTIS GRA&I
DDC TAB
Unannounced
Justification
By
Distribution/
Availability Codes
Dist. | Avail and/or special
A

Chapter		Page
6	MA AND QMA REPORTS	6-1
	Introduction	6-1
	County Group MA Report	6-2
	Qualification MA Report	6-2
	County-Service/State MA Report	6-6
	County-State/Service QMA Report	6-6
7	RECOMMENDATIONS FOR FUTURE DEVELOPMENT	7-1
	Introduction	7-1
	Additional Improvements	7-1
APPENDIX		
	A. Explanation of Mobility Multiplier Developed for Each State	A-1
FIGURES		
	3.1 Creation of Annual State Growth Rates	3-2
	3.2 Creation of Annual State Death Rates	3-4
	3.3 Determination of Annual Mobility Rates	3-6
	3.4 Creation of State Cumulative Growth Rates	3-10
	4.1 Development of County Group MA File	4-3
	5.1 Development of QMA Files for County Group and County-State/Service Boundaries	5-6
TABLES		
	1.1 Distribution of Members of Male Population Within Each County Group into Availability Classifications by Age and Race Using Adjusted Population as of June 1977	1-3
	1.2 Qualifications of Available Males by County Group(Ages 17-21 inclusive) June 77 Projected Population	1-6
	1.3 Distribution of Military Available White Male Population Within Each DRC into Availability Classifications by Age Service: Army	1-7
	1.4 Qualified Military Available Candidates (Mental Categories I-IVC) by DRC and County White Male Only (Ages 17-21 inclusive) from Population Projections 1977 Service: Army	1-8
	2.1 Population Apportionment for Six Counties in California	2-5
	2.2 List of Major Urban Areas Broken Out for AFEES Test Results Application	2-9

TABLES

		Page
5.1	Active Duty Military Personnel	5-2
5.2	Males as a Proportion of Total Military Force	5-3
6.1	Distribution of Members of Male Population Within Each County Group into Availability Classifications by Age and Race Using Adjusted Population as of June 1977	6-3
6.2	Qualifications of Available Males by County Group (Ages 17-21 inclusive) June 77 Projected Population	6-5
6.3	Distribution of Military Available White Male Population Within Each DRC into Availability Classifications by Age Service: Army	6-7
6.4	Qualified Military Available Candidates (Mental Categories I-IVC) by DRC and County White Male Only (Ages 17-21 inclusive) from Population Projections 1977 Service: Army	6-8
A.1	Multiplier File for Mobility Ratio ABS/Net	A-2
A.2	Net Migration of the Population, 1960-70: Georgia	A-4

ABBREVIATIONS AND ACRONYMS

AFDET	Air Force Detachment
AFEES	Armed Forces Entrance Exam Station
AFQT	Armed Forces Qualification Test
BTA	Basic Trading Area
CY	calendar year
DRC	District Recruiting Command
FIPS	Federal Information Processing Standard
FY	fiscal year
GRC	General Research Corporation
HEW	Health, Education, and Welfare
MA	military available
MFWBO	male/female/white/black/other
MRADAC	Manpower Research and Data Analysis Center
MRA&L	Manpower Reserve Affairs and Logistics
NRD	Naval Recruiting District
OASD	Office, Assistant Secretary of Defense
PUS	Public Use Sample
QMA	qualified military available
RS	Recruiting Station
UGA	University of Georgia

Chapter 1

INTRODUCTION

BACKGROUND

With the elimination of the draft and the resulting dependence on volunteers for military duty, the Office, Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics (OASD, MRA&L) has placed increased emphasis on identifying and examining the available manpower, especially potentially high quality enlistees. Since each service has different recruiting area boundaries, the geographic marketplaces of the "military available" (MA) population for the services are distinct. It follows, therefore, that the most productive placement of recruiters for each service is somewhat dependent upon the defined location of each marketplace. The probability of enlisting a desirable recruit is increased with identification of the "qualified military available" (QMA) population within that marketplace.

General Research Corporation (GRC) has developed a timely, flexible and adaptable system for defining the number, quality, and location of QMA individuals. By using the most recent and reliable data available, GRC has created a manpower data base capable of being "aged" and qualified to render both current and projected descriptions of MA and QMA individuals.

Volume II of this report provides flowcharts and program documentation for the QMA Projection System.

QMA PROFILE CAPABILITIES

The specification for the development of the QMA profile, as put forth by OASD, MRA&L is to provide an overall capability to generate the QMA population count by the following breakouts:

- Age Group (17-21) by year
- Sex (male/female)
- Race (white/black/other/total)
- Geographic Area (recruiting area boundaries/county-state)
- Highest Educational Level Attained (high-school graduate/non-high-school graduate)

- Current Educational Status (attending school/ not attending school)
- Mental Category (I-IVC)
- Physical Qualification (not disqualified)

The county group Public Use Sample (PUS), obtained from the Bureau of the Census, is the foundation for development of the QMA files. Through the use of cross-reference data files, QMA files (by recruiting area boundaries) are produced for the Army, Navy, Marine Corps and Air Force.

A county-state QMA file is produced in the same manner. For practical purposes, two files (male and female) are created for each of the services and the state QMA files and stored on magnetic tape.

REPORT CLASSIFICATION

A county group report for 1970 displaying MA population data is available using information extracted from the PUS itself. By applying appropriate growth rates, a county group MA report (Table 1.1) can be generated for a projected population. This report classifies individuals by geographic area, race, sex and age into the following availability categories:

- School Status
  - high-school graduate/non-high-school graduate
  - attending school/not attending school
- Military (high-school graduate/non-high-school graduate)
- Veteran
- Institutionalized

All of the categories are mutually exclusive; i.e., an individual is assigned to only one category.

Table 1.1

DISTRIBUTION OF MEMBERS OF MALE POPULATION WITHIN EACH COUNTY GROUP INTO AVAILABILITY CLASSIFICATIONS BY AGE AND RACE

USING ADJUSTED POPULATION AS OF JUNE 1977

COUNTY GROUP IS 101

RACE	AVAILABILITY CLASSIFICATION	17 YRS	18 YRS	19 YRS	20 YRS	21 YRS	22 YRS	23 YRS	24 YRS
WHITE	NON-HSG/IN SCHOOL	2751.	2848.	1106.	267.	0.	0.	0.	111.
	NON-HSG/NOT IN SCHOL	359.	443.	614.	467.	729.	262.	471.	445.
	NON-HSG SUBTOTAL	3110.	3291.	1720.	734.	729.	262.	471.	556.
	HSG/IN SCHOOL	0.	443.	1843.	2403.	2405.	1572.	336.	890.
	HSG/NOT IN SCHOOL	120.	380.	676.	734.	1020.	1179.	1682.	2446.
	HSG SUBTOTAL	120.	823.	2519.	3137.	3425.	2751.	2018.	3336.
	MILITARY/HSG	0.	0.	14.	31.	219.	196.	78.	26.
	MILITARY/NON-HSG	0.	15.	0.	0.	0.	0.	31.	0.
	MILITARY SUBTOTAL	0.	15.	14.	31.	219.	196.	109.	26.
	VETERANS	0.	0.	0.	114.	124.	149.	421.	696.
	INSTITUTIONALIZED	0.	0.	0.	0.	0.	66.	0.	0.
	RACIAL SUBTOTAL	3230.	4129.	4253.	4016.	4497.	3424.	3019.	4614.
BLACK	NON-HSG/IN SCHOOL	0.	0.	0.	0.	0.	0.	0.	0.
	NON-HSG/NOT IN SCHOL	0.	0.	0.	0.	0.	0.	0.	0.
	NON-HSG SUBTOTAL	0.	0.	0.	0.	0.	0.	0.	0.
	HSG/IN SCHOOL	0.	0.	0.	0.	149.	0.	0.	0.
	HSG/NOT IN SCHOOL	0.	0.	0.	0.	0.	0.	0.	0.
	HSG SUBTOTAL	0.	0.	0.	0.	149.	0.	0.	0.
	MILITARY/HSG	0.	0.	0.	11.	12.	11.	0.	0.
	MILITARY/NON-HSG	0.	0.	0.	0.	0.	0.	0.	0.
	MILITARY SUBTOTAL	0.	0.	0.	11.	12.	11.	0.	0.
	VETERANS	0.	0.	0.	0.	0.	0.	0.	0.
	INSTITUTIONALIZED	0.	0.	0.	0.	0.	0.	0.	0.
	RACIAL SUBTOTAL	0.	0.	0.	11.	162.	11.	0.	0.

Table 1.1 - continued

DISTRIBUTION OF MEMBERS OF MALE POPULATION WITHIN EACH COUNTY GROUP INTO AVAILABILITY CLASSIFICATIONS BY AGE AND RACE

USING ADJUSTED POPULATION AS OF JUNE 1977

COUNTY GROUP IS 101 (CONTINUED)

RACE	AVAILABILITY CLASSIFICATION	17 YRS	18 YRS	19 YRS	20 YRS	21 YRS	22 YRS	23 YRS	24 YRS
OTHER	NON-HSG/IN SCHOOL	0.	0.	0.	0.	0.	0.	0.	0.
	NON-HSG/NOT IN SCHOL	0.	0.	0.	0.	0.	0.	0.	0.
	NON-HSG SUBTOTAL	0.	0.	0.	0.	0.	0.	0.	0.
	HSG/IN SCHOOL	0.	0.	0.	0.	0.	0.	36.	0.
	HSG/NOT IN SCHOOL	0.	0.	0.	0.	0.	0.	0.	0.
	HSG SUBTOTAL	0.	0.	0.	0.	0.	0.	36.	0.
	MILITARY/HSG	0.	0.	0.	0.	0.	0.	0.	0.
	MILITARY/NON-HSG	0.	0.	0.	0.	0.	0.	0.	0.
	MILITARY SUBTOTAL	0.	0.	0.	0.	0.	0.	0.	0.
	VETERANS	0.	0.	0.	0.	0.	0.	0.	0.
	INSTITUTIONALIZED	0.	0.	0.	0.	0.	0.	0.	0.
	RACIAL SUBTOTAL	0.	0.	0.	0.	0.	0.	36.	0.
*SUMMARY	NON-HSG/IN SCHOOL	2751.	2848.	1106.	267.	0.	0.	0.	111.
	NON-HSG/NOT IN SCHOL	359.	443.	614.	467.	729.	262.	471.	445.
	NON-HSG SUBTOTAL	3110.	3291.	1720.	734.	729.	262.	471.	556.
	HSG/IN SCHOOL	0.	443.	1843.	2403.	2554.	1572.	373.	890.
	HSG/NOT IN SCHOOL	120.	380.	676.	734.	1020.	1179.	1682.	2446.
	HSG SUBTOTAL	120.	823.	2519.	3137.	3575.	2751.	2055.	3336.
	MILITARY/HSG	0.	0.	14.	41.	231.	208.	78.	26.
	MILITARY/NON-HSG	0.	15.	0.	0.	0.	0.	31.	0.
	MILITARY SUBTOTAL	0.	15.	14.	41.	231.	208.	109.	26.
	VETERANS	0.	0.	0.	114.	124.	149.	421.	696.
	INSTITUTIONALIZED	0.	0.	0.	0.	0.	66.	0.	0.
	GROUP SUBTOTAL	3230.	4129.	4253.	4026.	4659.	3435.	3056.	4614.

The QMA file is formed by applying qualification data to the MA file. Only individuals rated in mental categories I-IVC inclusive and also physically qualified are counted as eligible enlistees. Individuals belonging to the following groups are excluded from QMA counts:

- Institutionalized
- Military
- Veteran
- Mentally Disqualified (Mental Category V)
- Physically Disqualified

The QMA files retain data on all individuals, regardless of their physical or mental qualifications. However, QMA reports display data for only those candidates identified as qualified for military service. A report for a service recruiting area (Table 1.2) indicates the number of individuals by sex, race and eligible mental category for the following:

- State
- County
- Total QMA
- School Status
  - highest grade completed
  - attending school

ADDITIONAL REPORTS

The QMA file is versatile in that it permits the same group of individuals to be examined in several different manners. Using the qualified county group file, the number of available individuals by sex, race and age group (17-21 years) within each county group (Table 1.3) can be assessed for the following classifications:

- Mental and Physical Qualification
- School Status
  - highest grade completed
  - in school/not in school

Via a qualified county-service or county-state file, available individuals by sex, race and recruiting area/state boundaries (Table 1.4) can be examined for:

Table 1.2

QUALIFICATIONS OF AVAILABLE MALES BY COUNTY-GROUP (AGES 17- 21 INCLUSIVE) JUNE 77 PROJECTED POPULATION

COUNTY GROUP IS 101

RACE	AVAILABILITY CLASSIFICATION	MENTAL CATEGORY I	II	IIIA	IIIB	IVA	IVB	V	PHYSICALLY UNFIT	CLASS TOTALS
WHITE	NON-HSG/IN SCHOOL	325.	1528.	934.	923.	205.	259.	98.	2699.	6972.
	NON-HSG/NOT IN SCHOL	122.	573.	350.	346.	77.	97.	37.	1011.	2612.
	NON-HSG SUBTOTAL	447.	2101.	1284.	1269.	282.	356.	135.	3711.	9585.
	HSG/IN SCHOOL	331.	1555.	950.	940.	209.	263.	100.	2746.	7094.
	HSG/NOT IN SCHOOL	137.	642.	393.	388.	86.	109.	41.	1134.	2930.
	HSG SUBTOTAL	467.	2197.	1343.	1328.	295.	372.	141.	3881.	10024.
	RACIAL SUBTOTAL	914.	4298.	2627.	2597.	577.	727.	276.	7591.	19608.
BLACK	NON-HSG/IN SCHOOL	0.	0.	0.	0.	0.	0.	C.	0.	C.
	NON-HSG/NOT IN SCHOL	0.	0.	0.	0.	0.	0.	0.	0.	C.
	NON-HSG SUBTOTAL	0.	0.	0.	0.	0.	0.	C.	0.	C.
	HSG/IN SCHOOL	0.	0.	27.	54.	0.	13.	0.	55.	149.
	HSG/NOT IN SCHOOL	0.	0.	0.	0.	0.	0.	C.	0.	0.
	HSG SUBTOTAL	0.	0.	27.	54.	0.	13.	0.	55.	149.
	RACIAL SUBTOTAL	0.	0.	27.	54.	0.	13.	C.	55.	149.
OTHER	NON-HSG/IN SCHOOL	0.	0.	0.	0.	0.	0.	C.	0.	C.
	NON-HSG/NOT IN SCHOL	0.	0.	0.	0.	0.	0.	0.	0.	0.
	NON-HSG SUBTOTAL	0.	0.	0.	0.	0.	0.	C.	0.	0.
	HSG/IN SCHOOL	0.	0.	0.	0.	0.	0.	C.	0.	C.
	HSG/NOT IN SCHOOL	0.	0.	0.	0.	0.	0.	C.	0.	0.
	HSG SUBTOTAL	0.	0.	0.	0.	0.	0.	0.	0.	C.
	RACIAL SUBTOTAL	0.	0.	0.	0.	0.	0.	C.	0.	C.
*SUMMARY	NON-HSG/IN SCHOOL	325.	1528.	934.	923.	205.	259.	98.	2699.	6972.
	NON-HSG/NOT IN SCHOL	122.	573.	350.	346.	77.	97.	37.	1011.	2612.
	NON-HSG SUBTOTAL	447.	2101.	1284.	1269.	282.	356.	135.	3711.	9585.
	HSG/IN SCHOOL	331.	1555.	977.	993.	209.	277.	100.	2801.	7243.
	HSG/NOT IN SCHOOL	137.	642.	393.	388.	86.	109.	41.	1134.	2930.
	HSG SUBTOTAL	467.	2197.	1370.	1381.	295.	385.	141.	3936.	10173.
	GROUP SUBTOTAL	914.	4298.	2654.	2651.	577.	741.	276.	7646.	19757.
	% CTY-GRP POPULATION	4.5	21.2	13.1	13.1	2.8	3.7	1.4	37.7	97.3

FOR THIS COUNTY GROUP: NUMBER OF MALES NOT AVAILABLE= 540. TOTAL ALL MALES= 20297.

