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THE HOMICIDE INVESTIGATION AND TRACKING  
SYSTEM (HITS)

By Robert D. Keppel, Ph.D.  
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SUMMARY REPORT

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U.S. Department of Justice  
National Institute of Justice

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87-IJ-CX-0026

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Introduction

The Homicide Investigation and Tracking System (HITS) is a murder and sexual assault investigation system within the Criminal Division of the Office of the Attorney General of Washington that collects, collates and analyzes the salient characteristics of all murders and predatory sexual offenses in Washington. The HITS system relies on the voluntary submission of information by law enforcement agencies in the State of Washington. To date, these agencies have submitted data on murders, attempted murders, missing persons where foul play is suspected, unidentified dead persons believed to be murder victims, and predatory sex offenses. The submitted murder cases date back to 1962, but the majority of them are from 1981 through 1986, the years of the research period that was funded by a National Institute of Justice (N.I.J.) grant. Police agencies have continued to submit cases to the system from 1987 to present. Some agencies are now adding their pre-1981 cases to the system.

### Implementation Procedures

The implementation of the system was begun by contacting each of the State's 273 police and sheriff's departments, each of the 39 county medical examiner/coroner's offices, each of the 39 county prosecuting attorney's offices, the Washington State Department of Vital Statistics and the Uniform Crime Report (UCR) Unit of the Washington Association of Sheriffs and Police Chiefs, in order to determine the number of murders in the State of Washington for the years 1981 through 1986. After all known cases were located and identified by name, case number, and jurisdiction responsible for the investigation, each police and sheriff's department was contacted for their cooperation and voluntary participation in the development of the HITS system. Over 1300 murder files were located in virtually every police agency in the state that investigated one or more murders for those years. To date 100 percent of the police and sheriff departments have cooperated with the development and implementation of the HITS program.

The data in the HITS system was collected from every murder case file from 1981 through 1986 with the HITS Data Collection Instrument. This form was 54 pages long, and contained 467 fields of information that were recorded by police investigators. This original HITS form contained fields relating to the quality of the murder investigation and its solvability, in addition to the salient characteristics of the murder event, victim(s), and offender(s). It took investigators an average of 2.3 hours to complete each form.

The length of the original HITS form was the result of requirements of the N.I.J. grant which first funded the HITS program. The grant required the completion of a research project in conjunction with the setting up of a model statewide homicide information system.

For murder cases since 1986, a shorter version of the HITS form was developed using the same salient characteristics of murder investigation as the original form, but omitting the research questions. This form contains 250 fields of information, and it takes approximately 30 minutes to complete for each murder victim.

The shortened version of the HITS form has been reviewed and evaluated by homicide investigators from all the larger police and sheriff's departments in the State of Washington, as well as by investigators from homicide units in California, Arizona, Georgia, Iowa, Oregon, New York, Texas, and Florida. They have concluded that it is the most comprehensive application of homicide information for investigative purposes that has ever been developed.

#### The HITS Computer System

The HITS program operates on a Prime 5340 super mini-computer. The computer is located in Seattle at the Attorney General's Criminal Division. The principal use of the computer is for data retrieval by the HITS unit staff.

Prime Information, a relational database management system, manages the HITS data files. It allows users to define and manage

databases and to write software applications easily and quickly. The most important feature of Prime Information for murder and rape investigation purposes is the ad hoc interactive search capability. HITS analysts can design investigation queries choosing from over 250 fields of information. Those fields contain information in tabled and free form text format. The analyst can ask for single and/or multiple field information in any order or combination. If, for example, a detective was investigating the murder of a white female prostitute who had been raped with a metal pipe and strangled, and whose nude body was found in a wooded area covered with tree branches, he may well want to know whether any similar murder had been committed within the last two years. He could contact HITS unit with such a request. Based on the information provided by the detective, the HITS analyst could query the database for any combination of the victim's gender, race, lifestyle, method and cause of death, geographic locations, the absence or presence of clothing on the body, concealment of the body, and/or the dates of death and body discovery. In this way, the analyst could identify other murder cases with elements common to the instant case.

The HITS analyst can supply the detective with the names of similarly murdered victims, investigating agencies, case numbers, and the primary investigator's name and telephone number by date of body discovery for the years specified. The design of the query usually takes only a few minutes, as does the search.

The HITS staff has designed over 90 pre-formatted and pre-

indexed queries so that routine queries do not have to be re-designed each time similar inquiries are made. Some examples are specific name inquiries, list of murders within a certain law enforcement jurisdiction, information about drug related murders, elderly female murders and a description of a particular offender.

