*POLICE AND PROSECUTION SYSTEMS: AN EVALUATION OF
A POLICE CRIMINAL CASE PREPARATION PROGRAM*

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Program evaluation can provide objective information relevant to decisions on program maintenance. A program to address problems in the preparation of criminal investigation reports in a metropolitan police department was evaluated. The program permanently altered environmental conditions under which reports were prepared to facilitate performance. Police officers, who had previously prepared reports without assistance, visited the Case Preparation Room to prepare reports with assistance from office personnel. Compared to reports prepared without assistance, reports prepared in the Case Preparation Room documented more case elements required by the state legal code for criminal prosecution, were completed in fewer days following arrests, and received higher ratings from Assistant District Attorneys. Operation of a permanent program available to approximately 945 officers proved a practical solution to improving the preparation of criminal investigation reports.

DESCRIPTORS: police, criminal case preparation, evaluation, investigation reports

Administrators of large organizations can base decisions regarding program maintenance on outcomes of systematic program evaluations. The present evaluation was conducted to determine the impact of a new departmental program on one aspect of police work. Based on the findings of this evaluation, the future role of the program was determined.

In many police departments, officers making felony arrests must prepare written reports describing events leading to the arrests. The purpose of those reports is to document key evidentiary facts, called "case elements," required by the state legal code for indictment and prosecution. The reports are the primary, and often the only, means of communication between the police and Assistant District Attorneys assigned to prosecute the cases.

In many large departments, officers do not consistently and thoroughly document case elements that reasonably assure that prosecutors obtain convictions (Criminal Investigation Process, 1976). Samples of 20 robbery reports from each of two departments addressed only 45% and 26%, respectively, of key evidentiary facts. When police reports are incomplete, Assistant District Attorneys may be unable to prosecute cases unless they contact the arresting officers for more information or duplicate investigatory efforts.

In one metropolitan criminal justice system, officers and prosecutors had long noted that many police reports provided only sketchy information about incidents preceding arrests and failed to document all case elements. In addition, although the arresting officers were officially required to prepare reports immediately following felony arrests, they typically delayed for many days. These delays in report availability often interfered with prosecutor's preparations for grand jury hearings. Officers complained that excessive time to complete paperwork for reports

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kept them from performing other police duties. Assistant District Attorneys assigned to prosecute cases were often dissatisfied with police report quality and inconvenienced by having to interview officers to supplement information provided by reports.

The police department considered the feasibility of a program to train officers to prepare better reports. Generally, training programs feature temporary procedures designed to generate performance levels which will endure in normal environments when training ends. This approach was rejected for several reasons. First, scheduling training sessions for approximately 1,000 officers working different shifts in several stations located throughout the city would be cumbersome. Second, instruction already given to all officers in recruit training and in-service classes did not result in quality report preparation in the field. Third, building a system in the field to maintain training gains would be unduly complicated. Inconvenience to officers appeared as much a factor as inadequate training in poor report preparation.

Instead of a training program, the department opted for development of a permanent procedural program for the preparation of police reports. Programs that involve permanent arrangements of conditions to facilitate task performance by reducing response costs have been called "prosthetic" (Lindsley, 1964). Programs that make permanent environmental changes can circumvent complex social and motivational components found in training programs, i.e., direct one-to-one delivery of instructions, feedback, and consequences. For example, United Nations representatives are provided with headphones to listen to simultaneous translations of speeches rather than being taught to comprehend numerous languages.

Contact with permanent environmental features has promoted task performance in several settings. For example, an open-environment design infant center afforded better child and staff visibility and easier staff supervision than a partitioned environment (Twardosz, Cataldo, &

Risley, 1974). A display of manipulative materials in a nursing home lounge and staff prompts to choose materials increased residents' participation in activities (McClannahan & Risley, 1975).

Alterations of environmental conditions can also provide practical solutions to problems of large organizations. Much of the current work being done under the rubric of "organizational behavior management" involves the installation of intraorganization fixed procedures and physical conditions which promote job-related performance. A review of this organizational behavioral management research is provided by Prue, Frederiksen, and Bacon (1978). In large organizations, occasions often arise when large numbers of people must immediately and permanently adapt to revised or new routines. Components can be arranged to guide people through the steps of new routines. In general, permanent procedural programs may be applicable when (1) training programs would be impractical and expensive, (2) the number of people involved prohibits extensive individual contact, (3) targeted behaviors will always be performed in the designated setting so that generalization across settings will not be an issue, and (4) resources to maintain the program will be available.