Table 1.3

DISTRIBUTION OF MILITARY AVAILABLE WHITE MALE POPULATION WITHIN EACH DRC INTO AVAILABILITY CLASSIFICATIONS BY AGE
SERVICE: ARMY

DRC IS 1A ALBANY

		HIGH SCHOOL GRADUATES							NON-HIGH SCHOOL GRADUATES (IN SCHOOL)						NON-HIGH SCHOOL GRADUATES (NOT IN SCHOOL)				
		TOTAL MA	% IN SCHOOL	17 YRS.	18 YRS.	19 YRS.	20 YRS.	21 YRS.	% SENIOR	17 YRS.	18 YRS.	19 YRS.	20 YRS.	21 YRS.	17 YRS.	18 YRS.	19 YRS.	20 YRS.	21 YRS.
ALBANY	NY	12997	70.5	263	863	2340	2154	2738	55.9	2157	1186	420	0	0	53	216	120	127	360
CLINTON	NY	4225	57.5	16	250	681	567	430	52.8	817	644	215	57	0	94	32	161	113	108
COLUMBIA	NY	1948	50.3	9	151	289	313	198	42.6	457	180	134	22	0	28	47	52	32	35
DELAWARE	NY	2308	53.4	11	103	266	337	397	54.3	497	302	143	0	0	45	51	45	41	70
DUTCHESS	NY	6636	53.4	0	397	1275	1191	530	53.1	1462	838	294	0	0	86	132	93	155	177
ESSEX	NY	1404	57.5	5	56	226	109	143	52.8	271	214	71	19	0	31	11	54	38	36
FRANKLIN	NY	2491	67.2	0	228	432	347	474	42.0	395	228	94	40	11	33	17	79	40	79
FULTON	NY	2204	57.5	8	151	355	296	224	52.8	426	336	112	30	0	49	17	64	56	56
GREENE	NY	1304	50.3	6	101	194	209	133	42.6	306	120	90	14	0	19	32	35	22	23
HAMILTON	NY	165	57.5	1	11	27	22	17	52.8	32	25	8	2	0	4	1	6	4	4
MONTGOMERY	NY	2402	57.5	9	165	367	323	245	52.8	464	366	122	32	0	54	18	92	65	61
OTSEGO	NY	3377	53.4	16	150	389	493	561	54.3	727	443	209	0	0	65	75	66	60	102
RENSSELAER	NY	8549	70.8	22	676	1530	1245	1235	54.7	1737	924	251	26	30	198	158	176	159	181
SARATOGA	NY	5136	70.8	13	406	919	748	742	54.7	1044	555	151	16	18	119	95	106	95	109
SCHENECTADY	NY	7200	70.8	19	570	1285	1048	1040	54.7	1463	779	211	22	25	167	133	148	134	152
SCHOHARIE	NY	1253	57.5	5	66	202	168	128	52.8	242	191	64	17	0	28	10	46	34	32
ULSTER	NY	5396	58.1	93	404	900	587	350	60.2	1137	714	291	28	0	162	95	371	168	95
WARREN	NY	2064	57.5	8	142	333	277	210	52.8	399	315	105	28	0	46	16	79	55	53
WASHINGTON	NY	2336	57.5	9	160	376	314	238	52.8	451	356	119	31	0	52	18	89	63	59
ADDISON	VT	1577	68.3	3	137	321	270	196	51.5	268	160	56	4	0	31	37	37	30	27
BENNINGTON	VT	1122	50.3	5	87	167	180	114	42.6	263	103	77	12	0	16	27	30	19	20
CHITTENDEN	VT	6446	68.3	14	559	1313	1105	801	51.5	1095	655	229	15	0	126	150	153	121	110
FRANKLIN	VT	1421	68.3	3	123	290	243	176	51.5	241	144	50	3	0	28	33	34	27	24
GRAND ISLE	VT	128	68.3	0	11	26	22	16	51.5	22	13	5	0	0	3	3	3	2	2
RUTLAND	VT	2239	68.3	5	194	456	384	278	51.5	380	227	80	5	0	44	52	53	42	38
TOTAL		86328	64.2	543	6263	14904	13033	11633	53.3	16755	10019	3602	424	85	1580	1476	2213	1705	2013

*** NUMBER OF COUNTIES IN THIS DRC IS 25 ***

THIS PAGE IS BEST QUALITY PRACTICABLE
FROM COPY FURNISHED TO DDC

Table 1.4

QUALIFIED MILITARY AVAILABLE CANDIDATES (MENTAL CATAGORIES I-IVC) BYORC AND COUNTY — PAGE 1
WHITE MALE ONLY (AGES 17-21 INCLUSIVE) FROM POPULATION PROJECTIONS 1977
SERVICE- ARMY

ORC IS 1A ALBANY

COUNTY NAME	S T	TOTAL QMA	% IN SCHOOL	HIGH SCHOOL GRADUATES MENTAL CATAGORY I	II	IIIA	IIIB	IVA	IVB-C	% SENIOR	NON-HIGH SCHOOL GRADUATES (IN SCHOOL) MENTAL CATAGORY I	II	IIIA	IIIB	IVA	IVB-C	NON-HIGH SCHOOL GRADUATES (NOT IN SCHOOL) MENTAL CATAGORY I	II	IIIA	IIIB	IVA
ALBANY	NY	7395	71.	447	2088	956	833	207	203	56.	202	939	446	376	93	90	47	217	104	84	21
CLINTON	NY	2495	58.	109	520	247	205	50	50	53.	57	453	214	182	43	41	28	134	60	56	6
COLUMBIA	NY	954	51.	33	200	104	92	18	25	44.	31	169	84	80	15	22	2	39	20	19	1
DELAWARE	NY	1332	53.	52	281	140	118	27	27	55.	48	238	118	99	23	23	6	62	36	34	0
DUTCHESS	NY	3400	54.	103	732	354	369	93	93	53.	78	557	274	286	73	73	20	138	68	72	17
ESSEX	NY	832	58.	37	174	84	66	13	13	53.	31	150	73	62	19	14	3	46	26	25	0
FRANKLIN	NY	1448	60.	87	308	170	154	34	30	43.	42	199	93	80	17	15	17	62	26	25	1
FULTON	NY	1284	58.	59	270	123	107	27	22	54.	51	236	111	96	19	19	17	69	29	26	1
GREENE	NY	662	51.	22	135	74	68	11	15	43.	22	110	59	53	11	14	2	25	19	18	0
HAMILTON	NY	54	63.	0	14	7	6	0	0	59.	2	15	5	5	0	0	0	0	0	0	0
MONTGOMERY	NY	1430	57.	64	297	143	117	30	29	53.	60	257	122	103	22	21	25	74	34	29	3
OTSEGO	NY	1926	53.	80	414	195	171	38	38	55.	68	347	166	146	32	32	17	93	40	39	2
RENSSELAER	NY	5005	71.	257	1212	572	479	124	115	54.	161	763	363	303	80	77	40	226	109	90	34
SARATOGA	NY	2582	71.	157	723	346	292	69	65	55.	100	455	221	181	42	41	34	130	69	55	2
SCHENECTADY	NY	4196	71.	213	1021	481	410	102	100	55.	135	643	303	256	62	59	36	191	90	75	19
SCHOHARIE	NY	725	58.	34	152	73	60	12	12	54.	28	131	67	52	12	12	3	34	26	17	0
ULSTER	NY	2612	58.	85	434	234	238	70	79	60.	80	405	221	224	63	72	34	163	89	89	32
WARREN	NY	1206	58.	55	253	121	101	22	22	53.	47	219	105	91	19	19	12	62	29	28	1
WASHINGTON	NY	1359	58.	60	285	137	110	29	27	53.	52	251	117	100	21	19	17	74	29	28	3
ADDISON	VT	815	70.	45	221	90	85	23	26	53.	23	116	47	47	13	14	2	45	9	9	0
BENNINGTON	VT	570	51.	19	115	64	59	11	14	44.	16	97	51	46	9	13	1	21	17	17	0
CHITTENDEN	VT	3459	68.	193	895	390	355	105	108	52.	105	468	203	189	55	57	41	159	67	55	9
FRANKLIN	VT	727	70.	40	200	77	74	19	23	53.	21	105	46	41	10	13	1	41	8	8	0
GRAND ISLE	VT	32	76.	1	14	3	3	0	0	55.	0	8	2	1	0	0	0	0	0	0	0
RUTLAND	VT	1176	68.	62	307	138	130	34	36	53.	34	160	70	68	19	21	6	49	21	21	0
TOTAL		48076	65.	2327	11349	5373	4702	1168	1172	54.	1534	7491	3581	3167	768	781	411	2154	1025	921	152

*** NUMBER OF COUNTIES IN THISORC IS 25 ***

THIS PAGE IS BEST QUALITY PRACTICABLE
FROM COPY FURNISHED TO DDC

- County of Residence
- School Status
  - highest grade completed
  - in school/not in school
- Age

The reports described address only the male segment of the population although similar reports are available for females. However, separate physical and mental qualifications by race are not available for females; instead, a single set of qualification rates per state for all females is used.

METHODOLOGY

Development of a file defining the QMA population by various geographic boundaries utilizes data from a variety of sources.

Data name	Purpose of data	Source of data
State Public Use Sample	Population counts	Bureau of the Census
County Group Public Use Sample	Population detail	Bureau of the Census
Cause of Death Summary	Mortality counts	Dept. of Health, Education and Welfare (HEW)
State Net Migration	Net mobility counts	Bureau of the Census
Net Migration of Population (1960-1970)	Detailed mobility counts	University of Georgia (UGA)
Basic Trading Area (BTA)	County information	IBM Corporation
First Exam Summary	Fitness	OASD, Manpower Research and Data Analysis Center (MRADAC)
Selected Manpower Statistics	In-service/veteran	OASD, Comptroller

Population counts by state, sex, and race for ages 0-24 are extracted from 1970 state PUS. Growth rates for these subpopulations are computed using mortality and mobility data. At the same time, the population counts are "aged"; i.e., the growth-rate procedure is repeated until data for the selected target year is obtained. Cumulative growth rates by state, age,

sex and race for 1970 to target year are determined. These are converted into county group cumulative growth rates which are applied to the detailed county group PUS extract file, resulting in an "aged" county group population file. The county group PUS extract file contains one record for every 50 people in the country and includes information relative to the individual's educational status, military status, residence, etc. A county group MA report is available from this file. The MA population file is then qualified using data MARDAC extracted from Armed Forces Qualification Tests (AFQT) performed at Armed Forces Entrance Exam Stations (AFEES) during FY72 and FY73. Qualification is achieved by determining the number of individuals within the county group in the following categories:

- Mental Category I
- Mental Category II
- Mental Category IIIA
- Mental Category IVA
- Mental Category IVB and IVC
- Mental Category V
- Physically Disqualified

No mental qualification ratings are available for those physically disqualified. Since manpower supply policy for the services has changed from draft-supported to voluntary enlistment, an attempt is made to decrease the size of the in-service/veteran pool. In addition, the ratio of male servicemen to total service personnel is also adjusted to reflect the increase of females in the military. Through the use of cross-reference files procured with OASD assistance, the county group QMA population file is converted to correspond with recruiting boundaries of the individual services. QMA reports by service boundary areas are generated from the file.

SYSTEM POTENTIAL

The GRC method of defining the QMA population is flexible and easily adaptable to policy changes, updated information and improvements. Use of QMA information is essential as a starting point in describing the recruiting marketplace. However, at present the system cannot measure

the propensity of a QMA individual to enlist, nor does it reflect the changing composition (by race) of the college attendee. Inclusion of such adjustments is not beyond the scope of the QMA projecting procedure. The versatility of the QMA file itself allows extraction of characteristics of the QMA candidate not yet examined.

Chapter 2

DESCRIPTION OF THE FILES

INTRODUCTION

Development of the GRC methodology for producing QMA projections is based upon data files from many sources, some of which can be updated at least annually. Most of the files that cannot be revised this frequently are derived from data collected during the decennial census. These more permanent files are classified as static files; the renewable files as updateable. Static files are normally large and more expensive to process. Updateable files, usually small and relatively inexpensive to process, are obtained from diverse sources.

STATIC FILES

General

The static file data collections are assembled by Federal agencies, universities, and commercial corporations and include:

- County Group Public Use Sample (PUS)[1/]
- State Public Use Sample (PUS)[1/]
- Basic Trading Area (BTA)[2/]
- Net Migration Estimates (UGA) 1960-1970 [3/]

County Group Public Use Sample File

The county group PUS, readily available from Bureau of the Census, comprises the population base for the development of the QMA. Two samples were used:

- 5 percent 1/100 Census Public Use Sample by County Group
- 15 percent 1/100 Census Public Use Sample by County Group

[1/] "Public Use Samples of Basic Records from the 1970 Census-Description and Technical Documentation," Bureau of the Census, Social and Economic Statistics Administration, U.S. Department of Commerce, April 1972.

[2/] Composite file of trading information produced by IBM from such sources as Dun & Bradstreet, etc.

[3/] Population-Migration Report, 1960-70, joint effort by U.S. Department of Agriculture and University of Georgia, University of Georgia Printing Department, Athens, Georgia, December 1975.

Each of these samples contains one record for every 100 people in the country. The 5 percent and 15 percent designations refer to the two separate long-form questionnaires used to query households. Combining these two files resulted in an output sample with one record for every 50 individuals in the entire country.

According to Census, doubling the sample size reduces the sampling error by 3/10 for data common to both input samples. These common data are pertinent to the current task. This large joint sample provides the lowest available level of aggregation and the maximum available demographic detail. This file contains data for approximately 408 county groupings. Useful information from the file includes the following detailed categorizations of the population:

- Institutionalized
- Veterans
- Military
- Maximum Level of Education Completed
- Presently Attending School

Other summary Census data are available in published form, but lack the aforementioned detail.

Since each of these Census samples contains approximately 2 million records, an extract of age groups (1-34 years) was provided to GRC by Westat, Inc., Rockville, Maryland. This extract contains three fundamental classes of data for each individual in this age group: data on the household in general, data on the head of the household, and data on the individual. The utilization of this Census extract reduced the number of records to be processed from approximately 4 million to about 1.5 million. Additionally, the size of the record length was reduced from 240 to 146 characters.

