

**Cold Cases:  
An Exploratory Study into the Status of Unresolved Homicides in the USA<sup>A</sup>**

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**Abstract**

Over the years, the interest in cold cases and the solving of unresolved homicides has been in the fore front for many law enforcement agencies. There has been little to no research conducted, however, that specifies how many cases exist in this country and what factors contribute to successful resolutions. In 2010, ScrippsNews reported that from 1980 to 2008<sup>1</sup>, based on the Uniform Crime Report (UCR) clearance data, the USA had accumulated nearly 185,000 unresolved homicides. Until now that number had neither been validated nor refuted. This research identified, with confidence, over 230,355 unresolved homicides for the period 1980-2014. The only other known source, the Murder Accountability Project<sup>2</sup>, reflects that the figure is closer to 235,000 with thousands being added yearly.

Besides the crime data containing the number of homicides and their respective clearances, this research also identified how most police agencies regard cold cases; the design and make up of a cold case unit and what factors affect the solvability of these cold cases. Furthermore, as part of the concern regarding unresolved homicides, the unclear status of the “unidentified dead” in the USA was also reviewed. The process attempted to properly identify and clarify those issues while describing the procedures being utilized, all working towards a “best practices” approach.

*Key Words:* Cold cases; homicides; cold case teams; solvability factors; unidentified dead; best practices; Uniform Crime Reports (UCR) and Supplemental Homicide Reports (SHR).

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## **Introduction:**

We have seen many cold case teams come and go. Many departments chose to discontinue the units when they ran out of money awarded to them through DNA Cold Case Grants from NIJ. It appears they felt that without the outside funding they could neither sustain nor justify having a cold case unit in place. Then again, one could also suggest that policing today is focusing on today and tomorrow thus allowing cases from the past to remain undisturbed because they do not see a present threat or danger to society. However, by not investigating cold cases where arrests and convictions are obtained, we are allowing criminals to continue to commit violent crimes and perhaps even more murders. If our police agencies were to approach both “hot” and “cold” cases proactively, from both ends of the spectrum, there is potential to save time and money, while reducing the number of other crimes.

When it comes to the number of cold cases in the USA today, the figure is much higher than this research reflects because two more years (2015 and 2016) with high homicide rates have occurred. Each year has contributed at least 6,000 more unresolved homicides to the mix making the figure closer to 242,000. Add into that the possible homicides that exist within the suggested number of unidentified dead existing across the country of 40,000 (not confirmed), the number of unresolved homicides could rise even more. This concern over the unidentified dead is an issue unique to itself; unless a set of human remains has been labeled a homicide, there is little if any law enforcement involvement. As a result, the investigative process rests on the shoulders of medical examiners and coroners across the country. Thankfully, the NIJ initiated a program known as NamUS, The National Missing and Unidentified Persons System – however, the initiative is only the beginning of efforts that have been needed for some time.

### *Hot Homicides*

Because there is a strong belief that there is a significant correlation between the newly reported “hot” homicides and those that become cold and unresolved, it was deemed appropriate to start this with a view of the research regarding hot cases and their related investigative processes. One of the first references is to a study in which Baskin and Sommers (2010)<sup>3</sup> evaluated the influence of forensic evidence on case outcomes in homicide investigations. They found that investigative actions contributed more to the Criminal Justice outcomes than did the forensic evidence.

Along similar lines, but related more to the utilization of DNA was a piece of research conducted by Schroeder and White (2009)<sup>4</sup>. In this study, the authors looked at homicide cases in Manhattan, NY, concluding that detective decisions had a larger influence on solving homicides than did DNA. In fact, DNA in their cases served as validation of the detective work. And yet in another study reported by McEwen and Regoeczi (2015)<sup>5</sup> regarding the use of physical evidence in homicide investigations found that in only 7% of the cases did DNA identify the offender for arrest. Latent prints had a much higher resolution rate than did DNA but the most significant result was that detective decisions play more of a role in solving homicide cases than does physical evidence, especially DNA. However, when it came time for

prosecution, the DNA results weighed heavily on the court proceedings. The suggestion here was that the processing of DNA evidence takes months to complete, therefore the detectives in most of the cases had already made an arrest before results were recorded.

### *Cold Cases*

When it comes to cold case research one of the most significant pieces of research came from Rob Davis whose first report came as the result of an NIJ Grant.<sup>6</sup> Looking for solvability issues with cold case, the study focused on the cold case unit of the Metropolitan Police Department (MPD) in Washington DC. One factor that surfaced as the most prevalent reason for clearing cold cases was information from new witnesses or additional information gleaned from older ones previously identified in the case file. This supports the premise and statement by Sgt. David Rivers<sup>7</sup> who listed that changes in relationships of witnesses brings with it new information in cold cases. Furthermore, contrary to popular belief, “DNA matches and confessions elicited from perpetrators accounted for less than 5% of clearances each.”