At the metropolitan police department, ongoing office personnel assistance for officers preparing reports was implemented in the present program evaluation. Officers reported to a special room at headquarters after making felony arrests. Staff members listened to officers dictate into tape recorders accounts of incidents which had resulted in arrests. Next, staff members reviewed with officers case elements required by the state legal codes for prosecution. Staff members relieved officers of the tasks of typing reports, collecting related materials, and maintaining report files. Major features of this program were establishment of a central location for report preparation, oral reviewing of cases with officers, additions to reports of written summaries of case elements, and provision of typing and paperwork services.

METHOD

Subjects

Officers in the Metropolitan Police Department of Nashville and Davidson County, Tennessee, participated in this investigation. Of the total force, only detectives assigned to crimes against persons were excluded from the investigation because they followed different report preparation procedures.

Approximately four-fifths of all eligible officers (768 officers) were randomly selected to begin using a new Case Preparation Room in October, and the remaining 157 officers continued to prepare reports without assistance until starting to use the Case Preparation Room in January.

Letters conveying orders from the chief of police to visit the Case Preparation Room immediately after making felony arrests were sent to Group I several days before the start of the October intervention and to Group II before the start of the January intervention.

Procedure

A small room located next to the room where officers obtained arrest warrants was designated the Case Preparation Room. Teams of one or two staff members operated the Case Preparation Room around the clock (except for weekend midnight shifts). An officer supervised staff activities and a sergeant served as a liaison between the Case Preparation Room and the Office of the Attorney General. The sergeant relayed requests for police reports and completed reports between the two offices and relayed requests from Assistant District Attorneys for additional information to the Case Preparation Room staff.

A completed police report consists of a three-page case preparation report, a general on-the-scene report, supplementary reports, copies of warrants, defendants' prior arrests records, and mug shots. Transcription of victims' and witnesses' statements and forms with description of physical evidence collected, line-ups, and

photograph identifications may be included. In the Nashville Metropolitan Police Department, the average officer prepares an estimated 1 to 25 reports a month.

Officers preparing reports without assistance were required to write case preparation reports, obtain copies of materials on file in several offices, assemble materials in folders, and deposit folders (keeping copies for personal use if desired) in an office to be collected by the sergeant. Contact between the sergeant and officers was infrequent, making discussion of reports difficult. These conditions had prevailed in the department for several years and were allowed to continue uninterrupted until each group of officers began to prepare reports in the Case Preparation Room.

Officers using the Case Preparation Room dictated information required for the case preparation report into a cassette tape recorder. Information was presented in a chronological account of officers' actions in investigating incidents, making arrests, and transporting suspects. During each dictation, a staff member asked questions to clarify and expand the account.

The legal code of each state specifies case elements for felony charges that must be substantiated with evidence. For example, case elements for burglary in Tennessee are (1) breaking into and (2) entering a building (3) belonging to someone else (4) with intent to commit a felony. Time of day and type of building determines the degree of burglary. All case elements must be documented with evidence in order for a defendant to be indicted and convicted on the original felony charge. If one or more case elements has not been documented, the grand jury may return a no true bill and dismiss the case, or the original charge may be plea bargained to a lesser charge, e.g., from burglary to attempt to commit a felony.

In the Case Preparation Room, following an officer's dictation, a staff member and the officer reviewed the case elements. The staff member turned to the page in the Tennessee Code Annotated listing the elements for the felony with

which the defendant was charged. As the staff member stated each element, the officer described all relevant evidence. For example, in reviewing the burglary element of "breaking into a building," the officer might say that a witness had seen the defendant pry open a door with a crowbar and that the open door and crowbar marks had been observed by officers called to the scene. Information the officer had given prior to the review of the case elements was repeated if it pertained to particular elements.