To further reduce the size of this county group file, a summary profile containing counts by age (17 through 24 inclusively) for the following categories is created:

- Age
- Sex
- Race (white/black/other)
- Census County Group
- Education Level (highest grade completed)
- In School/Not in School
- Institutionalized/Not Institutionalized
- In Service/Not in Service
- Veteran/Non-Veteran

State Public Use Sample File

The state PUS files, also readily available from Census, contain the same data as the 5 percent and 15 percent county group sample but aggregated at state level. These records are used to supply 1970 population counts by state, age (0-24 year old), sex (male/female) and race (white/black/other) for the development of growth rates. Data for individuals older than 24 years are eliminated from the sample. Originally, only the 15 percent 1/100 PUS by state was used. However, to improve reliability, the sample size was increased to 1/50 by the addition of a 5 percent 1/100 state PUS. The Bureau of the Census states that these two 1/100 samples are independent; observations by GRC support this. Addition of the second extract resulted in 420 (38 percent) fewer age, sex, and race subcategories having zero value. The improvement in the population counts is distributed as follows:

	Race	
Sex	Black	Other
Male	29%	42%
Female	26%	43%

In both the state and county group PUS extracts, individuals who are veterans and institutionalized individuals have been made mutually exclusive.

Limitations of Public Use Samples. The Bureau of Census admits that there are unavoidable errors in its samples, one of which is an overall undercount of 2.5 percent for its 1970 census. Attempts have been made by Census to estimate the distribution of components of this deficiency.[4,5/]

Population counts for white individuals less than 25 years old appear to be undercounted by approximately 2 percent; whereas counts for black males in the same age group have estimated undercounts as high as 19 percent. Since the actual number of individuals in a population base is important, it is desirable to make an adjustment for these estimated undercounts.

Basic Trading Area File

Data extracted from the BTA and UGA files are used to create a multipurpose file of county information containing data on male/female/white/black/other henceforth referred to as the MFWBO file. The BTA file contains the following information:

- State Name
- Trading Area Name
- County Federal Information Processing Standard (FIPS) Code
- County Land Area
- Total County Population
- County Black Population

Since original QMA development efforts were under the direction of the U.S. Army Recruiting Command, this original county information file was initially modified to reflect the splitting of counties in California between Army District Recruiting Commands (DRCs). This county apportionment in California necessitated the inclusion of six additional county entries (Table 2.1).

4/ "Estimates of Coverage of Population by Sex, Race, and Age: Demographic Analysis," Bureau of Census, 1973.

5/ "Population Estimates and Projections," Series P-25 #601, Bureau of Census, 1975.

Table 2.1

POPULATION APPORTIONMENT FOR SIX COUNTIES IN CALIFORNIA

County (DRC)	FIPS	Apportionment (percent)
Imperial (SA DRC)	06025	96
Imperial (PH DRC)	06026	4
Kern (LA DRC)	06029	9
Kern (Sacramento DRC)	06030	91
Los Angeles County (LA DRC)	06037	78
Los Angeles County (Santa Ana DRC)	06038	22
Mono County (LA DRC)	06051	69
Mono County (Sacramento DRC)	06052	31
Riverside (SA DRC)	06065	99
Riverside (PH DRC)	06066	1
San Bernardino County (LA DRC)	06071	15
San Bernardino County (Sacramento DRC)	06072	85

The following four additional changes were made to the BTA file:

1. Alaska's 29 entries in the original file were added together and entered in the new version as 02099.

2. Honolulu city was separated from Honolulu county and entered in the file as 15510.

3. Yellowstone National Park, Montana, is not included because its population is minimal with a high mobility rate and essentially zero death and birth rates.

4. Nansemond, Virginia (51123) was omitted and is not needed when dealing with 1970 PUS. Nansemond is part of Suffolk.

Recruiting station data for each service are made compatible with this file.

1960-1970 Net Migration Estimates File

The UGA file provides population and migration data at county, state,

divisional and regional levels by the following breakouts:

- Sex (male/female)
- Color (white/non-white)
- Age (16 age groups, ranging from '0' to 'over 75')

These data, exhibiting mobility trends for the years 1960-1970, are available on tape as well as hard copy. Because the non-white population is not separated into black and other racial components, minimal error and maximum benefit are anticipated if the state level aggregation by sex, color and age group of migration is used.

Population data (by county, sex, and color) from this file for this same period are used in conjunction with county population data from the BTA file to render county population counts by sex and race for all ages and for 17-24-year-olds. This more detailed county population information is recorded on the previously mentioned MFWBO file.

UPDATEABLE FILES

General

Equally important to the development of QMA projections are the updateable files. These changing files can reflect the most recent data available (annual mobility, annual mortality), policy revisions (changed service boundaries), or data improvements. Compared to the more permanent files mentioned previously, these files are smaller and more economical to maintain. They include:

- Cause of Death Summary
- Net State Mobility
- County - DRC Directory
- County - Recruiting Station (RS) Directory
- County - Naval Recruiting District (NRD) Directory
- County - Air Force Detachment (AFDET) Directory
- County - County Group Directory
- County - State Directory
- AFEES
- First Exam Summary File

Cause of Death Summary Tapes

Both mortality and mobility data are used in creating growth rates applied in aging the population at state level. "Cause of Death Summary" tapes, obtained from HEW, National Center for Health Statistics, contain recordings of deaths by state, sex, race, and 5-year age groups. Deaths under 5 years of age are recorded by single years. Mortality data for 3 years (CY70, CY72, CY74) are utilized to calculate death rates for each of these years. Data for individuals over 24 years of age are not processed.

Net Mobility

Net mobility count by state and county is obtainable annually from the Bureau of Census, Series P-25, "Current Population Reports." Complete data were available for 1973-1975 and estimates were made for migration in 1971 and 1972. The potential for using migration data at county level was examined but discarded because these data lack a breakout by age, sex, and race. It was felt such a deficit at county level would introduce more errors than similar deficits at state level. Utilization of UGA mobility data helps offset this limitation.

Directories

Six directories have been compiled so that "aged" qualified county group data can be mapped or reallocated to service recruiting area boundaries. Directories relating counties to service boundaries were obtained through the assistance of OASD. All files were adjusted manually until they were compatible with one another. Each directory is edited to eliminate all possibility of duplicate or missing entries. With the exception of Army DRCs and the six counties in California (Table 2.1), all recruiting area boundaries follow county boundaries. Since the apportionment in California is accomplished by a simple weighted average, the data for partial counties can rightfully be reaggregated to obtain whole county data. County-county group and county-state mapping are done in like manner.

AFEES First Exam Summary

Fitness data for qualifying the "aged" population are obtained from the MARDAC-prepared "First Examination Summary" file. This file, compiled annually, summarizes the results of AFEES testing and examinations by zip code. It also contains AFEES mental category testing results for those who are physically qualified for military service. No mental categories are available for individuals physically disqualified for military duty.

Initially only FY72 AFEES data were used. Rejection rates by state were based upon data for all individuals tested including volunteers, Peace Corps personnel, doctors, etc. After analyzing these data, a question arose regarding the most appropriate group with representative physical and mental attributes of the potential enlistee. OASD guidance was to use the pre-inductee group as most typical of the population at large. This choice reduced the sample to 37 percent of its previous size. To improve reliability, test results for FY73 AFEES pre-inductee testing were combined with FY72 data.

Further examination of initial test results indicated the acceptance/rejection rates of major urban areas (e.g., New York City area) were different than rates experienced in non-urban areas of the state. Because of these results and the fact that many DRCs are confined to major urban areas only, a refinement in the application of the AFEES data was made to break out these data for 77 geographical areas (i.e., 51 states and 26 urban areas) rather than by state only (Table 2.2).

The separation was accomplished by a manual search of zip codes in the states involved to determine zip codes belonging to the selected metropolitan areas. In those cases where urban areas exist in a given state, the urban area is broken out separately from the remainder of the state.

Table 2.2

LIST OF MAJOR URBAN AREAS BROKEN OUT FOR AFEES TEST RESULTS APPLICATION

Census County Group Number	City and County	State
403	Middlesex, Boston	Massachusetts
801	Niagara, Erie	New York
1301	Kings	New York
1302	Manhatten	New York
1303	Queens	New York
1304	Richmond	New York
1305	Bronx	New York
1306	Nassau	New York
1307	Suffolk	New York
1308	Westchester, Rockland	New York
1309	Ulster, Sullivan, Orange	New York
1310	Putnam, Dutchess	New York
1406	Philadelphia	Pennsylvania
6202	Pittsburgh, Allegheny	Pennsylvania
6304	Cleveland, Cuyahoga	Ohio
6601	Detroit, Wayne	Michigan
7201	Chicago, Cook	Illinois
11301	Dallas, Denton, Collin, Ellis, Kaufman, Rockwell	Texas
12502	Houston, Galveston, Montgomery, Liberty, Harris, Ft. Bend, Brazoria	Texas
12601	Bexar, San Antonio, Guadalupe,	Texas
13501	King, Pierce, Snohomish	Washington
14201	San Diego	California
14301	Los Angeles	California
14302	Orange	California
14702	Alameda	California
14706	Santa Clara	California

Chapter 3

GROWTH RATES

INTRODUCTION

The decennial census will supply a new base population count every 10 years; in the meantime, to compensate for demographic changes in the 1970 base population over the intervening years, a system of "aging" the 1970 population has been devised. Since births only assure the oncoming supply of people, they are not needed or considered in this procedure. The normal processes affecting population counts in an area are deaths and migration.

The input files used are:

- "Cause of Death Summary"
- "Net Migration of the Population 1960-1970"
- State Net Migration
- State PUS Extract

The output files are:

- Aged State Population
- State Cumulative Growth Rates

The general procedure for creating annual state growth rates by sex, race (white/black/other) and ages (0-24 years) is shown in Fig. 3.1.

MORTALITY DATA

General

Mortality data utilized in this process are derived from "Cause of Death Summary" tapes. Files were obtained for CY70, CY72 and CY74 which would display any existing death trends. Each file record contains deaths for 5-year age groups (single years under 5 years of age) by:

- State
- Sex
- Race
- Cause of Death

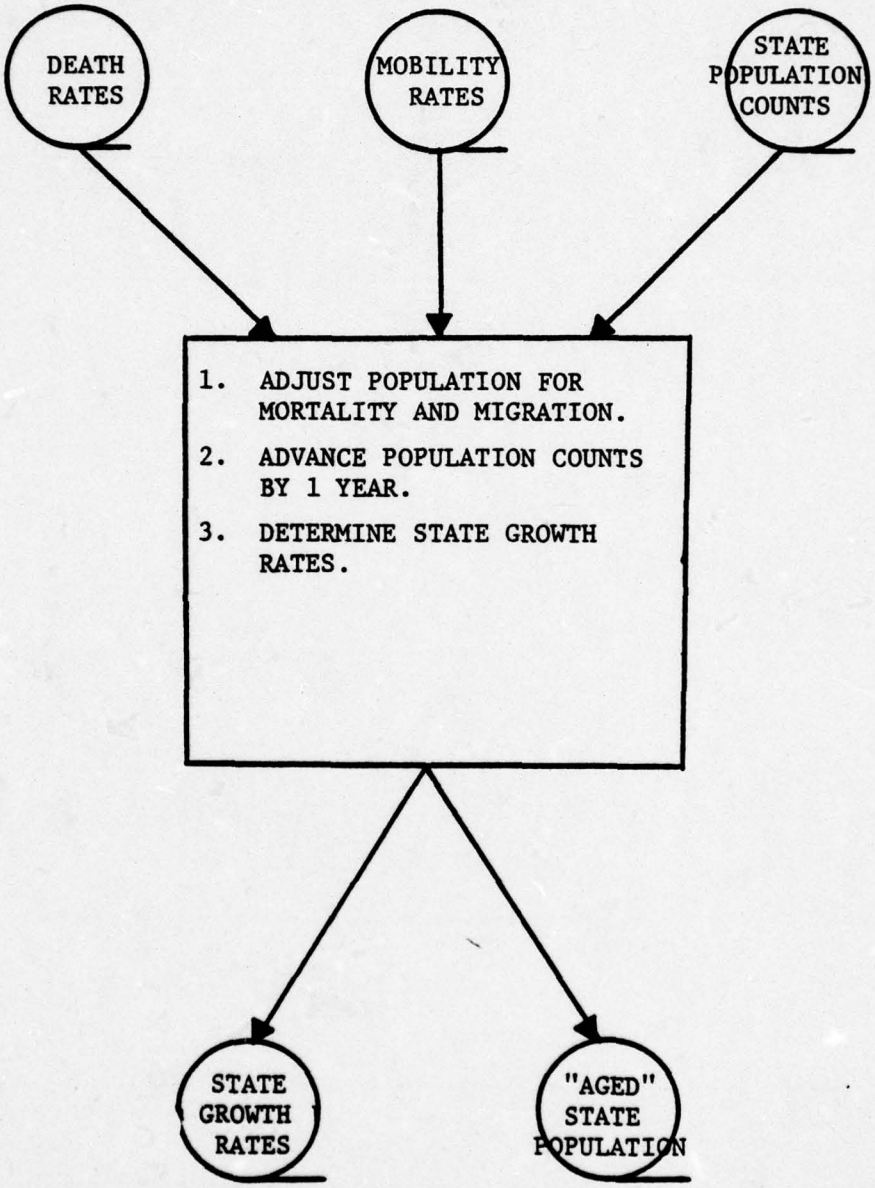


Fig. 3.1 - Creation of Annual State Growth Rates

Methodology

Records are aggregated by state, sex, race and age groups through age 24. Cause of death is ignored. Deaths for the following age groups

- 5-9 years
- 10-14 years
- 15-19 years
- 20-24 years

are distributed equally among all ages within that age group. The investigators recognize that a uniform relationship for deaths most likely does not exist within these age groups. However, the only other option for acquiring number of deaths by separate age, sex, race and state is to process the HEW "Detail" mortality tapes of individual deaths. The detail file is more than 1000 times the size of the "Cause of Death Summary File."

Death rates for a given year by state, age (0-24), sex, and race (white/black/other) are computed by the simple division of number of deaths per category divided by population in that category (Fig. 3.2). In cases where there are zero deaths or zero population, smoothed estimates of the death rate data are obtained by fitting the estimated values to marginal sums.[6/]

The estimating formula used reduces to the following expression:

$$\text{Estimated Death Rate} = \left[\sum_{\text{race}=1}^{3} \text{deaths (race)} \Big/ \sum_{\text{race}=1}^{3} \text{population (race)}\right] * \left[\sum_{\text{age}=K+1}^{25} \text{deaths (age)} \Big/ \sum_{\text{age}=K+1}^{25} \text{population (age)}\right] * \left[\sum_{\text{sex}=1}^{2} \text{deaths (sex)} \Big/ \sum_{\text{sex}=1}^{2} \text{population (sex)}\right] * \left[\sum \text{population (age, sex, race)} \Big/ \sum \text{deaths (age, sex, race)}\right]^2$$

where K is the youngest age in the population.

Since no mortality data are on hand for CY71 and CY73, death rates for the previous year are substituted in the CY71 and CY73 growth rate calculations. For years following 1974, the average death rate (for the three years) is used.

[6/] Mosteller, Frederick, "Association and Estimation in Contingency Tables," Journal of the American Statistical Association, Vol 63, March 1968.