### Program Data Bases

The HITS program contains information from at least six different, yet related, sources. This diverse information is stored in a number of different data files.

The initial data base is the HITS MURDER FILE which contains victim, offender and M.O. information for over 3,700 murder investigations (Table 1). The source of the murder file data is the HITS murder forms submitted by law enforcement officers.

TABLE 1: THE NUMBER OF RECORDS IN THE MURDER FILE  
(THROUGH JUNE 1992)

<u>Type</u>	<u>Number of Records</u>
Victims	3,733
Incidents	3,524
Offenders	4,016

The HITS SEXUAL ASSAULT data file contains victim, offender and M.O. information for over 1,600 rape investigations (Table 2). The information from this file focuses on predatory sex offenders, stranger rapists and serial rapists. The source of the Sexual Assault File data is the HITS sexual assault forms submitted by

sexual assault investigators.

TABLE 2: THE NUMBER OF RECORDS IN THE SEXUAL ASSAULT FILE  
(THROUGH JUNE 1992)

<u>Type</u>	<u>Number of Records</u>
Victims	1,647
Incidents	1,654
Offenders	1,640

Table 3 shows the number of records by incident classification stored in another data base called "Preliminary Information File."

TABLE 3: THE NUMBER OF RECORDS IN THE  
PRELIMINARY INFORMATION FILE  
(THROUGH JUNE 1992)

<u>Incident Classification</u>	<u>Number</u>
Murder	1,939
Sex Offense	3,242
Robbery	1,709
Arson	119
Sex Offender Registration	1,908
Total	8,917

This file stores information about the crime classification, chronology, the victim, the offender, M.O., geographic locations, weapons, vehicles, and any other pertinent information available. As the name implies, this file stores preliminary information until completed HITS reports can be submitted by the investigating

agency. The information sources for this file are: teletypes, newspapers, crime bulletins, sex offender registration files, and investigator's requests.

Information about any violent crime transmitted via teletype through the Washington State Patrol's ACCESS system is entered into the Preliminary Information File. No other state system stores this type of data for retrieval and utilization in investigations.

Murder and rape information that is reported in any newspaper in the State of Washington is also entered into this file. A newspaper clipping service provides newspaper articles once each week. The newspaper and teletype data is valuable and timely because it is, typically, the first notification to HITS that a violent crime has occurred in the state.

Investigators' requests for information are also included in the Preliminary Information File. Each inquiry from a police investigator is stored, whether information is found and provided or not. This allows investigators to preserve their inquiries in the event future information becomes available to answer the request. For example, if an investigator asks if Joe Smith is a murder victim, and no victim by that name is found, the inquiry is stored in the event Joe Smith is reported as a murder victim at a later date. At that time, the two items of information can be matched, and the appropriate authorities informed of their mutual interest in Joe Smith.

As HITS forms for murder and sexual assault cases are received from police investigators, the initial information about those

crimes is purged from the Preliminary Information File.

Table 4 shows additional files and records used for analysis. Over 103,000 records from the Department of Corrections (DOC) are stored in another data file. This file gives HITS immediate access to the identification of present and former inmates with murder and sexual assault convictions. Their physical descriptions can be

TABLE 4: ADDITIONAL FILES AND RECORDS USED FOR ANALYSIS  
(THROUGH JUNE 1992)

<u>Files</u>	<u>Number of Records</u>
Department of Corrections	103,680
Gangs	76,150
Green River Murders Task Force	57,538

checked against the physical descriptions of unknown suspects in recent sexual assault investigations. This file is updated bimonthly by DOC.

A special data file containing over 54,000 records pertinent to the Green River murders investigation is maintained. These records are frequently queried and analyzed against current incoming violent crime information. Any "HITS" are then passed on to the investigators of the King County Police Department.

A separate data file for gang-related crimes is kept. This file contains over 74,000 records that have been received from the Los Angeles County Sheriff's Department and from police agencies within Washington State. The data from Los Angeles was received

after it was discovered that numerous gang members had migrated from California and committed crimes in Washington. This file is routinely used to search for aliases or monikers and physical descriptions of potential offenders.

Prior to official implementation of HITS, the Attorney General's Office assisted local police agencies with their participation in the FBI's Violent Criminal Apprehension Program (VICAP), a national serial murder tracking program. There were approximately 350 of the state's murder cases in the VICAP system before the HITS system was created. These records have been merged into the HITS Murder File. Presently, upon receipt of a HITS form, it is reviewed, and is entered into the computer. The computer automatically reformats the information and provides the necessary report for VICAP, located at the FBI Academy in Quantico, Virginia.