After dictating an account of the incident and review of case elements, the officer left the Case Preparation Room. Listening to the tape, the staff member typed the case preparation report. The first two pages contained boxes that requested specific facts and the third blank page was for a narrative of events. Following the narrative, the staff member added a summary of case elements by listing each element and describing relevant evidence. This summary was unique to reports prepared in the Case Preparation Room because officers who prepared reports without assistance did not summarize case elements.

The staff member collected copies of materials filed in other offices and assembled all materials in a folder. Completed folders were spot-checked by the supervising officer. If information were missing, staff members occasionally contacted officers by telephone to request additional pieces of information. Copies of police reports were kept in the Case Preparation Room, and original reports were forwarded to the Office of the Attorney General.

The supervising officer sometimes telephoned officers who had made felony arrests but had not prepared reports to request that they do so. Two occasions on which calls were made were (1) when computer listings of weekly arrests were compared to reports on file (done intermittently at the discretion of the supervising officer), and (2) when reports requested by Assistant District Attorneys (usually several weeks or longer after arrests were made) had not yet been prepared. This procedure was followed both for officers

who prepared reports without assistance and in the Case Preparation Room.

Dependent Measures

Five dependent measures were collected in order to compare reports produced by Case Preparation Room procedures to reports produced by unassisted officers. The measures were: (1) percentages of case elements documented in case preparation report narratives; (2) number of days that elapsed between the dates arrests were made and reports were completed; (3) number of minutes officer spent preparing reports; (4) officers' ratings of both methods of report preparation, and (5) Assistant District Attorneys' ratings of police reports prepared by both methods.

Design and Report Selection

Three measures, percentages of case elements documented, days between dates of arrests and reports, and time spent by officers, were evaluated in a multiple-baseline design. Random samples of 20 reports for each group for each of five sequential 3-month intervals were selected. Officers in Group I prepared reports without assistance in the first two intervals and in the Case Preparation Room the last three intervals. Officers in Group II prepared reports without assistance in the first three intervals and in the Case Preparation Room the last two intervals.

Two other measures were collected on a one-time basis. A preference survey for report preparation method was obtained from officers who had used both methods. Assistant District Attorney ratings of reports were made after the total sample of reports had been collected.

Data Collection and Reliability

The method of data collection and, when applicable, assessment of reliability, for each dependent measure was as follows:

Documentation of case elements. Percentages of case elements documented in report narratives were collected by having a data analyst read narratives and consult a checklist of case elements for 11 felonies (adapted from the Ten-

nessee Code Annotated) to determine the number of elements that were documented. In cases which involved more than one defendant, case elements were scored for the first defendant listed.

A second data analyst independently read narratives and scored case elements in a random third of the reports (the number of reports scored twice for each group in each interval ranged from 5 to 15). Overall reliability, calculated as agreements divided by agreements plus disagreements times 100 (agreement defined as both persons marking an element as documented or not documented) for Group I was 91% in preintervention intervals, 100% in the intervention interval, and 95% in all intervals combined. Overall reliability for Group II was 85% in preintervention intervals, 95% in the intervention interval, and 88% in all intervals combined.

Because a number of preintervention narratives did not contain any information other than references to other reports, reliability ratios may have been inflated. Occurrence reliability was calculated for reports when one data analyst scored that at least one case element was documented. For Group I, occurrence reliability was 89% in preintervention intervals, 98% in intervention intervals, and 94% in all intervals combined. Occurrence reliability for Group II was 81% in preintervention intervals, 95% in the intervention interval, and 87% in all intervals combined.

Days between arrests and completion of reports. Dates on which arrests were made and reports were prepared were noted in case preparation reports. The data analyst calculated the number of working days that had elapsed between arrest and case preparation (counting the arrest date as one). A second set of calculations for determining reliability was not obtained because personal judgment was not involved and written dates were permanently available (in contrast to transitory observational data).

Officers' time. Time spent by officers preparing reports was determined in several ways.

1. Survey estimates—eight officers completed surveys which asked how long it took on the average to prepare reports under both methods.

2. Telephone estimates—seven officers were asked how much time they had spent to prepare one report without assistance; three other officers were asked, also by telephone, how long it had taken to prepare one report in the Case Preparation Room. Both estimates of time spent in the Case Preparation Room were collected for comparison with the following objective measure.