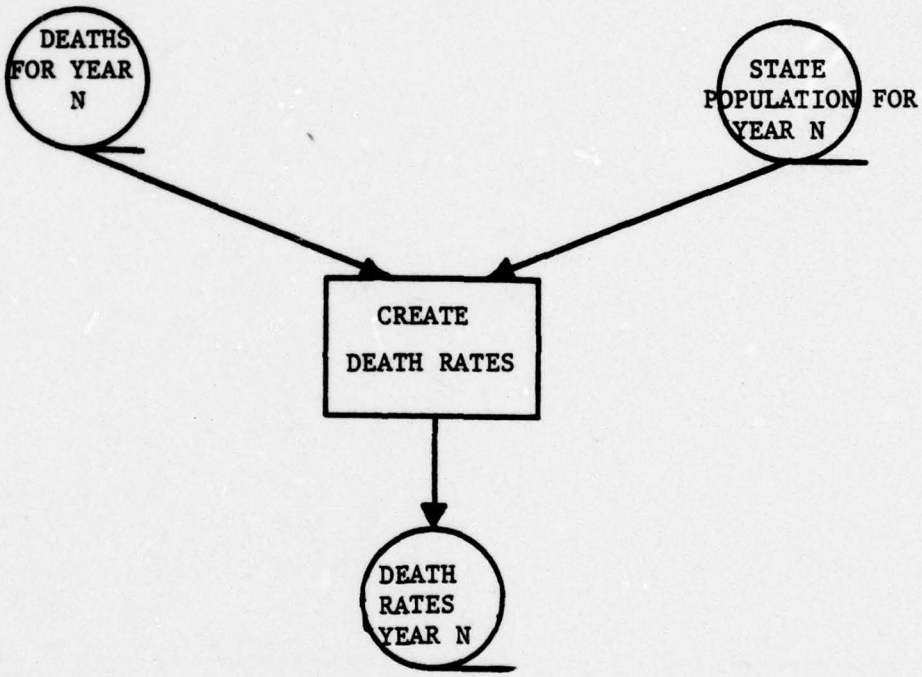


Fig. 3.2 - Creation of Annual State Death Rates

Special Considerations

The "Cause of Death Summary" file requires a preprocessing edit to verify that a record exists for each state, sex, and race. In incidents where a record is lacking, the necessary record is created and zero filled for each age group.

MOBILITY

General

Earlier attempts by GRC to "age" state populations used a derived percentage of the 1970 Census population of each state as a mobility contribution. Basic data, at county level, obtainable annually from Bureau of the Census, Series P-25 and P-26, "Current Population Reports," were aggregated to state level. This mobility estimate is not defined for specific age, sex and race subcategories.

Recently available mobility data by age, sex, and color from the "Net Migration of the Population, 1960-70" University of Georgia (UGA) better illustrate the mobility characteristics associated with a state (see Fig. 3.3). Identifying patterns of mobility in a state enhances the reliability of subsequent population projections. The importance of age distributions of people moving per state is not hard to visualize when, for example, one considers the influx of retired people into the "sun-belt" states. However, examination of state mobility distributions of possible OMA candidates reveals surprising movement of the younger age groups about the 51 states (District of Columbia is treated as a state).

GRC's current method for developing mobility rates uses a combination of both the annual state net migration count from Census and the more detailed UGA data. This technique provides detailed mobility rates by state, age (1-25 years), sex (male/female), and race (white/black/other).

Methodology

Since the GRC method for aging population is done at state level, and the UGA data at state level reveal the inward and outward movement of its subgroups as well as its net migration, development of mobility rates was

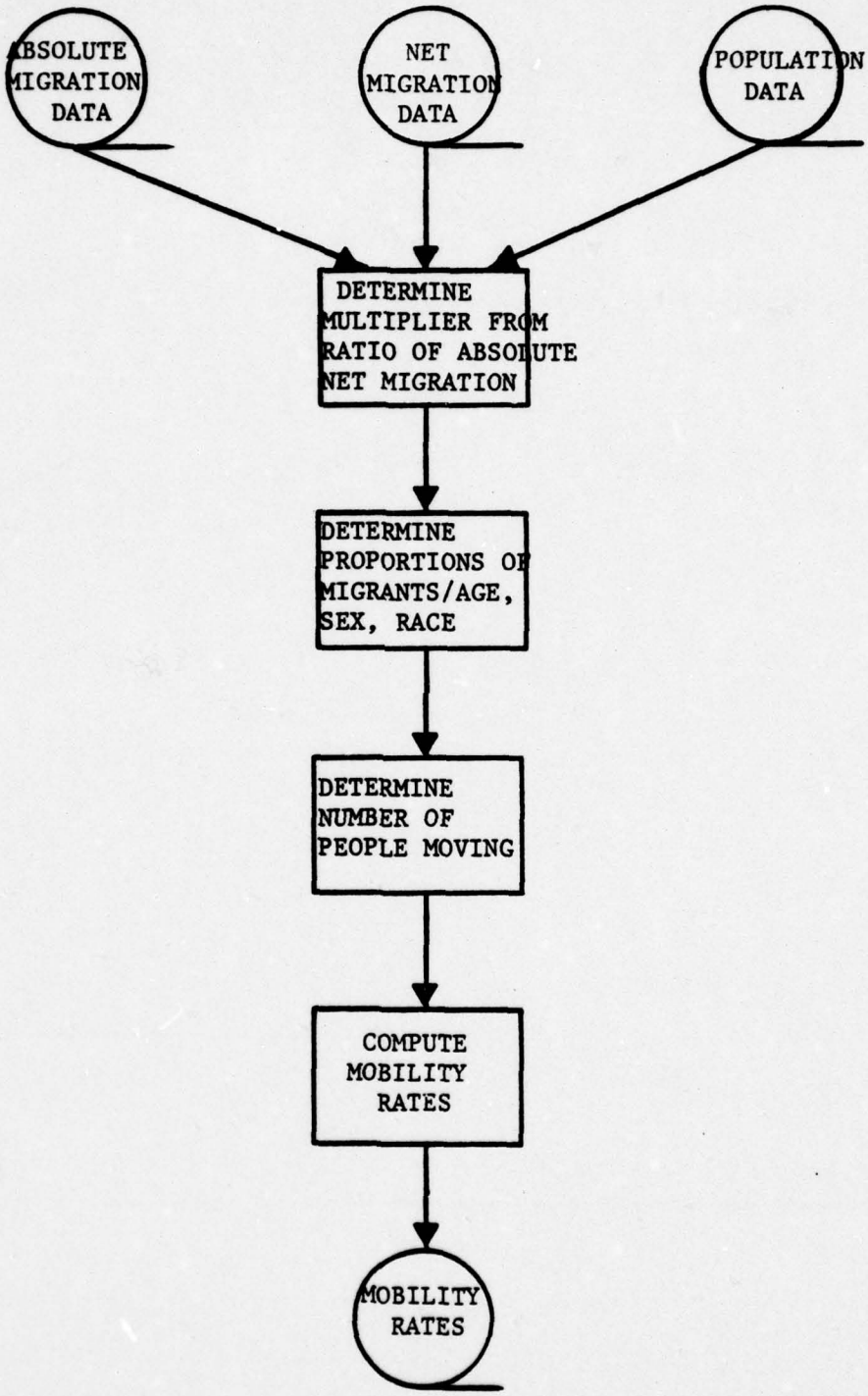


Fig. 3.3 - Determination of Annual Mobility Rates

elevated to state level. If the UGA data at county level were used and then aggregated to state level, little or no benefit is gained. Conversely, existing errors might be magnified and new errors introduced.

On comparing the state total (M) of the absolute values for counts of the subpopulations moving to the yearly net state migration count (N), vast differences can be seen between the two partitions. Obviously, M can never be less than N. If M and N are approximately equal, it can be surmised that there is little positive and negative counterbalancing of contributions to the net N from the subpopulations. If there is a large difference between the absolute values of N and M, wide variations of positive and negative values contributing to N must be present. Thus, the relationship between these two aspects of state migratory populations demonstrates to a degree some of the inward and outward mobility among subpopulations. This absolute-net relationship for a state is incorporated into a multiplier according to the association of a subpopulation's contribution to the net state mobility. This multiplier can assume either of two computed values per state, depending on whether or not its subgroup adds or subtracts from the net migration for the state. By applying racial proportions derived from the MFWBO county information file, the migration counts for non-white subgroups are apportioned to black and other racial subgroups. Proportions of migratory subpopulations belonging to M are then computed.

The number of people moving per age group, state, sex, and race is computed using the multiplier (i.e., the proportion of subgroup to total absolute migration) and the net state migration count. A more detailed explanation of and justification for determining the number of individuals moving is presented in Appendix A. Migration activity for an age group is distributed equally among all ages within the age group. The investigators realize a lack of uniformity in this distribution and use this method only for lack of a better one. The computation of the mobility rate is straightforward, i.e., for a given age, sex, race, and state.

$$\text{Mobility Rate} = \frac{\text{Number of People Moving}}{\text{Total Population}}$$

Because of the nature of the original mobility data, there are few incidents of unrealistic mobility rates. Most of these occur in circumstances of zero population counts. Satisfactory smoothing of the mobility rates cannot be accomplished without a programming effort far exceeding its resultant value.

For a given Census-derived file, the multiplier and mobility proportion by state, age, sex and race remain constant until the next decennial file is available. The mobility rates are dependent upon the annual state net migration count from Census, and changing state population counts as aged from the PUS extract. Thus, mobility rates may be easily updated.

Mobility patterns are affected by economic, social and political events. Rather than average mobility rates for the years 1971-1975 when there were more pressures on mobility than currently exist, 1975 mobility rates alone are used in projecting populations beyond 1975.

Special Considerations

During 1960-1970, the State of Wisconsin experienced so much inward and outward mobility among its subpopulations that the multiplier created using the absolute total to the net mobility was impractical. Its use in further computations produced unrealistic results. In place of this faulty ratio, the average value of this ratio for the remaining states was substituted with reasonable results.

The fact that the UGA file contains mobility data for a ten-year period can camouflage the turbulence in mobility rates for small segments of the population. This phenomenon first appeared among the sparsely populated "other" racial group in Rhode Island. It resulted in outward mobility rates greater than 100 percent. When the lower limit of mobility rates was restricted to -100 percent, reasonable results were obtained.

With these modifications, the mobility rates as now computed reflect better the ongoing population changes. Whereas previously all individuals in the State of Georgia were assigned a mobility rate of 0.0052 for the year 1975, not a single Georgia male subpopulation is now so rated.

AGING STATE PUBLIC USE SAMPLE

General

In order to arrive at a projected population for a given time, an established population base must be found and then "aged" to the current date of interest. Since the most accurate country population profile is the 1970 decennial nationwide census, this source, in the form of state PUS sample, was selected to be the population base for future extrapolation. The base year population profile contains demographic data at state level and is aged or updated to the current time of interest. Factors to be considered in "aging" the decennial census are:

(1) change in the 0-24 year old population due to variations in population counts for each age group;

(2) changes caused by mortality effects;

(3) changes caused by mobility effects.

Methodology

Mortality (death rates) are converted to "survival rates" by subtracting the death rate from 1.0 to determine one population remaining for each state, age, sex and race.

Mobility rates for each state, age, sex, and race are added to 1.0 (with positive or negative deviations from 1.0 possible) to become "adjusted mobility rates."

For a given year, the population for a particular state, age, sex and race subgroup is aged by multiplying the count of its individuals by the "survival rate" and "adjusted mobility" rate for that particular subgroup. This new count is then advanced one year to become a year older in the new population file. No smoothing of adjustment is attempted on the newly created population file.

CREATION AND ACCUMULATION OF STATE GROWTH RATES

General

Projecting the 1970 census state population requires a yearly "aging" process until the state population for the target year is obtained. This "aging" process is discussed in the previous section. At the same time,

growth rates by state, age, sex and race are computed and saved to be converted into cumulative growth rates (see Fig. 3.4).

Methodology

Growth rates are determined not for a single group of individuals as it progresses through the age array but for a particular age group itself, irrespective of the individuals composing the group. For instance, the growth rate for 17-year-old male blacks is computed by dividing this year's 17-year-old black male count by last year's 17-year-old black male count.

Again, when population counts are zero for a subpopulation (especially in "other" racial categories), unreasonable growth rates can be generated. Smoothing of the growth rates using a technique similar to that used for death rates is applied.

After the population has already been aged, growth rates for only 17-24 year-olds are retained on magnetic tape. When all the necessary yearly data have been processed, cumulative growth rates by state, age, sex and race for the projected year are computed by multiplying the yearly growth rates from the base to target years.

Special Considerations

Smoothing of the growth rates does not completely remove the spurious numbers caused by sparse populations in the subgroups. A second accommodation is made by adjusting the modified growth rates to the state maximum/minimum value of all state growth rates derived from actual data.

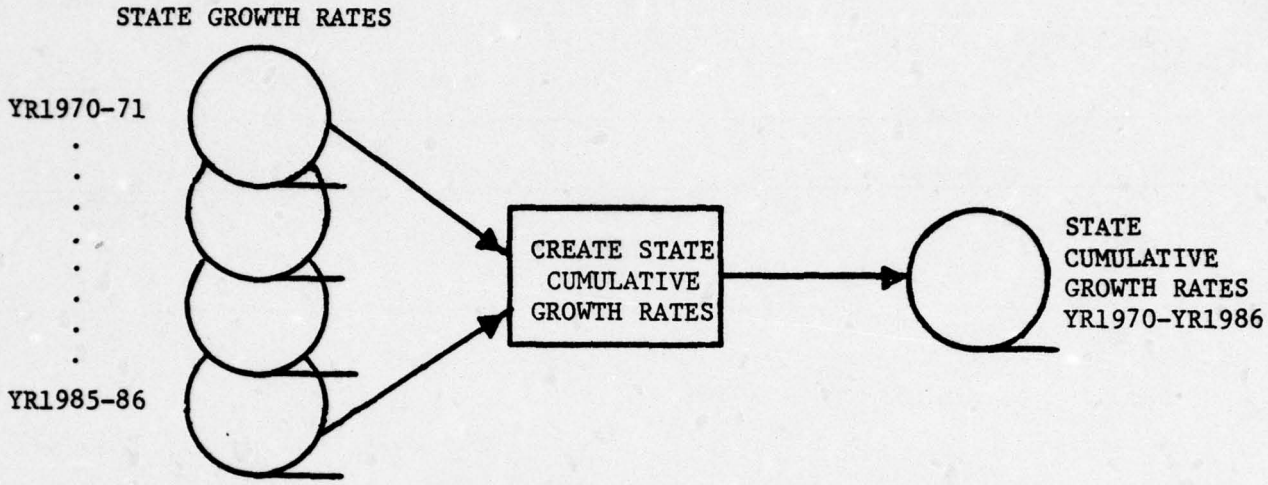


Fig. 3.4 - Creation of State Cumulative Growth Rates

Chapter 4

DEVELOPMENT OF MILITARY AVAILABLE PROFILE

INTRODUCTION

Establishment of a baseline for the development of MAs requires a large national sample with maximum detail. The 1970 county group PUS extract contains sufficient detail as is for producing the MA file for 1970. Applying growth rates to this PUS file to "age" its population can give rise to projected MA files. Since this county group data is aggregated at the lowest reliable geographic level, it can be converted to other arbitrary geographic boundaries through the use of directories or mapping devices. Additional MA files can include:

- Army - DRC MA File
- Navy - RS MA File
- Air Force - DET MA File
- Marine Corps - MA File
- State - County MA File

Input files for this phase are:

- State Cumulative Growth Rates
- County-Group PUS Extract
- County-County Group Directory
- County-FIPS Directory
- Other Directories

Output files are:

- Aged County-Group Population
- Aged Populations by Other Geographic Boundaries

CONVERSION OF STATE GROWTH RATES TO COUNTY GROUP GROWTH RATES

General

Since the county group PUS extract affords maximum detail at the lowest level, the most beneficial data for describing a population can be obtained by aging this sample to the target year. To accomplish this task, the state growth rates by age (17-24 year only), sex (male/female) and race (white/black/other) are converted to county group growth rates for the same subcategories.

