BACKGROUND

Most reserve units mobilized for Operation Desert Storm needed personnel assigned from outside the unit prior to deployment. These personnel filled positions that were either vacant or held by individuals who were not job qualified. These positions could not be filled by mobilizing individual reservists from other units because by law only reserve units and not individual reservists can be mobilized. A variety of “cross-leveling” methods were used for filling these units. Volunteers with the appropriate qualifications from other units often joined units prior to mobilization, or individuals were involuntarily transferred prior to mobilization. In some cases, individuals from the active force or Individual Ready Reserve (IRR) were assigned after mobilization.

Ideally, reserve units in peacetime should be fully manned with individuals who are qualified for their jobs and who have trained together. This would avoid the delays associated with cross-leveling and the problems of integrating new personnel into existing units. It would avoid any degradation in performance that might occur if personnel have not trained together. Filling all positions with trained personnel would also improve peacetime unit training, which can be affected by numerous vacancies and untrained personnel.

The problems of unfilled unit positions and unqualified personnel are much less serious for active units. The active force can fill vacancies by assigning any trained soldier to any unit by transferring...
the individual to the unit location. This allows the active Army to quickly fill unit vacancies with trained personnel and to continuously maintain high-priority units at full manning with qualified personnel. Since reservists cannot be geographically relocated, vacancies are filled through voluntary transfers between nearby units or recruiting new personnel from the geographical area to fill the position.

New training for the vacant position is usually required whether the position is filled by transferring or newly recruited personnel. Transferring personnel may need to be retrained because the few units nearby often have different missions. Newly recruited non-prior-service personnel all require training and newly recruited prior-service personnel need retraining in a majority of cases because their active-duty primary job does not match the needs of the unit. The process of recruiting or retraining in the reserve forces can take from four months to over a year, and during this period the position is held for the person being trained and thus is not filled by a qualified person. This is the major reason that reserve units can have large numbers of positions that upon mobilization need to be filled by cross-leveling.

This problem cannot easily be solved efficiently by starting recruiting and retraining earlier (a training pipeline) based on predictions of which positions are going to be vacant. Predictions can be statistically accurate only if there are a large number of positions requiring similar job training and historical attrition patterns in these skills have understandable trends. The active force can assign individuals emerging from the training pipeline to any unit, and it can estimate training requirements by job category based on the number of positions with similar jobs and pay grades in the entire force. Thus if the active Army has a requirement for 30,000 E4 infantrymen, it can estimate attrition patterns from these positions accurately and have trained personnel ready to fill positions anywhere they occur.

This process cannot work for reserve forces because it depends on being able to assign newly trained personnel to any unit where vacancies occur. For reserve units, a training pipeline would have to be established for each unit. Since typical reserve units have 50 to 150 positions spread across many different jobs and pay grades, attrition for specific groups of similar positions cannot be accurately pre-
dicted. Attempting to create a pipeline of trained individuals for each reserve unit would result in significant overmanning of reserve units and retraining of personnel when expected positions do not open up. Since creating pipelines for each unit is inefficient, other policies that attempt to reduce the level of unqualified personnel must be explored. In assessing these policies, it is important to distinguish between those that make the problem more visible and those that attempt to solve the problem. Recent legislation would make the problem more visible but not solve the problem.

Title XI\(^1\) requires Army National Guard (ARNG) units to report unit strength based on qualified personnel only. Previously, reserve unit strength included both trained and untrained personnel for a position. This meant that a reserve unit could appear fully manned but still have 20 to 30 percent of its personnel unqualified. Unit manning statistics for active units automatically include only qualified personnel since only trained personnel are assigned to unit positions. Thus, active and reserve forces were often compared using inaccurate measures. This discrepancy could cause models of wartime outcomes and sustainability to overestimate reserve capability. Cost comparisons of active and reserve forces would make reserve forces look too inexpensive, and a force mix with too many reserve units could result. Finally, too few training resources would be allocated to reserve units.

The new reporting structure should solve these problems. However, it is important to realize that the new reporting methods will not solve the problem of unqualified personnel—only raise its visibility and allow for more accurate data in decisionmaking. This report addresses the continuing problem of individuals not job qualified in Army Reserve (USAR) and ARNG units.

**PURPOSE OF THE REPORT**

This report explores the extent of and causes for enlisted personnel lacking military occupational specialty (MOS) qualification in their assigned duty MOS, and suggests policy initiatives to help remedy

this problem. Untrained personnel can arise from three sources. Nonprior-service individuals awaiting or undergoing initial training are currently counted as unit members, but have not yet qualified in an initial MOS. The second source of MOS unqualified individuals is prior-service accessions needing retraining in an MOS different from their active-duty MOS. The third source of unqualified individuals is reservists undergoing retraining at some career point after initial training.

In this report we concentrate on the latter two sources of unqualified personnel: entering prior-service personnel and reservists undergoing retraining. These individuals are in pay grades E3 to E9 and are not currently MOS qualified. This group comprises about three-fourths of assigned individuals who are not MOS qualified. This report answers several questions regarding job qualification and retraining in the Army Guard and Army Reserve. They include:

- What are job qualification levels among E3 to E9 and how do these qualification levels differ across job types, types of units, and components?
- Do early deploying units have higher job qualification levels than later deploying units?
- How frequently do individuals retrain and how does this vary across units and job types?
- How quickly do individuals requalify in new jobs?
- How does retraining time vary across units and job types?
- What factors determine the level of job qualification and retraining?
- How much of retraining can be attributed to reservists relocating because of civilian job changes?