The final data file used for analysis is a "time line" file that records the chronological activities of known murderers (Table 5). It includes information about times and places of the

TABLE 5: THE NUMBER OF MURDERERS WHOSE TRAVEL LOCATIONS ARE KNOWN

<u>Number of Murderers</u>	<u>Total Locations</u>
73	9083

offender's movements. Data for the file is gleaned from employment records, arrest records, banking records, traffic tickets, and any other record collected during a murder investigation that reveals a possible location of an offender. These times and places can be

cross-checked against the dates and locations of murders. The file is another avenue to determine if a known murderer could have been the perpetrator of other murders.

Due to the diversity in the information sources, three master data files were constructed. These separate data files unite the person, vehicle, and address information from all the other data bases. This allows any one query to search all nine data bases at the same time. The fields available for analysis of the characteristics range from as few as 20 to over 250 in the murder file.

#### Services Provided to Local Law Enforcement Agencies

HITS furnishes four major services to law enforcement agencies:

- (1) Supplies information about:
  - (a) murders, attempted murders, suspected murders, predatory sexual assault and missing persons where foul play is suspected;
  - (b) evidence, victimology, offender characteristics, offender's method of operation, associates, geographic locations, weapons and vehicles related to murder and predatory sexual assault cases; and
  - (c) known murderers and sex offenders living in the community;
- (2) Analyzes murder cases:
  - (a) to determine factors that may solve a particular

murder case;

- (b) to determine case, victim, or offender linkages to other violent offenses or offenders;
  - (c) to provide statement verification when informants and/or offenders give partial or questionable information relating to an alleged murder.
- (3) Provides investigators with resource information about experts available to assist with aspects of murder and sexual assault investigations;
- (4) Provides technical assistance and advice on how to proceed through the various steps in murder and sexual assault investigations;

#### HITS Staff

The HITS Unit is located in Seattle as part of the Attorney General's Criminal Division. The HITS System was conceptualized and is supervised by the Chief Investigator of the Attorney General's Criminal Division. He also participates in major case analysis and consultation with local law enforcement agencies.

In addition to the chief investigator, the current HITS unit has a HITS manager, 5 investigator/analysts, a violent crime analyst, 2 computer programmers, a secretary, and a data entry operator. Collectively, the manager and investigators have over 120 years of violent crime investigative experience. The HITS manager has developed the procedures and maintained the operations of the HITS unit for police agencies in the State of Washington.

The HITS manager is responsible for the coordination of HITS activities which include training, collection of data, and analyses for police investigators statewide.

### Results of Requests for Investigative Assistance

HITS has received more than 400 requests for investigative assistance in murder cases. Analyses of those requests by HITS staff have resulted in assistance in over 300 murder and rape investigations (See Table 6). Most of the requests have occurred since August 1988, the date the Attorney General's office officially announced that the HITS system contained investigative information on over 1600 murder cases in the State of Washington.

The following are case examples where HITS has been able to provide assistance to Washington's law enforcement agencies in their murder investigations. In those cases where the investigations are currently on-going, the exact names, locations, and other pertinent facts have been withheld.

(1) A Spokane detective completed the HITS form for the murder of a male hobo found stabbed to death in a railroad yard. This murder case was compared to other murder cases in the HITS system. A case in Cowlitz county was identified in which a male hobo had been found stabbed to death in a railroad car. The HITS investigation revealed that a person previously considered as a possible witness in the Spokane case was the listed suspect in the Cowlitz county case. The named suspect is now a listed offender in a midwest state for a similar murder. When the HITS information

TABLE 6: THE NUMBER AND TYPE OF REQUESTS FOR ASSISTANCE  
AND INFORMATION PROVIDED  
(THROUGH JUNE 1992)

Type of Request	Number of Requests	Information Provided
Search for Vic. Name	22	21
Investigation Analysis to Develop Leads for Solution	51	44
Individual Case Details Inquiry	35	28
Check Characteristics of Offender's M.O. Against Fields for Cases in the Data Base	109	96
Inquiries about the Best Way to Pursue Certain Leads	21	18
Response to HITS Confidential Bulletin	128	89
Statistical Information	3	3
Resources or Experts To Help with Certain Aspects of Investigation	36	31
Send Out HITS Bulletin	69	46
Verification of Informant Information	3	3
Total	477	379
No Request: Information on Connections Resulted From Independent HITS Analysis of Incoming Cases		186
Total Connections or "HITS" Made		565

was disseminated to other law enforcement agencies, another similar case was reported to HITS from Thurston county.