Methodology

Conversion of the state growth rates to county group growth rates is accomplished with the aid of two cross-reference directories, the county-county group file and the county-state file (see Fig. 4.1). The commonality between files is the FIPS code denoting each state and county. The transformation is performed by a simple weighted average calculation based upon total populations.

Special Considerations

Initially, population resolution was not available by state, age, sex and race. It is now available, but has not been fully implemented.

CREATION OF MA FILE BY COUNTY GROUP

General

Once the MA file for a target year is created, reports displaying the number of individuals potentially available for military service can be generated. The MA figures are computed by simply applying the cumulative county group growth rates to the county group PUS extract.

Methodology

Application of the county group growth rates to the county group population by age (17-24 years), sex (male-female) and race (white/black/other) is a straightforward multiplication of the total county group population by its associated growth rate. Because of the numerous combinations of unique characteristics among the 3 million people comprising this group, the MA file contains approximately 250,000 records.

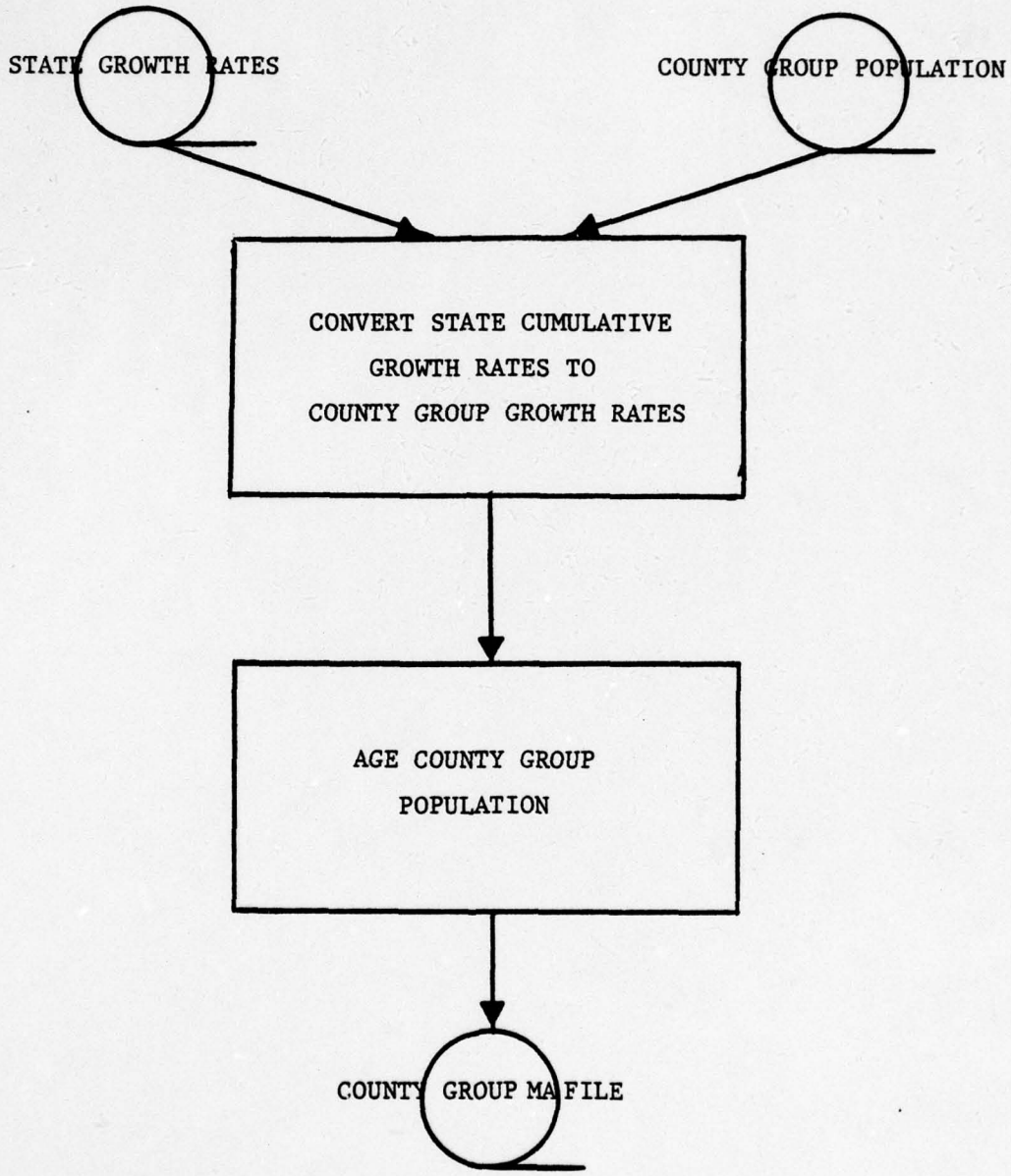


Fig. 4.1—Development of County Group MA File

CONVERSION OF COUNTY GROUP MA TO ARBITRARY BOUNDARIES

General

Mapping the county group MA file to files based on different geographical boundaries allows the option of examining manpower available to various recruiting organizations.

Methodology

Through the use of cross-reference directories for county/county group and recruiting district/county group, MA files by military service can be created. Population distributions in the partitioning directories are based upon 1970 population counts. More county groups than other geographical subsets exist in these files. After transformation into other boundary groups, the file must be sorted and then aggregated into the fewest records possible having unique characteristics. Records for individuals not available to the military, i.e., veterans, in the military now, or institutionalized, are maintained on the file. MA reports are available at this point.

Special Considerations

For efficiency, this step can be bypassed. MA files by service are used only in generating the MA report by service. The same report can be obtained from the service QMA files which are created from the county group QMA, which in turn is created directly from the county group MA.

Chapter 5

DEVELOPMENT OF THE QMA FILE

INTRODUCTION

Better definition of the physical and mental characteristics of the MA population aids planning by recruiting organizations. GRC endeavors to create an improved description of the potential enlistee in a target year by applying qualifying criteria to an aged county group sample. This enhanced sample, the QMA file, can be used to display MA and/or QMA information for the selected year.

REGIONAL FITNESS PROPORTIONS

General

Rejections for military service is based upon physical disqualification and/or mental disqualification (Mental Category V). Candidates for service taking the eligibility tests at AFEES and not rejected are accepted, and their mental test scores recorded. No mental test scores are available for physically disabled individuals. Fitness proportions based on AFEES First Exam Summary data are developed to help define the QMA individual.

Methodology

Counts of individuals (male-white, male-black, male-other, and all females) by state are made from the 1972 and 1973 AFEES summary test data. The classifications used are:

- Mental Category I
- Mental Category II
- Mental Category IIIA
- Mental Category IIIB
- Mental Category IVA
- Mental Category IVB and IVC
- Mental Category V
- Physically Disqualified

Tallies of these classifications for the four race-sex groups are made for all pre-inductees nationwide.

A national average proportion for each classification within a race-sex group is computed and saved. By state, proportions for each classification within a race-sex group are computed. If, within a race-sex group, there is not an average of at least one individual in each classification, the average proportions for that race-sex group from the national tally are substituted. Twenty-three substitutions of group averages were required because of inadequate data. A total of 735,713 records from FY72 and FY73 pre-inductee testing were processed with less than 8 percent rejected for faulty data.

VETERANS' ADJUSTMENT

General

Changes in manpower supply policy from draft-oriented to volunteer enlistment necessitate adjustments to the 1970 county group population data base. The resultant size of the military force has been decreasing since 1970 (Table 5.1).

Table 5.1

ACTIVE DUTY MILITARY PERSONNEL[1/]
(Total DOD)

Date	Force Size	Annual Decrease percent
30 June 1970	3,066,294	
30 June 1971	2,714,727	11.5
30 June 1972	2,323,079	14.4
30 June 1973	2,252,810	3.0
30 June 1974	2,162,005	4.0
30 June 1975	2,128,120	1.6

This decrease in the size of the military will cause a decline in the 17-24 year-old veterans' population.

[1/] Source: Selected Manpower Statistics, Department of Defense, OASD (Comptroller), Directorate for Information Operations and Control, June 1976.

Along with the decline in the size of the military, the male-female composition of the forces has changed as shown in Table 5.2.

Table 5.2

MALES AS A PROPORTION OF TOTAL MILITARY FORCE[1/]

Date	Force Size	Total Males	Male Total percent
30 June 1970	3,066,294	3,024,815	98.6
30 June 1975	2,128,120	2,031,785	95.0

This alteration in composition necessitates a second adjustment to the 1970 base population.

Methodology

Since the decline in force size appeared to be leveling at 3 percent per year (1973-1975 average), the adjustment for the declining veterans' population is set at 0.97. This adjustment reduces the projected veterans' pool, which otherwise would be overestimated to a more reasonable level.

As stated previously, in 1975 males represented 95 percent of the military. However, the continuing decline in overall force size requires a second adjustment to this male-total ratio, an adjustment to compensate for the declining total number of individuals in service. The male-total ratio reduces to

$$(0.95)(0.97) = 0.92$$

This new ratio is used in computing the number of in-service males from the total military force size in the previous year.

These adjustments are made by accumulating current veteran, in-service, and other counts by sex, race, and county groups. Through the use of state population marginals, the total population count is preserved but reapportioned to reflect the declining in-service individuals and changing sex

[1/] Source: Selected Manpower Statistics, Department of Defense, OASD (Comptroller), Directorate for Information Operations and Control, June 1976.

ratio. These proportions by sex and race are used to adjust the in-service, veteran, and other populations on the aged county group file. All data for a county group are accumulated into a single record by male-white, male-black, male-other and females of all races.

REGIONAL FITNESS TO COUNTY GROUP FITNESS PROPORTIONS

General

Eligibility for military service is dependent upon the individual's mental and physical qualifications as well as his/her availability. Qualifying data extracted from AFEES Test Summaries (1972 and 1973) are by 51 states and 27 urban areas; whereas the availability (namely, veteran's status, attending school, etc.) is by county group (from PUS). These two sources are combined into a record of proportions of fitness by county group.

Methodology

Regional fitness rates by age, sex and race are converted into county group fitness rates through the use of the county-county group directory. The in-service, veteran correction is then applied to the newly created county group fitness by male-white, male-black, male-other and all females combined.

CREATION OF QUALIFIED COUNTY GROUP POPULATION

General

Qualification of the aged county group population through application of the county group fitness criteria creates a qualified population at lowest defined geographic level for a selected year. In future projections, qualification or fitness proportions can remain unchanged, whereas the yearly number of 17-24 year-olds in each age group can vary. Improving qualification data or revising veteran, in-service ratios creates new qualifying data to be applied and is desirable.

Methodology

Qualification of a county group population is accomplished by application of its county group fitness proportions to the total weight of individuals

with a unique combination of characteristics (educational level, military status, age, sex, race, etc.). Every record for a race-sex subgroup within a county group has the same set of qualifications applied, i.e., the same individual proportions for mental categories, I, II, IIIA, IIIB, IVA, IVB, and V, and the same rate of physical disqualification. Application of appropriate fitness shares to all county group records produces a qualified population file from which MA/QMA reports can be generated (Fig. 5.1).

Special Considerations

The base point from which the QMA data are derived is the Bureau of Census PUS by county group. Puerto Rico and the Virgin Islands are not included in this sample. Likewise, age, sex and race population counts for these islands are not available on state Census tapes for the automatic "aging" cycles. Additionally, mortality data for these areas are not provided on the "Cause of Death" summary tapes. In short, it is believed that estimates of the San Juan DRC QMA profile can more efficiently be estimated manually and added as a supplement to the QMA report.

An estimate of the FY77 QMA profile for the San Juan DRC is provided below.

FY77 17-21, Male

	Population	MA	QMA
Puerto Rico	173.0 K	169.0 K	92.0 K
Virgin Islands	4.3 K	4.2 K	2.3 K
Total	177.3 K	173.2 K	94.3 K

CREATION OF QUALIFIED STATE/COUNTY POPULATIONS

General

Conversion of a qualified county group population to qualified county-state population produces a more flexible QMA file. In order to reduce the county-state file to a more practical size for future report writing, separate county-state files by sex are created and excess records eliminated.

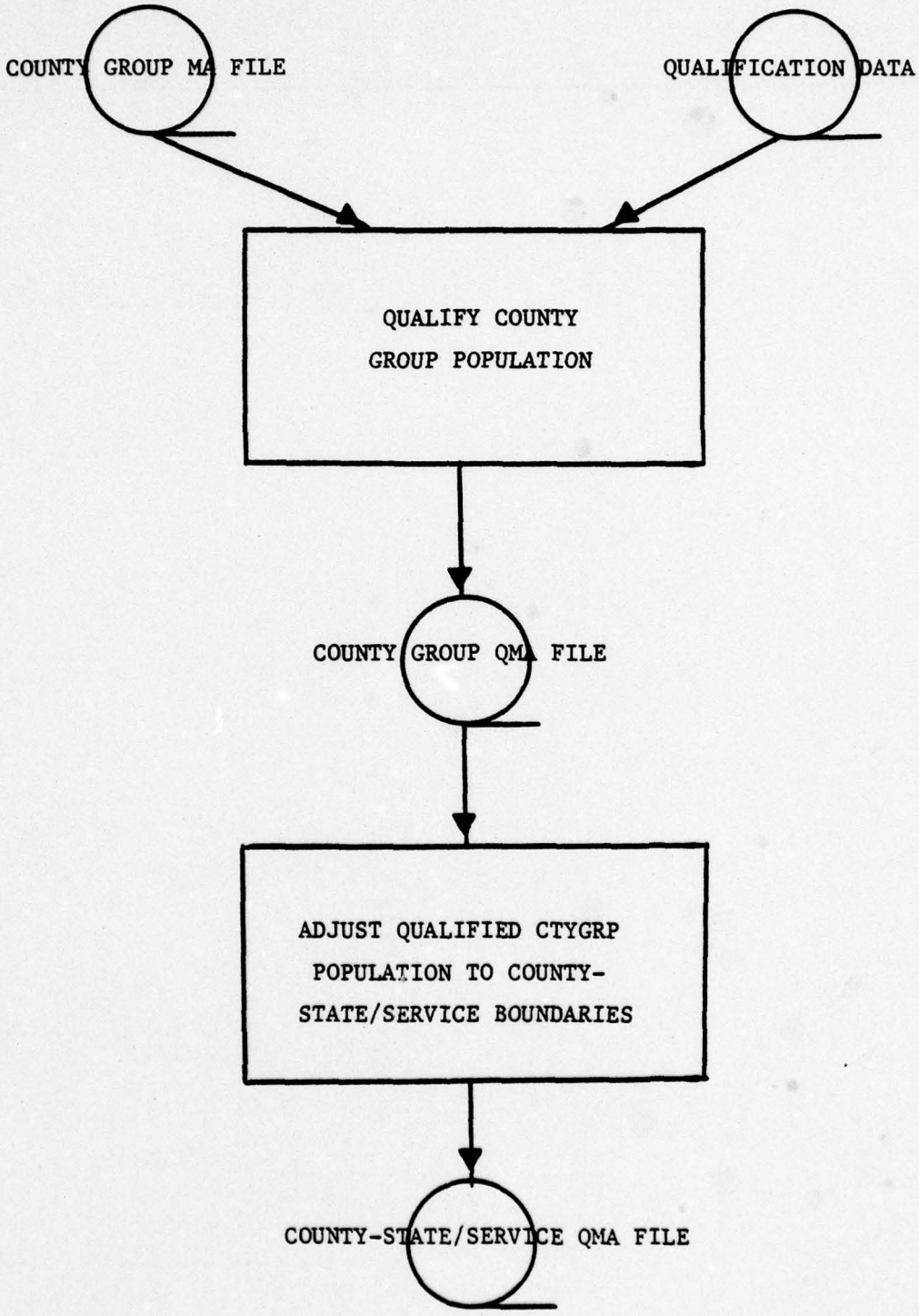


Fig. 5.1—Development of QMA Files for County Group and County-State/Service Boundaries

Methodology

County group QMA data is apportioned to a county-state QMA file through the use of a county proportion file. Since the number of counties in the country is almost eight times the number of county groups, steps are taken to reduce the size of the state-county QMA, namely;

(1) separate files are created for males and females, and

(2) individuals between 22-24 years of age are not included.