3. Sign-in list—actual times spent by officers in the Case Preparation Room during the third and fourth intervals were obtained from a record of times of entering and exiting for all visits. A staff member unobtrusively recorded the times 16 officers entered and exited from the Case Preparation Room. When total minutes spent in the room recorded by the staff member was compared to total minutes recorded (as enter and exit times) by officers on the sign-in list, percentage agreement, calculated by the smaller total divided by the larger total, was 98%.

Officers' survey. Officers' ratings of both methods of report preparation were obtained by written surveys given to 50 officers in the Case Preparation Room in a 2-week period during the fourth interval (when both groups were included in the intervention). Questions on the survey were: (1) Which method produced better police reports? (2) Which method produced more prompt reports, i.e., less delay after an arrest in completing reports? (3) Which method required less of your total time? (4) Which method helps you to include more about case elements pertaining to the felony charges? (5) Which method would you prefer to use in the future?

Assistant District Attorney ratings. Following the final 3-month interval, Assistant District Attorneys' ratings of police reports prepared by both methods were collected. Twelve attorneys working as assistants in the State Office of the District Attorney marked an Osgood Semantic Differential-type scale (Osgood, Suci, & Tan-

nenbaum, 1957) after reading each of 12 to 14 reports. Items on the survey and anchor points for ratings of 1 to 7 were as follows: (1) How legible is this report? (illegible to legible); (2) How well do you understand the incident leading to arrest? (vaguely to completely); (3) How many additional facts do you feel should have been included? (numerous to none); (4) Would you have to talk to the officer in order to understand this report? (definitely to no); (5) How do you rate this report? (poor to excellent); (6) How well organized is the narrative? (no narrative/none to all); (8) How easily can the elements of the crime be found in the narrative? (no narrative/none to all); (8) How easily can the elements of the crime be found in the narrative? (no narrative/can't find to easy to find).

The total sample of 160 reports collected from the first four intervals was distributed for rating by Assistant District Attorneys. Forty reports from the third interval (when Group I used the Case Preparation Room and Group II prepared reports without assistance) were distributed first so that biased ratings attributable to exposure to both types of reports could be detected. Next, the remaining 120 reports (i.e., for both groups in the first, second, and fourth intervals) were randomly distributed. Fifty-two reports prepared under both conditions were assigned to two Assistant District Attorneys so that the degree of interrater reliability could be determined.

Overall ratings for reports rated by two Assistant District Attorneys were obtained (by summing 1 to 7 points for eight items). A Pearson product moment correlation coefficient was computed for the 52 pairs of overall ratings. Overall ratings were significantly correlated, $r = +.57$, $p < .001$.

RESULTS

Reports prepared in the Case Preparation Room documented more case elements, were completed in fewer days following arrests, appeared to require less officer time, were preferred

by officers, and received higher ratings from Assistant District Attorneys.

Documentation of case elements. As shown in Figure 1 (top), officers in Group I documented 60% and 40% of case elements in reports prepared without assistance and 100%, 98%, and 96% of case elements in reports prepared in the Case Preparation Room. Officers in Group II documented 42%, 59%, and 58% of case elements in reports prepared without assistance and 98% and 96% in reports prepared in the Case Preparation Room. The difference in the percentage of case elements documented in reports prepared in the third interval (during which the two groups used different methods to prepare reports) was found to be significant, $t(38) = 5.81$, $p < .01$.

During the investigation, 17 officers prepared reports under both methods. These officers showed an average improvement of 64% (range = 0 to 100%) in the number of case elements documented.

Delays between arrest and report completion. Figure 1 (bottom) depicts the number of days that elapsed between the dates arrests were made and corresponding reports completed. These figures refer to arrests and corresponding report preparations which occurred within one condition, in contrast to arrests made during one condition and corresponding reports prepared during a subsequent condition. Officers in Group I delayed for 26 and 52 days when preparing reports without assistance, and 7, 11, and 28 days when using the Case Preparation Room. Officers in Group II waited 22, 37, and 21 days to prepare reports without assistance, and delayed 13 and 27 days when using the Case Preparation Room. The difference in the number of days delay in the third interval during which the two groups used different methods to prepare reports was significant, $t(35) = 2.81$, $p < .01$.