**APPROACH**

To identify the causes of retraining and address the above questions, we developed a job tracking system for each reservist that can identify his or her reserve unit and its characteristics, the status of current jobs, and changes in assigned jobs and associate these changes with
concurrent changes in units, promotion, and civilian home of record. We have used three data sources and obtained information on approximately 25,000 individuals. We constructed a longitudinal data file for reservists and analyzed data from June 1986 to September 1987. This period serves as a baseline for testing the models and for establishing trends and causes for ongoing analysis of more recent data. Analysis of more recent data is continuing.

The data allow us to determine changes in primary and duty MOS as well as unit changes and geographical migration for each reservist in the file. We can also estimate MOS qualification levels for different MOS and units at two points in time and determine duty reassignments during that 15-month period. We have estimated a recursive logit model that links qualification levels at two points in time and the job turbulence during the period into a unified framework. We estimate and present results from three equations describing:

- Job qualification in June 1986,
- Job changes between June 1986 and September 1987,

RESULTS

Our analysis of the various populations of reservists leads to several major conclusions:

- Although the percentages vary by subcategory, units in the ARNG and USAR usually have 20 to 30 percent of positions filled by not-yet-qualified soldiers who would not be deployable.
- Although the ARNG has higher levels of job qualification than the USAR, the differences appear to be attributable to the different job mix and not to any difference in policy or environment in the two components.
- A high degree of turbulence caused by personnel who change units and jobs is an important factor contributing to the low levels of qualification. Only 62 percent of ARNG personnel and 56 percent of USAR personnel remain in the same unit and job over 18 months.
• Only a small proportion of unit changes are attributable to civilian job changes requiring geographical relocation, but rather seem to be motivated by individual desire for different jobs or promotion opportunity.

• About 50 to 60 percent of entering prior-service reservists need retraining to MOS different from their active-duty skills.

• Retraining reservists in a new MOS takes a long time—nine to ten months on the average and longer for combat jobs.

MOS Qualification

Approximately 16 percent of E3 to E9 personnel in the Guard and 25 percent of Army Reserve personnel were not qualified in June 1986. When E1 and E2 personnel are added to this figure, the overall percentage of personnel not qualified is between 20 and 30 percent. The rates of E3 to E9 personnel not qualified are much higher for prior-service personnel and those in noncombat jobs. Nonprior-service personnel had unqualified rates in the Guard and Reserve of 12 percent and 20 percent, respectively, compared with 23 and 29 percent for prior-service personnel. Combat jobs in the Guard had unqualified rates of only 8 percent compared with 25 percent for noncombat technical jobs and 19 percent for noncombat nontechnical jobs. In the Reserve, combat jobs had only slightly lower unqualified rates of 22 percent compared with 26 percent for technical and 25 percent for nontechnical jobs.

While the Guard has lower levels of unqualified personnel, most of this difference is attributable to the different mix of jobs in the two components. The Guard has significantly more combat jobs, and these tend to have significantly lower rates of job turbulence and levels of unqualified personnel. The level of unqualified personnel among non-combat jobs is higher than for combat jobs and about the same in both components.

Changing Jobs and Units

Reservists change jobs frequently. We find that 21 percent of E3 to E9 personnel in the Guard change jobs over the 15-month period, as
do 32 percent of the Army Reserve. Job switching is less frequent from combat jobs, which explains their higher level of job qualification. The high rate of job switching means that the original Initial Active-Duty Training (IADT) investment from previous active MOS is rapidly lost. After five years in the Army Reserve, only one-half of nonprior-service enlistees are in their original IADT MOS. For prior-service personnel, only about 40 to 50 percent serve in jobs matching their active-duty MOS, and after five years, only 20 percent of reservists are in their original active-duty MOS.

Most job switching occurs in conjunction with unit switching. Unit switching is not primarily a result of geographical migration of reservists, but is rather voluntary switching among local units. Eighty percent of unit switches occur among units less than 50 miles apart. Over 80 percent of reservists have a choice of ten or more units within 50 miles of their home for unit changes. Strong evidence in the Guard indicates that switching is driven primarily by a desire for promotion, whereas in the Army Reserve changing to more desirable jobs may play an important role.

Retraining

We have developed an estimate of the average retraining times for reservists by tracking individuals who changed duty MOS (DMOS) and either did or did not requalify by the end of the 15-month period. Improved data that track individuals over longer time periods would considerably improve these estimates. The present estimates show average retraining times of between nine and ten months for both the Guard and Reserve. However, combat jobs take considerably longer to retrain than noncombat skills. Combat skills took 12 to 13 months, whereas noncombat skills took six to nine months. In the active force, combat jobs have the shortest training times. The difference might be explained by the need for field training and testing, and the fact that Reserve combat units go to the field only four to six times a year. Or, combat retraining may be more structured and tighter quality control exercised for a variety of reasons—some related to risk of personnel injury or equipment damage.
RECOMMENDATIONS

Our recommendations include the following:

- Change prior-service bonus policies to reward matching active-duty MOS and reserve DMOS at entry and job longevity once in the reserve components.

- Initiate supplementary proficiency pay for reservists that can be variable across units and jobs that would pay reservists for the length of time in a job.

- Make “simple” modifications to the reserve pay table to extend or increase longevity increments and reduce promotion incentives.

- Prudently change the Modified Tables of Organization and Equipment (MTOE) to make higher grade progression possible within job categories that are difficult to fill or require longer training times.

- Establish minimum job tenure periods after training and retraining to recoup training investment.

- Regulate intercomponent and interunit transfers to protect training investment.