Still, there is a six-fold increase in file size for the selected individuals. The new file is sorted by county and state for further aggregation.

QMA FILES BY ARBITRARY BOUNDARIES

General

While the state-county QMA file is useful, a QMA file prepared by the arbitrary boundaries for a particular branch of the military is more functional and convenient.

Methodology

Conversion of state-county QMA data to that complying with the recruiting area boundaries for a service is done in the same manner as the conversion from county group. Each service has a directory matching FIPS codes to recruiting districts. Through the FIPS code the county-state data is transformed to service recruiting boundaries and sorted by all elementary fields. The service QMA file is ready for report generating.

Chapter 6

MA AND QMA REPORTS

INTRODUCTION

The MA and QMA files are used to produce the MA and QMA reports. These reports, enumerating "military available" and "qualified military available" individuals, can be created for the following categories:

- Geographic
  - County group boundaries
  - County boundaries
  - State boundaries
  - Census region boundaries
  - Recruiting area boundaries
  - Recruiting region boundaries
- Sex
  - Male
  - Female
- Age
  - Any age between 17 and 24, inclusive
- Race
  - White
  - Black
  - Other
- Qualification Rating
  - Mental Category I
  - Mental Category II
  - Mental Category IIIA
  - Mental Category IIIB
  - Mental Category IVA
  - Mental Category IVB
  - Mental Category IVC
  - Mental Category V
  - Physically disqualified

Since both files contain records for all individuals, regardless of their physical or mental disqualification, one has the capability of examining (using the QMA file) the number and location of the unqualified individuals as well as the qualified ones.

Flexibility of the file structure allows the creation of more definitive reports than the ones included here. For instance, the insertion of a simple data selection screen in a computer report program to specify only high school seniors in a projection year can give a more in-depth examination of these particular candidates.

Four typical reports are discussed here. These reports do not demonstrate the full versatility of the MA and QMA files. Rather, they illustrate some of the more important facets of the "marketplace" containing the potential enlistee.

COUNTY GROUP MA REPORT

This report (Table 6.1), created from the MA files gives a profile of the whole field of potential candidates viewed at the most elementary level of detailed census data. Reports can be generated from the base file (1970) or from a file projecting a future population.

Counts by sex, age, and race for available individuals in each county group are broken out according to highest educational level achieved and whether or not attending school. Counts of individuals with the same demographic traits in the nonavailable categories (institutionalized/in military/veteran) are presented also. Data for each county group are summarized.

QUALIFICATION MA REPORT

This county group MA report (Table 6.2), created from the QMA file, shows the mental and physical qualifications of individuals who are available by default, i.e., individuals not institutionalized, not in military, and not veterans.

Potentially available candidates for military service are categorized by sex, race, age group (17-21), educational status, and proper mental and physical categories, i.e.:

Table 6.1

DISTRIBUTION OF MEMBERS OF MALE POPULATION WITHIN EACH COUNTY GROUP INTO AVAILABILITY CLASSIFICATIONS BY AGE AND RACE PAGE 1

USING ADJUSTED POPULATION AS OF JUNE 1977

COUNTY GROUP IS 101

RACE	AVAILABILITY CLASSIFICATION	17 YRS	18 YRS	19 YRS	20 YRS	21 YRS	22 YRS	23 YRS	24 YRS
WHITE	NON-HSG/IN SCHOOL	2751.	2848.	1106.	267.	0.	0.	0.	111.
	NON-HSG/NOT IN SCHOL	359.	443.	614.	467.	729.	262.	471.	445.
	NON-HSG SUBTOTAL	3110.	3291.	1720.	734.	729.	262.	471.	556.
	HSG/IN SCHOOL	0.	443.	1843.	2403.	2405.	1572.	336.	890.
	HSG/NOT IN SCHOOL	120.	380.	676.	734.	1020.	1179.	1682.	2446.
	HSG SUBTOTAL	120.	823.	2519.	3137.	3425.	2751.	2018.	3336.
	MILITARY/HSG	0.	0.	14.	31.	219.	196.	76.	26.
	MILITARY/NON-HSG	0.	15.	0.	0.	0.	0.	31.	0.
	MILITARY SUBTOTAL	0.	15.	14.	31.	219.	196.	109.	26.
	VETERANS	0.	0.	0.	114.	124.	149.	421.	696.
	INSTITUTIONALIZED	0.	0.	0.	0.	0.	66.	0.	0.
	RACIAL SUBTOTAL	3230.	4129.	4253.	4016.	4497.	3424.	3019.	4614.
BLACK	NON-HSG/IN SCHOOL	0.	0.	0.	0.	0.	0.	0.	0.
	NON-HSG/NOT IN SCHOL	0.	0.	0.	0.	0.	0.	0.	0.
	NON-HSG SUBTOTAL	0.	0.	0.	0.	0.	0.	0.	0.
	HSG/IN SCHOOL	0.	0.	0.	0.	149.	0.	0.	0.
	HSG/NOT IN SCHOOL	0.	0.	0.	0.	0.	0.	0.	0.
	HSG SUBTOTAL	0.	0.	0.	0.	149.	0.	0.	0.
	MILITARY/HSG	0.	0.	0.	11.	12.	11.	0.	0.
	MILITARY/NON-HSG	0.	0.	0.	0.	0.	0.	0.	0.
	MILITARY SUBTOTAL	0.	0.	0.	11.	12.	11.	0.	0.
	VETERANS	0.	0.	0.	0.	0.	0.	0.	0.
	INSTITUTIONALIZED	0.	0.	0.	0.	0.	0.	0.	0.
	RACIAL SUBTOTAL	0.	0.	0.	11.	162.	11.	0.	0.

Table 6.1 - continued

DISTRIBUTION OF MEMBERS OF MALE POPULATION WITHIN EACH COUNTY GROUP INTO AVAILABILITY CLASSIFICATIONS BY AGE AND RACE PAGE 2

USING ADJUSTED POPULATION AS OF JUNE 1977

COUNTY GROUP IS 101 (CONTINUED)

RACE	AVAILABILITY CLASSIFICATION	17 YRS	18 YRS	19 YRS	20 YRS	21 YRS	22 YRS	23 YRS	24 YRS
OTHER	NON-HSG/IN SCHOOL	0.	0.	0.	0.	0.	0.	0.	0.
	NON-HSG/NOT IN SCHOL	0.	0.	0.	0.	0.	0.	0.	0.
	NON-HSG SUBTOTAL	0.	0.	0.	0.	0.	0.	0.	0.
	HSG/IN SCHOOL	0.	0.	0.	0.	0.	0.	36.	0.
	HSG/NOT IN SCHOOL	0.	0.	0.	0.	0.	0.	0.	0.
	HSG SUBTOTAL	0.	0.	0.	0.	0.	0.	36.	0.
	MILITARY/HSG	0.	0.	0.	0.	0.	0.	0.	0.
	MILITARY/NON-HSG	0.	0.	0.	0.	0.	0.	0.	0.
	MILITARY SUBTOTAL	0.	0.	0.	0.	0.	0.	0.	0.
	VETERANS	0.	0.	0.	0.	0.	0.	0.	0.
	INSTITUTIONALIZED	0.	0.	0.	0.	0.	0.	0.	0.
	RACIAL SUBTOTAL	0.	0.	0.	0.	0.	0.	36.	0.
*SUMMARY	NON-HSG/IN SCHOOL	2751.	2848.	1106.	267.	0.	0.	0.	111.
	NON-HSG/NOT IN SCHOL	359.	443.	614.	467.	729.	262.	471.	445.
	NON-HSG SUBTOTAL	3110.	3291.	1720.	734.	729.	262.	471.	556.
	HSG/IN SCHOOL	0.	443.	1843.	2403.	2554.	1572.	373.	890.
	HSG/NOT IN SCHOOL	120.	380.	676.	734.	1020.	1179.	1682.	2446.
	HSG SUBTOTAL	120.	823.	2519.	3137.	3575.	2751.	2055.	3336.
	MILITARY/HSG	0.	0.	14.	41.	231.	208.	78.	26.
	MILITARY/NON-HSG	0.	15.	0.	0.	0.	0.	31.	0.
	MILITARY SUBTOTAL	0.	15.	14.	41.	231.	208.	109.	26.
	VETERANS	0.	0.	0.	114.	124.	149.	421.	696.
	INSTITUTIONALIZED	0.	0.	0.	0.	0.	66.	0.	0.
	GROUP SUBTOTAL	3230.	4129.	4253.	4026.	4659.	3435.	3056.	4614.

Table 6.2

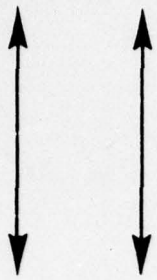
QUALIFICATIONS OF AVAILABLE MALES BY COUNTY-GROUP (AGES 17- 21 INCLUSIVE) JUNE 77 PROJECTED POPULATION

COUNTY GROUP IS 101

RACE	AVAILABILITY CLASSIFICATION	MENTAL CATEGORY I	II	IIIA	IIIB	IVA	IVB	V	PHYSICALLY UNFIT	CLASS TOTALS
WHITE	NON-HSG/IN SCHOOL	325.	1528.	934.	923.	205.	259.	98.	2699.	6972.
	NON-HSG/NOT IN SCHOL	122.	573.	350.	346.	77.	97.	37.	1011.	2612.
	NON-HSG SUBTOTAL	447.	2101.	1284.	1269.	282.	356.	135.	3711.	9585.
	HSG/IN SCHOOL	331.	1555.	950.	940.	209.	263.	100.	2746.	7094.
	HSG/NOT IN SCHOOL	137.	642.	393.	388.	86.	109.	41.	1134.	2930.
	HSG SUBTOTAL	467.	2197.	1343.	1328.	295.	372.	141.	3881.	10024.
	RACIAL SUBTOTAL	914.	4298.	2627.	2597.	577.	727.	276.	7591.	19608.
BLACK	NON-HSG/IN SCHOOL	0.	0.	0.	0.	0.	0.	C.	0.	C.
	NON-HSG/NOT IN SCHOL	0.	0.	0.	0.	0.	0.	0.	0.	C.
	NON-HSG SUBTOTAL	0.	0.	0.	0.	0.	0.	C.	0.	0.
	HSG/IN SCHOOL	0.	0.	27.	54.	0.	13.	0.	55.	149.
	HSG/NOT IN SCHOOL	0.	0.	0.	0.	0.	0.	C.	0.	0.
	HSG SUBTOTAL	0.	0.	27.	54.	0.	13.	0.	55.	149.
	RACIAL SUBTOTAL	0.	0.	27.	54.	0.	13.	C.	55.	149.
OTHER	NON-HSG/IN SCHOOL	0.	0.	0.	0.	0.	0.	C.	0.	C.
	NON-HSG/NOT IN SCHOL	0.	0.	0.	0.	0.	0.	0.	0.	0.
	NON-HSG SUBTOTAL	0.	0.	0.	0.	0.	0.	C.	0.	0.
	HSG/IN SCHOOL	0.	0.	0.	0.	0.	0.	C.	0.	C.
	HSG/NOT IN SCHOOL	0.	0.	0.	0.	0.	0.	C.	0.	0.
	HSG SUBTOTAL	0.	0.	0.	0.	0.	0.	0.	0.	C.
	RACIAL SUBTOTAL	0.	0.	0.	0.	0.	0.	C.	0.	C.
*SUMMARY	NON-HSG/IN SCHOOL	325.	1528.	934.	923.	205.	259.	98.	2699.	6972.
	NON-HSG/NOT IN SCHOL	122.	573.	350.	346.	77.	97.	37.	1011.	2612.
	NON-HSG SUBTOTAL	447.	2101.	1284.	1269.	282.	356.	135.	3711.	9585.
	HSG/IN SCHOOL	331.	1555.	977.	993.	209.	277.	100.	2801.	7243.
	HSG/NOT IN SCHOOL	137.	642.	393.	388.	86.	109.	41.	1134.	2930.
	HSG SUBTOTAL	467.	2197.	1370.	1381.	295.	385.	141.	3936.	10173.
	GROUP SUBTOTAL	914.	4298.	2654.	2651.	577.	741.	276.	7646.	19757.
	% CTY-GRP POPULATION	4.5	21.2	13.1	13.1	2.8	3.7	1.4	37.7	97.3

FOR THIS COUNTY GROUP: NUMBER OF MALES NOT AVAILABLE= 540. TOTAL ALL MALES= 20297.

- Mental Category I



II
IIIA
IIIB
IVA
IVB
IVC

Mental Category V

- Physically disqualified

Data for whole county group population are summarized. Percentages of total individuals by physical/mental qualification in age group (17-21) and available are listed for each county group.

COUNTY-SERVICE/STATE MA REPORT

This report (Table 6.3), created from a county-service/state QMA file, displays available individuals by state/service recruiting area, county, race, sex, and ages 17-21 years old. A QMA file is used to generate this MA report because county-regional data of this type are not available at the unqualified level. Total MA counts and percentages of students by highest educational level attained are included for each county and for each state/service recruiting area.

COUNTY-STATE/SERVICE QMA REPORT

This report (Table 6.4), created from the same QMA file used in the county-state/service MA report, exhibits the county profile of physically and mentally qualified (and available) candidates. Individuals physically disqualified or tested mental category V are excluded for reason of ineligibility. Data reported for each county and arbitrary encompassing region include counts of individuals by race, sex, and age group (17-21 years) in mental categories I-IVC and educational status.