Officers' time. Officers appeared to spend less time preparing reports in the Case Preparation Room than without assistance. Seven officers who had been asked by telephone how long it

Fig. 1. Mean percentage of case elements documented in police reports (top) and mean number of days from dates of arrests to completion of corresponding reports (bottom) when officers prepared reports without assistance (baseline) and in the Case Preparation Room (intervention).

had taken to prepare a report without assistance estimated an average of 78 min. Eight officers surveyed in the Case Preparation Room estimated an average of 143 min to prepare a report without assistance.

Over the telephone, three officers estimated an average time of 14 min to prepare a report in the Case Preparation Room. The eight officers who had been surveyed estimated an average of 19 min to prepare a report in the Case Preparation Room. Objective data collected from the

sign-in list revealed the average time actually spent to prepare a report in the Case Preparation Room was 13 min.

Comparison of the objective figure (13 min) to officers' estimates (14 to 19 min) of time to prepare a report in the Case Preparation Room suggests that officers are able to estimate report preparation time and give credence to officers' estimates of time to prepare reports without assistance (78 and 143 min). The most conservative estimate of savings in officers' time in the Case Preparation Room is 65 min per report.

Officers' survey. Officers participating in the survey favored using the Case Preparation Room to preparing reports without assistance. All 50 officers indicated significant preferences to continue to use the Case Preparation Room rather than return to the old method, $\chi^2 = 100.4$, $p < .01$. Forty-nine officers judged that the Case Preparation Room produced more prompt reports (one marked no difference) and required less of their time (one marked no difference) than the old method, $\chi^2 = 94.47$, $p < .01$. Forty-eight officers reported that the Case Preparation Room produced better police reports (one preferred the old method and one marked no difference), $\chi^2 = 88.72$, $p < .01$. Forty-five officers felt that the Case Preparation Room helped them to include more about case elements (two chose the old method and one marked no difference), $\chi^2 = 72.83$, $p < .01$. Of the total of 250 ratings, 96% indicated preference for the Case Preparation Room.

Assistant District Attorney ratings. Assistant District Attorneys rated all eight items significantly higher, i.e., toward 7, on the scale for reports prepared in the Case Preparation Room than for reports prepared without assistance (range of $z = 2.52$ to 5.44 , $p < .006$). Median ratings for reports prepared without assistance (WA) and in the Case Preparation Room (CPR) were, respectively: *Item 1*, 5.1 (WA) and 6.9 (CPR); *Item 2*, 5.4 (WA) and 6.6 (CPR); *Item 3*, 4.0 (WA) and 5.1 (CPR); *Item 4*, 4.0 (WA) and 6.0 (CPR); *Item 5*, 4.5 (WA) and

5.8 (CPR); *Item 6*, 5.1 (WA) and 6.4 (CPR); *Item 7*, 4.8 (WA) and 6.7 (CPR) and *Item 8*, 4.9 (WA) and 6.7 (CPR). Therefore, the Assistants judged reports prepared in the Case Preparation Room as superior on dimensions of legibility, completeness, organization, and overall quality. They reported greater ease in reading and better understanding of these reports and less inclination to talk to the arresting officers.

Cost-benefit analysis. A complete cost-benefit analysis of the two methods of report preparation would be complicated. First, estimates obtained for officers' time to prepare reports without assistance cannot be directly compared to empirically derived times spent in the Case Preparation Room. Also, officers sometimes prepared reports while off duty. Therefore, a precise savings in officers' time and a direct translation to dollars cannot be figured.

Salaries for Case Preparation personnel do not represent a straight added expense, because other office workers involved in report preparation may have spent different amounts of time aiding Case Preparation Room staff members (who usually made multiple requests on one visit) vs. individual officers preparing reports without assistance. For example, less time may have been spent pulling from the files 20 mug shots requested at one time than one mug shot requested by each of 20 officers.

Secondly, demonstrations of societally beneficial outcomes derived (e.g., higher rates of "true bills" and convictions obtained) will require a series of investigations of judicial procedures. It is true that variables in addition to comprehensiveness of police reports would have to be manipulated to produce changes in dispositions displayed by the courts (i.e., prosecutorial plea bargaining practices, crowded court dockets which force out of court settlements). In addition, a typical delay of 6 months to 2 years between an arrest and disposition of the case makes investigation of variables affecting case outcomes a long-term prospect. Demonstrations of cost-benefit of criminal investigation improvements beyond immediate benefits to in-

vestigators could be a "new frontier" for criminal justice researchers.