(2) A federal undercover agent overheard a subject bragging about having killed two people in Washington and the subject said he was enroute to the western United States to kill someone else. The agent requested information on double murders in the State of Washington. The agent was placed in communication with a Washington law enforcement agency that had cases similar to those discussed by the potential suspect. The suspect is currently under investigation.

(3) An alleged serial killer from Minnesota was arrested in Texas. By examining the killer's travel pattern, it was determined that the suspect had spent considerable time in the State of Washington. The HITS unit was contacted by Minnesota authorities, and a method of operation analysis was conducted by HITS personnel. A case of a female murder victim, who was beaten, strangled, raped, and whose body was left in the woods, was located in the files. Further investigation revealed that the suspect had been released from a western Washington jail the day before the murder and had hitchhiked along the same thoroughfare next to where the body was discovered. This case is under continuing investigation.

(4) A western Washington police agency was trying to develop information about a partially identified victim who had been raped and murdered at an unknown location east of the Cascade mountains about five years earlier. The correct identity of the victim was not known to the agency. The name of the victim and the

investigating police agency was provided by the HITS unit to the inquiring agency.

(5) A named multiple murderer from Kansas was known to have visited Washington state. A Kansas detective contacted the HITS unit and described in detail what the killer did to his victims and how he disposed of their bodies. A similar case was located in HITS files. The Washington police agency that had reported the case to HITS currently has the suspect under investigation.

(6) A police informant from the Eastern United States told a western Washington police detective that an acquaintance of his murdered two people in western Washington, one victim from his jurisdiction and one from another, unknown place. The detective contacted numerous police agencies over a four day period trying, unsuccessfully, to locate the second victim and the proper police department, in order to coordinate the investigations. The detective then called HITS and was given the necessary information in a matter of seconds.

(7) After an extremely brutal rape and attempted murder, a request was made to the HITS Unit for information about offenders who have a certain physical description and method of operation (M.O.). HITS staff were able to provide the investigating detective with a list of known sexual offenders that had been released from prison during the past 5 years and the areas to which they had been released. Along with this information, the detective was provided with a montage of assembled photographs, and the victim immediately identified one of the offenders as her assailant.

(8) During the investigation of a rape, a victim gave the investigating officer the description of the suspect, his weapon and his vehicle. The information that she had provided matched a weapon, vehicle and subject the officer had stopped and identified only minutes before being detailed to the rape. The officer sent out a Teletype to notify other agencies to be on the lookout for this subject and his car. The Teletype information contained M.O., physical description and prior address of the suspect. When this information was entered into the HITS Preliminary Information File and analyzed. A previously entered teletype was identified in which a similar rape had occurred several months earlier in another jurisdiction over 80 miles away. Not only did the M.O. and physical description match, but the prior address of the named suspect was located within the city limits of the police agency that had sent out the earlier Teletype. As a result, both police agencies were notified by HITS staff that they each had a case with a similar M.O. and known offender.

(9) A Teletype was received with information relating to a second degree rape. The information consisted of a brief summary of the rape and suspect's M.O. and physical description. This information was analyzed in the HITS Preliminary Information program. HITS staff produced information on a subject with a comparable physical description and method of operation. This subject had only within the past three months been released from prison on a previous conviction for rape. The address to which he had been released was located in the jurisdiction of the initial

reporting agency. The subject was living only a few blocks from the location of the rape. The name and information relating to this subject was given to the detective sergeant responsible for the investigation of reported rape.

#### Local Agency Financial Participation

In July, 1990, the Washington legislature funded the current HITS program. The budget for the biennium is \$1.2 million.

The major financial benefit to local law enforcement agencies is that they incurred no cost for the implementation of the HITS program. The development and implementation costs of the HITS program were borne by the U.S. Department of Justice and the Washington State Attorney General's office. The ongoing operational costs are also borne by the Washington State Attorney General's Office.

The only cost to local agencies is the investigator's time to fill out the HITS form, 20-30 minutes per form. This time is negligible compared to the time spent by an investigator trying to otherwise obtain the information that only the HITS program can supply in a matter of minutes.

Local agency participation in the FBI's VICAP program has become systematic in the State of Washington, resulting in added conservation of investigator's time, since the investigator is not required to complete two forms. The VICAP fields are collected within the HITS form. Therefore, investigators and departments receive the benefits of participating simultaneously in both

programs. The routine verification of murder information, telephone contacts, and minor lead checking that are required with participation in the VICAP program is accomplished by the HITS staff.