Total QMA counts, percentage of high school graduates still in school, and percentage of high school seniors are listed for each county and each state/service recruiting region.

Table 6.3

DISTRIBUTION OF MILITARY AVAILABLE WHITE MALE POPULATION WITHIN EACH DRC INTO AVAILABILITY CLASSIFICATIONS BY AGE
SERVICE: ARMY

DRC IS 1A ALBANY

			HIGH SCHOOL GRADUATES						NON-HIGH SCHOOL GRADUATES (IN SCHOOL)						NON-HIGH SCHOOL GRADUATES (NOT IN SCHOOL)				
		TOTAL MA	% IN SCHOOL	17 YRS.	18 YRS.	19 YRS.	20 YRS.	21 YRS.	% SENIOR	17 YRS.	18 YRS.	19 YRS.	20 YRS.	21 YRS.	17 YRS.	18 YRS.	19 YRS.	20 YRS.	21 YRS.
ALBANY	NY	12997	70.5	263	863	2340	2154	2738	55.9	2157	1186	420	0	0	53	216	120	127	360
CLINTON	NY	4225	57.5	16	250	681	567	430	52.8	817	644	215	57	0	94	32	161	113	108
COLUMBIA	NY	1948	50.3	9	151	289	313	198	42.6	457	180	134	22	0	28	47	52	32	35
DELAWARE	NY	2308	53.4	11	103	266	337	397	54.3	497	302	143	0	0	45	51	45	41	70
DUTCHESS	NY	6636	53.4	0	397	1275	1191	530	53.1	1462	838	294	0	0	86	132	98	155	177
ESSEX	NY	1404	57.5	5	56	226	189	143	52.8	271	214	71	19	0	31	11	54	38	36
FRANKLIN	NY	2491	67.2	0	228	432	347	474	42.0	395	228	94	40	11	33	17	75	40	79
FULTON	NY	2204	57.5	8	151	355	296	224	52.8	426	336	112	30	0	49	17	84	56	56
GREENE	NY	1304	50.3	6	101	194	209	133	42.6	306	120	90	14	0	19	32	35	22	23
HAMILTON	NY	165	57.5	1	11	27	22	17	52.8	32	25	8	2	0	4	1	6	4	4
MONTGOMERY	NY	2402	57.5	9	165	387	323	245	52.8	464	366	122	32	0	54	18	92	65	61
OTSEGO	NY	3377	53.4	16	150	389	493	581	54.3	727	443	209	0	0	65	75	66	60	102
RENSSELAER	NY	6549	70.8	22	676	1530	1245	1235	54.7	1737	924	251	26	30	198	158	176	159	181
SARATOGA	NY	5136	70.8	13	406	919	748	742	54.7	1044	555	151	16	18	119	95	106	95	109
SCHENECTADY	NY	7200	70.8	19	570	1285	1048	1040	54.7	1463	779	211	22	25	167	133	148	134	152
SCHOHARIE	NY	1253	57.5	5	66	202	168	128	52.8	242	191	64	17	0	28	10	48	34	32
ULSTER	NY	5396	50.1	93	404	900	587	350	60.2	1137	714	291	28	0	167	95	371	168	95
WARREN	NY	2064	57.5	8	142	333	277	210	52.8	399	315	105	28	0	46	16	79	55	53
WASHINGTON	NY	2336	57.5	9	160	376	314	238	52.8	451	356	119	31	0	52	18	89	63	59
ADDISON	VT	1577	68.3	3	137	321	270	196	51.5	268	160	56	4	0	31	37	37	30	27
BENNINGTON	VT	1122	50.3	5	87	167	180	114	42.6	263	103	77	12	0	16	27	30	19	20
CHITTENDEN	VT	6446	68.3	14	559	1313	1105	801	51.5	1095	655	229	15	0	126	150	153	121	110
FRANKLIN	VT	1421	68.3	3	123	290	243	176	51.5	241	144	50	3	0	28	33	34	27	24
GRAND ISLE	VT	128	68.3	0	11	26	22	16	51.5	22	13	5	0	0	3	3	3	2	2
RUTLAND	VT	2239	68.3	5	194	456	384	278	51.5	380	227	80	5	0	44	52	53	42	38
TOTAL		86328	64.2	543	6263	14984	13033	11633	53.3	16755	10019	3602	424	85	1580	1476	2213	1705	2013

*** NUMBER OF COUNTIES IN THIS DRC IS 25 ***

THIS PAGE IS BEST QUALITY PRACTICABLE
FROM COPY FURNISHED TO DDC

Table 6.4

QUALIFIED MILITARY AVAILABLE CANDIDATES (MENTAL CATAGORIES I-IVC) BYDRC AND COUNTY — PAGE 1
WHITE MALE CALY (AGES 17-21 INCLUSIVE) FROM POPULATION PROJECTIONS 1977
SERVICE- ARMY

DRC IS 1A ALBANY

COUNTY NAME	S T	TOTAL QMA	% IN SCHOOL	HIGH SCHOOL GRADUATES MENTAL CATAGORY I	II	IIIA	IIIB	IVA	IVB-C	% SENIOR	NON-HIGH SCHOOL GRADUATES (IN SCHOOL) MENTAL CATAGORY I	II	IIIA	IIIB	IVA	IVB-C	NON-HIGH SCHOOL GRADUATES (NOT IN SCHOOL) MENTAL CATAGORY I	II	IIIA	IIIB	IVA
ALBANY	NY	7395	71.	447	2088	956	833	207	203	56.	202	939	446	376	93	90	47	217	104	84	21
CLINTON	NY	2495	58.	109	520	247	205	50	50	53.	97	453	214	182	43	41	28	134	60	56	6
COLUMBIA	NY	954	51.	33	200	104	92	18	25	44.	31	169	84	80	15	22	2	39	20	19	1
DELAWARE	NY	1332	53.	52	281	140	118	27	27	55.	48	238	118	99	23	23	6	62	36	34	0
DUTCHESS	NY	3400	54.	103	732	354	369	93	93	53.	78	557	274	286	73	73	20	138	68	72	17
ESSEX	NY	832	58.	37	174	84	66	13	13	53.	31	150	73	62	19	14	3	46	26	25	0
FRANKLIN	NY	1448	68.	87	388	178	154	34	30	43.	42	199	93	80	17	15	17	62	26	25	1
FULTON	NY	1284	58.	59	270	123	107	27	22	54.	51	236	111	96	19	19	17	69	29	28	1
GREENE	NY	662	51.	22	139	74	68	11	15	43.	22	110	59	53	11	14	2	25	19	18	0
HAMILTON	NY	54	63.	0	14	7	6	0	0	59.	2	15	5	5	0	0	0	0	0	0	0
MONTGOMERY	NY	1430	57.	64	297	143	117	30	29	53.	60	257	122	103	22	21	25	74	34	29	3
OTSEGO	NY	1926	53.	88	414	195	171	38	38	55.	68	347	166	146	32	32	17	93	40	39	2
RENSSELAER	NY	5005	71.	257	1212	572	479	124	115	54.	161	763	363	303	80	77	40	226	109	90	34
SARATOGA	NY	2582	71.	157	723	346	292	69	65	55.	100	455	221	101	42	41	34	130	69	55	2
SCHENECTADY	NY	4196	71.	213	1021	461	410	102	100	55.	135	643	303	256	62	59	36	191	90	75	19
SCHOHARIE	NY	725	58.	34	152	73	60	12	12	54.	28	131	67	52	12	12	3	34	26	17	0
ULSTER	NY	2612	58.	85	434	234	238	70	79	60.	80	405	221	224	63	72	34	163	69	89	32
WARREN	NY	1206	58.	55	253	121	101	22	22	53.	47	219	105	91	19	19	12	62	29	28	1
WASHINGTON	NY	1359	58.	60	285	137	110	29	27	53.	52	251	117	100	21	19	17	74	29	28	3
ADDISON	VT	815	70.	45	221	90	85	23	26	53.	23	116	47	47	13	14	2	45	9	9	0
BENNINGTON	VT	570	51.	19	115	64	59	11	14	44.	16	97	51	46	9	13	1	21	17	17	0
CHITTENDEN	VT	3459	68.	193	895	390	355	105	108	52.	105	468	203	189	55	57	41	159	67	55	9
FRANKLIN	VT	727	70.	40	200	77	74	19	23	53.	21	105	46	41	10	13	1	41	8	8	0
GRAND ISLE	VT	32	76.	1	14	3	3	0	0	55.	0	8	2	1	0	0	0	0	0	0	0
RUTLAND	VT	1176	68.	62	307	138	130	34	36	53.	34	160	70	68	19	21	6	49	21	21	0
TOTAL		48076	65.	2327	11349	5373	4702	1168	1172	54.	1534	7491	3581	3167	768	781	411	2154	1025	921	152

*** NUMBER OF COUNTIES IN THISDRC IS 25 ***

DRC IS 1B BALTIMORE

HIGH SCHOOL GRADUATES

NON-HIGH SCHOOL GRADUATES (IN SCHOOL)

NON-HIGH SCHOOL GRADUATES (NOT IN SCHOOL) MENTAL CATAGORY

THIS PAGE IS BEST QUALITY PRACTICABLE
FROM COPY FURNISHED TO DDC

Chapter 7

RECOMMENDATIONS FOR FUTURE DEVELOPMENT

INTRODUCTION

Although GRC has been developing the QMA file defintion for 2 years, it is still considered an ongoing process. Some of the improvements envisioned can be undertaken using data already in the system; other improvements involve new data acquisitions.

CURRENTLY ACCESSIBLE IMPROVEMENTS

- Both the state and county group population files (1970) from the Bureau of the Census can be adjusted to reflect the census undercount, particularly in the non-white population.
- Adjustment for the changing in-service/veteran profile can be refined to be undertaken annually so that its overall effect becomes similar to a growth process.
- Fuller utilization of the sex and race population counts now available for each county can yield better qualification data.
- AFEES fitness qualifications for high-school graduates and non-high school graduates can be examined for possible replacement of current criteria derived from the whole sample.
- The possibility of service-specific fitness requirements can be examined.

ADDITIONAL IMPROVEMENTS

- The proportion of non-white individuals attending college can be revised to reflect the definite increase in this group.
- The possibility of more detailed disqualification data can be pursued. This would lend greater flexibility in defining the QMA should entrance requirements for enlistees be changed.
- Possible replacement of the single set of fitness qualification proportions for females by a more definitive set by race can be investigated.

Appendix A

EXPLANATION OF MOBILITY MULTIPLYER DEVELOPED FOR EACH STATE

As noted in Chapter 3, the computation of mobility rates takes into consideration the composition of the net state mobility (N) and its relationship to the sum of the absolute values for net migration quantities (M) for each age group, sex, and color group in that state. Using migration data obtained from the UGA,

$$M = \sum_{\substack{i=1 \\ j=1 \\ k=1}}^{\substack{k=2 \\ j=3 \\ i=16}} |m_{ijk}|$$

where m is net migration count for a particular subgroup, i = number of age groups, j - sex, and k - color (white or non-white), and

$$N = \sum_{\substack{i=1 \\ j=1 \\ k=1}}^{\substack{k=2 \\ j=2 \\ i=16}} m_{ijk}$$

In the case of N, its subpopulations retain their signed values, positive or negative. The relationship between absolute and net mobilities for a state demonstrates to a degree some of the inward and outward mobility among its subpopulations. A ratio (ζ) where

$$\zeta = \frac{M}{N}$$

defines this relationship and is computed for each state (col 1, Table A.1).

Table A.1

MULTIPLIER FILE FOR MOBILITY RATIO ABS/NET

State code	ABS/Net	Multiplyer	
		Opposite	Same
-1	1.28237	0.14119	1.14119
2	3.19608	1.09804	2.09804
4	1.15098	0.07549	1.07549
-5	4.40621	1.70310	2.70310
6	1.01838	0.00919	1.00919
8	1.00000	0.0	1.00000
9	1.11446	0.05723	1.05723
10	1.03294	0.01647	1.01647
-11	2.21519	0.60760	1.60760
12	1.03762	0.01881	1.01881
13	5.09594	2.04797	3.04797
15	16.98682	7.99342	8.99342
-16	1.15481	0.07741	1.07741
-17	10.50387	4.75193	5.75193
-18	9.04638	4.02319	5.02319
-19	1.05433	0.02717	1.02717
-20	1.11043	0.05522	1.05522
-21	1.13441	0.06721	1.06721
-22	1.62322	0.31161	1.31161
-23	1.03253	0.01627	1.01627
24	1.01050	0.00525	1.00525
25	2.38614	0.69307	1.69307
26	12.90716	5.95358	6.95358
-27	4.32490	1.66245	2.66245
-28	1.23602	0.11801	1.11801
29	35.76483	17.38242	18.38242
-30	1.02256	0.01128	1.01128
-31	1.17112	0.08556	1.08556
32	1.00404	0.00202	1.00202
33	1.02244	0.01122	1.01122
34	1.17115	0.08557	1.08557
-35	1.04873	0.02437	1.02437
-36	18.92252	8.96126	9.96126
-37	3.77120	1.38560	2.38560
-38	1.02292	0.01146	1.01146
-39	2.95976	0.97988	1.97988
40	6.32398	2.66199	3.66199
41	1.15675	0.07838	1.07838
-42	1.32634	0.16317	1.16317
44	3.80691	1.40345	2.40345
-45	1.91735	0.45868	1.45868
-46	1.04181	0.02091	1.02091
-47	3.33507	1.16753	2.16753
48	1.20613	0.10306	1.10306
-49	3.90980	1.45490	2.45490
50	1.61557	0.30834	1.30834
51	1.96925	0.48463	1.48463
53	1.00605	0.00303	1.00303
-54	1.00000	0.0	1.00000
55	3.75457	1.37729	2.37729
-56	1.01906	0.00954	1.00954

THIS PAGE IS BEST QUALITY PRACTICABLE
FROM COPY FURNISHED TO DDC

Referring to Table A.1, ζ for Georgia is

$$\zeta = \frac{M}{N} = \frac{344,506}{67,604} = 5.09594$$

Examining the Georgia net migration chart (Table A.2) for the 16 age groups, two sexes, and two color groups, the inward mobility of younger whites is largely offset by the outward mobility of the younger non-whites.

Each cell in the mobile quantity array for a state has three components, its two balanced shares and its unbalanced share. The latter appears as the net migratory activity, m_{ijk}, for that cell.