With recognition of these limitations, the costs of the program can be roughly estimated. In 6 months, 660 reports were prepared in the Case Preparation Room at an approximate cost of \$15,686. This included \$15,000 in personnel salaries and \$686 (based on \$4.80 per hour or \$10,000 per year) for 143 hours (based on the average 13 min per report) of officers' time.

If officers had prepared 660 reports without assistance, 858 to 1,573 hours of officer time would have been consumed, based on estimates of 78 min and 143 min per report. Estimated cost would have been \$4,118 to \$7,550.

Therefore, \$8,136 to \$11,568 (i.e., costs for the Case Preparation Room minus projected costs for officers to prepare reports without assistance) was the estimated personnel cost for 6 months of this program. Viewed from another angle, that investment saved 715 hours (\$3,432) to 1,430 hours (\$6,864) of officers' time which could be spent performing other duties. Overall, the police department in creating the Case Preparation Room did incur additional expense. This evaluation was performed so that police administrators could weigh program benefits against the costs.

DISCUSSION

Operation of the Case Preparation Room had several positive effects on police report preparation. Officers spent less time preparing reports and overwhelmingly preferred the new method. Almost all case elements required for criminal indictment and prosecution were substantiated with evidence. Reports were more promptly available for perusal by Assistant District Attorneys preparing for grand jury hearings (although there was a trend of increased delay during the 9 months of the program). Assistant District Attorneys rated Case Preparation Room reports as superior to reports prepared without assistance on dimensions of legibility, completeness, utility, organization, and overall quality.

The program did, therefore, successfully address the concerns of the police administrators. Increases in documentation of case elements were immediate, large, and maintained over the 9-month evaluation period. The program was well accepted by officers and appreciated by Assistant District Attorneys.

After reviewing the evaluation data, cost analysis, and general issues related to operation of the Case Preparation Room, police administrators decided to continue the program past the grant period. Funds were requested and granted by city planners. This commitment to maintain the project despite a strained budget provides one social validation of the importance of the case preparation projects.

Creation of the Case Preparation Room represented a "package intervention" for the improvement of police reports. The major intent was to have case elements reviewed both verbally by officers and in writing within narrative report sections. Once the decision was made to have office personnel structure the review process, plans for the personnel to type and file reports and collect related materials were based on efficient use of time and resources. Full-time staff performing multiple tasks were required to maintain the Case Preparation Room. Therefore, the evaluation focused on the total jobs performed by those persons rather than on a composite analysis of one step in the case preparation process.

One aspect of the findings suggests the need for an addition to the present program procedures. Reduced delays in report preparation were accomplished in the 6 months following the introduction of the Case Preparation Room. However, in the final 3-month interval, both groups showed a trend toward increased delays. This can be logically related to the decreasing novelty of the Case Preparation Room. In the early months, promptness in visiting the Case Preparation Room may have depended on officers' compliance with a recent order from the Chief and "curiosity" to observe the new program. Officers were sometimes thanked for

making prompt visits, but no type of consistent consequence was associated with delayed visits. Perhaps limiting the time after arrests are made in which officers would be permitted to use the Case Preparation Room, given officers' preference for this method, would maintain prompt report preparation.

The Case Preparation Room employed permanent features and routines. Report preparation efforts by officers were channeled through fixed sets of procedures to produce reports that were standardized in format and quality. The quality of the final product was improved, but response requirements for officers were reduced.

Such strategies which permanently alter conditions in order to make tasks easier to perform, and therefore, more likely to be completely performed, may have widespread applicability to large organizations. Features of large organization (e.g., many members, diverse tasks, multiple locations) often make concentration on individuals' skills and motivational states impractical and inefficient. A strategy of arranging conditions that most members of the organization will find conducive to task performance can be considered a viable alternative management model. The model may be of particular utility to persons serving as organizational management consultants. Consultants, who are likely not to be available for time-consuming counseling and monitoring of individual workers, may make maximal contributions through effective arrangement of working conditions and organizational procedures.

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