In Davis’ discussion, they found that by utilizing detective processes as their guide, the authors identified three reasons why cold cases are cleared. The least likely case to be solved is the one the detective picks up for review due to a family member complaint or a media request. The second type of detective action is the utilization of forensic techniques that lead to a perpetrator; they noted that with indiscriminate DNA testing of large numbers of cases, the return is well below 50%. And, lastly, the highest return for clearance comes from the individual who has been arrested for another crime and now admits to the murder or names the killer to the detectives.

Davis, et. al. take the position that having a cold case unit does not appear to be a cost-effective process or entity for a police agency. While this position does have some merit, it is the position of the authors here, that research needs to go further and attempt to identify the savings obtained when criminals are taken off the streets, thus preventing them from committing other, frequently violent crimes. And, while not particularly a fair question, one can argue that you cannot put a price tag on a person’s life.

### *NIJ Cold Case Working Group*

In 2015, the NIJ started a Cold Case Working Group with the express intent to define the term “cold case”; identify what constitutes a cold case unit; determine which methodology and protocols can be attributed to successful cold case units; and to ultimately write a “best practices” approach to the issue at hand. However, as will be seen in this study, the variance of definitions and approaches are large and will differ, even significantly, from agency to agency and state to state. However, beginning with a “best practices” approach is an ideal way to proactively approach this dilemma.

It was one of the leaders of this group that posed a couple of questions to Dr. Adcock that was the impetus for this study to be conducted. The first question posed: “Was there any research that validated the number of unresolved homicides in the USA?” Secondly, “How many cold case units or teams do we have operating in our police agencies?” No offense

intended, but asking that first question now was a little odd as one would have thought we already knew the answer. As it turns out we didn't. We were all assuming the cold case numbers were high, but had no idea of the actual figures. Both of those questions, along with others, are preliminarily answered in this study.

The initial response, as previously mentioned above, was Hargrove's 185,000 reported in 2010. But no one had validated that nor challenged it in any manner. As a result of this research we now know that the figures are well over 242,000 and they are climbing by the thousands each year. The answer to the second question, at that time, was also "I don't know"! However, that question will be answered later in this article.

**Methodology:**

The initial premise of the research was to identify the number of cold cases in existence in the USA and to determine how many police agencies had active cold case units. Other questions were also posed as a means of gathering more data about the status of unresolved homicides. As a result, answering the first two questions was paramount and if the opportunity should arise to conduct another study, changes would be made to the methodology as many questions were left unanswered.

A three-prong approach towards collecting the information was utilized. The first was to design a survey that would be emailed through Survey Monkey to 10,500 police agencies around the country. These email addresses were obtained from the latest issue of emails and addresses as provided by the National Public Safety Information Bureau. The survey questions were peer reviewed to ensure accuracy. Also, since this survey was not conducted through an educational institution, an IRB approval was not necessary. However, like with any data retrieval system, especially surveys, the reliability of the numbers provided could come into question if not validated through other sources and/or research.

In addition to the standard demographics, number of police officers and detectives, etc., the questions consisted of some of the following: what constituted a cold case or how is a cold case defined; how many cases did each department have; was there a dedicated cold case team; does the team have in its membership a CSI person, analyst or a prosecutor? The survey also asked the agencies to rate solvability factors and to provide information as to what was needed to have a successful cold case unit (see Table 1).

**Table 1: Law Enforcement Questionnaire**

|          |  |
|----------|--|
| <b>1</b> | <b>Agency and responder's information; number of officers, detectives, etc.</b>  |
| <b>2</b> | <b>What is the population served by your agency?</b><br>250,000>; 100,00 to 249,999; 50,000 to 99,999; 25,000 to 49,999; 10,000 to 24,999; or < 10,000.  |
| <b>3</b> | <b>In your agency what constitutes the "Cold Case" classification of an unresolved homicide?</b><br>Passage of time; Lack of investigative leads; original detective no longer there; or I don't know. |