Since all migratory activity for each cell in the migration array for a state represents some portion of the total absolute migration, its net can be represented as

$$m_{ijk} = \rho_{ijk} M$$

The balanced shares for that cell are a proportion of the total equal numbers moving in and total moving out for that entire state. Thus, the total balanced shares (D) for a state are each one-half the difference between the total absolute migration and the absolute of the net migration.

$$\begin{aligned} D &= D_{inward} + D_{outward} \\ &= M - |N| \\ &= (1/2)(M - |N|) + (1/2)(M - |N|) \end{aligned}$$

For each cell, the inward component of the balanced shares is

$$d_{ijk} = \rho_{ijk}[(1/2)(M - |N|)]$$

and its outward component is

$$-d_{ijk} = \rho_{ijk}[(1/2)(M - |N|)]$$

Table A.2

NET MIGRATION OF THE POPULATION, 1960-70: GEORGIA*

--NET MIGRATION BY AGE, SEX, AND COLOR, 1960-70: GEORGIA

AGE IN 1970	STATE TOTAL			WHITE			NEGRO AND OTHER RACES		
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE
				NET MIGRATION					
ALL AGES	67,604	29,554	38,050	205,595	98,168	107,427	-137,991	-68,614	-69,377
0-4	1,508	740	768	4,510	2,321	2,189	-3,002	-1,581	-1,421
5-9	2,914	1,572	1,342	14,979	7,639	7,340	-12,065	-6,067	-5,998
10-14	5,913	3,874	2,039	21,149	11,017	10,132	-15,236	-7,143	-8,093
15-19	-679	-570	91	17,448	9,004	8,444	-18,127	-9,974	-8,153
20-24	13,020	6,222	6,798	40,752	21,115	19,637	-27,732	-14,893	-12,839
25-29	7,204	2,633	4,571	32,687	15,428	17,559	-25,783	-12,795	-12,988
30-34	4,090	641	3,449	16,121	6,489	9,632	-12,031	-5,848	-6,183
35-39	8,023	4,707	3,316	13,968	7,323	6,645	-5,945	-2,616	-3,329
40-44	9,826	5,507	4,319	13,304	7,234	6,070	-3,478	-1,727	-1,751
45-49	5,883	3,725	2,158	9,306	5,114	4,192	-3,423	-1,389	-2,034
50-54	3,395	1,477	1,918	6,275	2,689	3,586	-2,880	-1,212	-1,668
55-59	1,297	369	928	4,124	1,430	2,694	-2,827	-1,061	-1,766
60-64	1,982	14	1,968	3,551	833	2,718	-1,569	-819	-750
65-69	3,117	639	2,478	3,005	658	2,347	112	-19	131
70-74	1,534	-14	1,548	2,062	203	1,859	-528	-217	-311
75 AND OVER	-1,223	-1,582	359	2,054	-329	2,383	-3,277	-1,253	-2,024
				MIGRATION RATE					
ALL AGES	1.5	1.3	1.6	6.5	6.3	6.6	-10.3	-10.9	-9.9
0-4	.4	.3	.4	1.6	1.6	1.6	-2.2	-2.3	-2.1
5-9	.6	.7	.6	4.9	4.9	4.9	-7.5	-7.6	-7.5
10-14	1.2	1.6	.9	6.9	7.0	6.7	-9.1	-8.6	-9.7
15-19	-.2	-.4		6.0	6.1	5.9	-12.0	-13.1	-10.9
20-24	3.2	3.1	3.4	14.7	15.1	14.4	-21.7	-24.0	-19.4
25-29	2.2	1.6	2.8	14.7	13.6	15.8	-26.1	-27.3	-25.0
30-34	1.5	.5	2.5	8.2	6.5	9.9	-16.4	-17.3	-15.6
35-39	3.2	3.9	2.6	7.5	8.0	7.1	-9.4	-9.4	-9.5
40-44	3.9	4.6	3.3	7.0	7.8	6.2	-5.8	-6.6	-5.2
45-49	2.4	3.2	1.7	4.9	5.6	4.3	-6.1	-5.6	-6.5
50-54	1.5	1.3	1.6	3.6	3.1	4.0	-5.3	-5.0	-5.5
55-59	.6	.4	.9	2.7	1.9	3.4	-5.5	-4.7	-6.2
60-64	1.1		2.1	2.7	1.4	3.9	-3.7	-4.4	-3.1
65-69	2.3	1.1	3.2	3.0	1.5	4.2	.3	-.1	.6
70-74	1.6		2.7	2.9	.7	4.3	-2.2	-2.3	-2.2
75 AND OVER	-.9	-3.3	.4	2.1	-.9	3.8	-10.0	-10.3	-9.9

*Population-Migration Report, 1960-70, joint effort by U.S. Department of Agriculture and University of Georgia Printing Department, Athens, Georgia, December 1975.

THIS PAGE IS BEST QUALITY PRACTICABLE
FROM COPY FURNISHED TO DDC

These cellular balanced components represent some portion of the net activity, such that

$$K|N| = (1/2)\alpha(M - |N|)$$

where α is some ρ_{ijk}.

$$K = (1/2)\alpha\frac{(M - |N|)}{|N|}$$

Now

$$\zeta = \frac{M}{|N|}, \quad \zeta \geq 1.$$

So

$$K = \frac{\alpha}{2}\frac{(\zeta|N| - |N|)}{|N|}$$

$$K = \frac{\alpha}{2}(\zeta - 1)$$

If the net mobility activity for an individual cell is positive and the net mobility for the state as defined by the Bureau of Census is positive, a multiplier (ℓ) can be computed for the cell and can be described as

$$\ell|N| = \frac{\alpha}{2}(M - |N|) + \alpha|N|$$

where the cellular shares of the mobility are its share of the balanced mobility and all of its share of the unbalanced.

$$\ell|N| = \frac{\alpha}{2}(\zeta|N| - |N|) + \alpha|N|$$

$$\ell = \frac{\alpha}{2}(\zeta - 1) + 1$$

$$= \alpha t$$

Likewise, if the net mobility of an individual cell is of opposite sign from the net mobility for the state, its total mobility is equal only to its share of the balanced mobility, such that

$$\ell'|N| = \frac{\alpha}{2}(M - |N|)$$

$$= \frac{\alpha}{2}(\zeta|N| - |N|)$$

and

$$\ell' = \frac{\alpha}{2}(\zeta - 1)$$

$$= \alpha t'$$

The only unknown in either of these multipliers is α, a representative proportion of the net mobility for a cell to the total of the absolute value of all net mobilities in the state. Since α is peculiar to each cell in the array, removing it from the formulae for ℓ and ℓ' leaves two factors (t and t') correlating total absolute and net mobility for each state (cols 2 and 3, Table A.2).

GRC DISTRIBUTION LIST

1 January 1975

Recipients of this document are indicated by ☒

	Address code	Agency	Number of copies
		DEPARTMENT OF DEFENSE	
☐	A1	Assistant Secretary of Defense (ISA)	1
☐	A2	Assistant Secretary of Defense (COMP)	1
☐	A3	Assistant Secretary of Defense (I)	2
☐	A4	Assistant Secretary of Defense (T)	1
☐	A5	Assistant Secretary of Defense (I&L)	1
☒	A6	Assistant Secretary of Defense (M&RA)	1
☐	A7	Assistant to the Secretary (AE)	1
☐	A15	Director, Defense Program Analysis & Evaluation	2
☐	A16	Director, Defense Research & Engineering	4
☐	A17	Director, Defense Communications Agency	1
☐	A18	Director, Weapons Systems Evaluation Group	1
☐	A19	Director, Defense Advanced Research Projects Agency	1
☐	A20	Director, Defense Nuclear Agency	1
☐	A21	Director, Defense Supply Agency	1
☐	A22	Director, National Security Agency	1
☐	A27	Director, Joint Staff (OJCS)	1
☐	A28	Joint Chiefs of Staff (SAGA)	1
☐	A29	Joint Chiefs of Staff (J-3)	1
☐	A30	Joint Chiefs of Staff (J-4)	1
☐	A31	Joint Chiefs of Staff (J-5)	1
☐	A32	Joint Chiefs of Staff (J-6)	1
☐	A37	Director, Defense Intelligence Agency	1
☐	A38	Defense Intelligence Agency (DI)	1
☐	A39	Defense Intelligence Agency (DT)	1
☐	A40	Defense Intelligence Agency (DE)	1
☐	A41	Defense Intelligence Agency (DC)	1
☐	A42	Defense Intelligence Agency (DS)	1
☐	A43	Defense Intelligence School	1
☐	A48	National War College	1
☐	A49	Industrial College of the Armed Forces	1
☐	A50	Armed Forces Staff College	1
☐	A51	National Military Command System Support Center	1
☒	A52*	Defense Documentation Center	2/12
		HEADQUARTERS, DEPARTMENT OF THE ARMY	
☐	B1	Deputy Under Secretary of the Army (OR)	1
☐	B2	Assistant Secretary of the Army (FM)	1
☐	B3	Assistant Secretary of the Army (I&L)	1
☒	B4	Assistant Secretary of the Army (M&RA)	1
☐	B5	Assistant Secretary of the Army (R&D)	1
☐	B10	Director of Army Staff	4
☐	B12	Assistant Chief of Staff for Intelligence	2
☒	B14	Deputy Chief of Staff for Personnel	1
☐	B15	Deputy Chief of Staff for Operations and Plans	2
☐	B16	Deputy Chief of Staff for Logistics	1
☐	B17	Deputy Chief of Research, Development, and Acquisition	1
☐	B19	Comptroller of the Army	1
☐	B21	Chief Engineers	1
☒	B22	Office of the Surgeon General (MI)	1
☐	B23	Directorate of Military Support	1
☐	B24**	The Army Library (ASDIRS)	1

*Required IAW AR 70-11 and AR 70-31. (12 copies for Open Literature cleared publications, and 2 copies for Limited Distribution publications.)

**Normally required; exclusion must be justified by Sponsor (AR 1-28).

	Address code	Agency	Number of copies
		US ARMY TRAINING AND DOCTRINE COMMAND	
☐	C1	Hq, TRADOC	1
		SCHOOLS	
☐	C2	US Army Air Defense	1
☐	C3	US Army Armor	1
☐	C4	US Army Field Artillery	1
☐	C5	US Army Ordnance	1
☐	C6	US Army Engineer	1
☐	C7	US Army Infantry	2
☐	C8	US Army Intelligence	1
☐	C9	US Army Command and General Staff College	1
☐	C10	US Army Aviation	1
☐	C11	US Army Missile and Munitions	1
☐	C12	US Army Quartermaster	1
☐	C13	US Army Institute for Military Assistance	2
☐	C14	US Army Transportation	1
☐	C15	US Army Institute of Administration	1
☐	C16	US Army Signal (Ft Monmouth)	1
☐	C17	US Army Southeastern Signal (Ft Gordon)	1
☐	C18	USWAC	1
☐	C19	Defense Information	1
☐	C20	US Army Military Police	1
		CENTERS	
☐	C41	US Army Combined Arms Center	1
☐	C42	US Army Logistics Center	1
☐	C43	US Army Administration Center	1
		MISCELLANEOUS ARMY SCHOOLS	
☒	D1	US Army War College (Library)	1
☐	D2	US Army War College (SSISG)	1
☐	D3	USMA, West Point	1
☐	D4	US Army Academy of Health Sciences	1
		US ARMY MATERIEL COMMAND	
☐	E1	Hq, US Army Materiel Command	1
☐	E2	US Army Armament Command	1
☐	E3	US Army Electronics Command	1
☐	E4	US Army Missile Command	1
☐	E5	US Army Aviation Systems Command	1
☐	E6	US Army Troop Support Command	1
☐	E7	US Army Tank-Automotive Command	1
☐	E8	US Army Test and Evaluation Command	1
☐	E20	Deseret Test Center	1
☐	E21***	Defense Logistic Studies Information Exchange	2
☐	E22	US Army Foreign Science and Technology Center	1
☐	E32	Management Information Systems Directorate	1
☐	E34	US Army Materiel Systems Analysis Agency	1
☐	E35	US Army Major Item Data Agency	1
☐	E45	US Army Armor and Engineer Board	1
☐	E46	US Army Field Artillery Board	1
☐	E47	US Army Aviation Test Board	1
☐	E48	US Army Infantry Board	1
☐	E58	White Sands Missile Range	1
		US ARMY FORCES COMMAND	
☐	F1	Hq, FORSCOM	1
☐	F2	First US Army	1
☐	F3	Fifth US Army	1
☐	F4	Sixth US Army	1
☐	F5	Eighth US Army	1

***Required IAW AR 5-7.

GRC DISTRIBUTION LIST (continued)

1 January 1975

	Address code	Agency	Number of copies
		UNIFIED COMMANDS	
☐	G1	Commander in Chief, Alaska (CINCAL)	1
☐	G2	Commander in Chief, Pacific (CINCPAC)	1
☐	G3	Commander in Chief, Europe (CINCEUCOM)	1
☐	G4	Commander in Chief, US Readiness Command	1
☐	G5	Commander in Chief, Atlantic (CINCLANT)	1
☐	G6	Commander in Chief, Continental Air Defense Command (CINCONAD)	1
☐	G7	Commander in Chief, US Southern Command (USCINCSO)	1
		US ARMY COMMANDS/AGENCIES (CONUS)	
☐	H1	US Army Air Defense Command	1
☐	H2	US Army Communications Command	1
☐	H3	US Army Computer Systems Command	1
☒	H4	US Army Recruiting Command	1
☐	H5	US Army Safeguard Command	1
☐	H6	US Army Health Services Command	1
☐	H7	US Army Intelligence Command	1
☐	H8	US Army Combat Developments Experimentation Command	1
☐	H15	US Army Security Agency	1
☐	H16	US Army Logistics Evaluation Agency	1
☐	H17	US Army Concepts Analysis Agency	1
☐	H18	US Army Management System Support Agency	1
☐	H19	US Army Operational Test and Evaluation Agency	1
☐	H20	US Army Missile Intelligence Agency	1
☐	H21	US Army Nuclear Agency	1
☐	H22	US Army C-E Engineering and Installation Agency	1
☐	H23	US Army Communication Systems Agency	1
		MISCELLANEOUS ARMY (CONUS)	
☐	J1	US Army Intelligence Threat Analysis Detachment	1
☐	J2	Engineer Studies Group	1
☐	J3	US Army Research Institute	1
☒	J4	US Army Military Personnel Center	1
		US AIR FORCE	
☐	K1	Hq, US Air Force (SAMI)	1
☐	K2	Hq, US Air Force Systems Command	1
☐	K3	Assistant Chief of Staff for Intelligence	1
☐	K4	Foreign Technology Division (AFSC)	1
☒	K5	Air University Library	1
		US NAVY	
☒	L1	Chief of Naval Operations, OP-96	1
☐	L2	Chief of Naval Operations, OP03EG-CNO	1
☐	L3	Naval Intelligence Command	1
☐	L4	Naval Intelligence Support Center	1
☒	L5	Naval War College	1
☒	L6	Naval Postgraduate School	1
		US MARINE CORPS	
☐	M1	Hq, US Marine Corps, G-2	1
☐	M2	Hq, US Marine Corps, G-3	1
☐	M3	Marine Corps Development and Education Command	1
		US GOVERNMENT AGENCIES	
☐	N1	Director, Central Intelligency Agency	1
☐	N2	Central Intelligence Agency (Publications)	1
☐	N3	Central Intelligence Agency, Director for S&T	1

GRC DISTRIBUTION LIST (continued)

1 January 1975

	Address code	Agency	Number of copies
☐	N5	Director, Office of Science & Technology, Executive Office Bldg	1
☐	N6	Department of State, Foreign Affairs Research & Doc Center	1
		DEFENSE CONTRACTORS	
☒	01	Center for Naval Analyses	1
☒	02	Human Resources Research Organization, Inc.	1
☐	03	Institute for Defense Analyses	1
☒	04	RAND Corporation	1
☐	05	American Institute for Research	1
☐	06	Stanford Research Institute	1

Also:

US Air Force Human Resources Laboratory 1

Navy Recruiting Command 1