### Regional Expansion Efforts

On October 8, 1991, Washington State Attorney General Kenneth O. Eikenberry and Superintendent of the Oregon State Police, Reginald Madsen, signed an agreement to link the two law enforcement agencies in their efforts to fight violent crime. The agreement allows Oregon access to Washington's Homicide Investigation and Tracking System (HITS).

Members of the Oregon State Police (OSP) have been monitoring the development and implementation of the HITS program in Washington over the past several years. Investigators from both states are fully aware that the natural geographical barriers between Washington and Oregon have not been a deterrent to the mobile violent offender.

The Oregon State Police are now able to electronically transfer their violent crime information into the HITS computer. Through remote access, the OSP will have the capability of coordinating their violent crime information. Data from over 700 murders committed in Oregon during the last 6 years have been entered into the HITS computer. As a result, police and sheriff's investigators from Washington and Oregon have violent crime information readily accessible for their investigations.

In addition to Oregon, law enforcement officers from Canada, California, Idaho, and Kansas have submitted selected violent crimes to the HITS Unit for analysis.

### Contributions, Implications and Benefits

The HITS program has added significantly to understanding and improving the process of murder and sexual assault investigations in the State of Washington. Through the HITS system, it has been discovered that different types of murder cases reflect critical solvability factors unique to each category of murder. This information is very useful to detectives, many of whom investigate murders and sexual assault on a daily basis and are primarily responsible for the apprehension of violent offenders. The HITS program also provides police management personnel with the kinds of information necessary to more efficiently allocate murder and sexual assault investigation resources and manpower.

HITS underscores the importance of open lines of communication and coordination among police agencies, prosecutor's offices, coroner/medical examiner's offices, and crime laboratories in murder investigations of common interest. The HITS Unit functions as the central location and repository where Washington's various murder and sexual assault investigators can readily find information about murder and sexual assault cases. Its implementation demonstrates that the timely and coordinated sharing of comprehensive information is the key to successful violent crime investigations. In short, HITS improves the ability

of the criminal justice system to apprehend those committing murders and sexual assaults.

The HITS program has lead to improvements in criminal justice training curricula for law enforcement investigators. The identification and prioritization of solvability factors assists investigators in identifying avenues of proper and logical follow-up. This information has prompted the Washington State Criminal Justice Training Commission to redesign its Basic Homicide Investigators training curricula to reflect these changes.

HITS offers detectives proactive alternatives to the traditional reactive nature of murder investigation. HITS procedures and forms have even provided the framework for establishing one police department's guidelines for follow-up in murder investigation: In a letter from the Yakima Sheriff's Department, Detective Lieutenant Jerry Hafsos stated, "the time spent on (filling out HITS forms) has been very productive. It has initiated a change in our case management and death investigation checklist."

HITS has saved police agencies incalculable hours of investigators' time in seeking information. Prior to HITS, the only method to obtain similar information was through time-consuming, labor intensive personal visits, interviews, telephone calls, teletypes, and letters.

The Washington State Homicide Investigation and Tracking System is a model which other states can replicate and adapt to their own needs. The creation of the methods and procedures for

data collection, the collection instruments, routine analyses, and computer software, will benefit other jurisdictions that have discovered the importance of coordinating and sharing violent crime investigation information.

The information collected previously on homicides in the State of Washington has been valuable for purposes of reporting to the FBI's Uniform Crime Reporting (UCR) Program. But the data collected by HITS is more comprehensive and richer in detail, and, consequently, is even more valuable than UCR data in answering questions of legislators, elected officials, and government staff about the characteristics of victims, offenders, and incidents related to murders in the State of Washington.

HITS also complements the research and program efforts of the National Center for the Analysis of Violent Crime (NCAVC). VICAP, the serial murder tracking program, as one of four units within NCAVC, benefits from the increased participation of Washington's local police agencies in that program. By using the HITS form, which includes the fields from the VICAP Crime Analysis Report form, 100 percent of the state's police agencies are submitting the appropriate information about murder cases to the VICAP unit.

The HITS program is very beneficial to small law enforcement agencies that do not frequently investigate murders and which have investigators who are inexperienced in the specialized murder investigation techniques. Not only can they have ready access to murder information that is not recorded anywhere in their department files, but HITS investigators can provide guidance,

based upon years of experience, about how to organize their murder investigation.

HITS provides the foundation for a better understanding of the complex process of murder investigation and its accompanying high costs, emphasizing the high priority of appropriate and timely budget decisions within law enforcement agencies and by the various governmental bodies that establish those agencies' budgets.

For further information about the HITS Program, contact Robert Keppel at (206) 464-6430.