|    |  |
|----|--|
| 4  | <b>If, in the previous question, you selected “the passage of time” as the main criteria for classifying an unresolved homicide as a “Cold Case”, how old does the case have to be for it to be called a cold case?</b>  |
| 5  | <b>Does your agency have any unresolved homicides (Cold Cases)?</b>  |
| 6  | <b>How many cold cases does your agency have?</b>  |
| 7  | <b>Does your agency have a dedicated Cold Case team?</b>   |
| 8  | <b>How long has your Cold Case team existed?</b>   |
| 9  | <b>How many detectives are assigned to your Cold Case team?</b>  |
| 10 | <b>How is your Cold Case team structured?</b><br>Manned solely by your agency; manned by county and state; manned by city, county and state; manned by city, county (sheriff); not applicable.   |
| 11 | <b>If detectives from other agencies are assigned to your Cold Case Team, how many different agencies are involved?</b>  |
| 12 | <b>Is a forensics or CSI person assigned to your Cold Case team?</b>   |
| 13 | <b>Is a crime analyst assigned to your Cold Case Team?</b>   |
| 14 | <b>Is a prosecutor assigned to your Cold Case Team?</b>  |
| 15 | <b>If a prosecutor is not assigned to your Cold Case team, do you have a prosecutor who deals specifically with your team and/or their Cold Cases?</b>   |
| 16 | <b>How many Cold Cases has your team solved?</b>   |
| 17 | <b>Of those cases your agency solved, how many of them was the perpetrators name in the case file before you started the Cold Case investigation?</b>  |
| 18 | <b>Rate the following in the order of importance (1-7) as it relates to the cold cases solved in your agency. For example: one (1) equals the factor that contributed the most to solving your cases, while the seven (7) equals the factor that contributed the least to solving your cold cases.</b><br>DNA; latent prints; detective decisions; other physical evidence; availability of witnesses; cooperation of witnesses; interviewing skills of the detectives; other. |
| 19 | <b>Rate the following in the order of importance (1-5) that you think would increase the number of Cold Cases solved in your agency.</b><br>More funds; more training; more personnel; more equipment; faster forensic services; or other.   |
| 20 | <b>Comments?</b>   |
| 21 | <b>If you do not have a cold case team, but have unresolved Cold Cases, what assistance if any would you request to resolve those cases?</b>   |
| 22 | <b>Will you allow the survey administrator to call or email you for additional information?</b>  |

This survey was distributed in three waves; an initial 90-day response period that started on October 15, 2015. After the initial emails, reminders were sent twice at 30 day intervals to those who did not respond previously. After the allotted time frame, a review of the data was conducted and as a result individual emails were sent and phone calls were made to many agencies asking for clarification or for more information to complete their survey.

The second phase of the study was a survey directed to the Medical Examiners and Coroners around the country targeting the status of the “unidentified” dead. Coordination was first initiated with the National Association of Medical Examiners (NAME) and the International Association of Coroners and Medical Examiners (IAC&ME). In this effort both agencies agreed to the content of the survey and offered their support by providing the delivery of the survey to their members. NAME posted the survey link on their listserv for their members to access while IAC&ME sent out emails to their members that contained a link to the survey.

Some of the questions asked were, populations served, number of unidentified dead per jurisdiction, and the manner of death for those unidentified. The questions addressed agencies familiarity with the services of NamUS; storage of unidentified remains; awareness of certain forensic services that could be helpful in the identification process and whether DNA results were run though national and local data bases? A complete list of the questions on this survey can be seen in Table 2 below.

**Table 2: Coroners/Medical Examiner’s Questionnaire**

|           |   |
|-----------|---|
| <b>1</b>  | <b>Agency information</b>   |
| <b>2</b>  | <b>Please state in whole numbers the population of the jurisdiction you serve.</b>  |
| <b>3</b>  | <b>Does your agency have any unidentified dead bodies which are cold cases (more than 30 days old)?</b>   |
| <b>4</b>  | <b>How many cold unidentified dead bodies does your agency have as of December 31, 2015?</b>  |
| <b>5</b>  | <b>In regards to the manner of death for your cold unidentified dead bodies, please indicate below the number you have for each classification. How many are homicides, how many are suicides, etc. Only whole numbers, please.</b><br><br>Homicide; suicide, accident; natural; undetermined; zero = no unidentified dead. |
| <b>6</b>  | <b>How many of the “homicide” unidentified dead were/are being investigated by a law enforcement agency?</b>  |
| <b>7</b>  | <b>In which year did the record set you used to provide this data begin?</b>  |
| <b>8</b>  | <b>Is your agency familiar with the functions and activities of the National Missing and Unidentified System (NamUS)?</b>   |
| <b>9</b>  | <b>How many of your Cold Unidentified Dead Bodies are registered with NamUS?</b>  |
| <b>10</b> | <b>How do you store your cold unidentified dead bodies? More than one answer is allowed.</b><br>Buried; cremation; in the ME/Coroner office; or NA.   |
| <b>11</b> | <b>Has your agency ever used any of the following services? Check all that apply.</b><br>Facial imaging; clothing imaging; familial DNA; chemical isotope analysis; or forensic anthropology assessment   |
| <b>12</b> | <b>If you have not used any of the forensic services as listed above, would you be interested in someone contacting you regarding service to your agency?</b>   |

|    |   |
|----|---|
| 13 | <b>Regarding those cold unidentified dead bodies where you obtained DNA samples, were those results compared to the CODIS and State Offender Databases?</b> |
| 14 | <b>Will you allow a research team member to contact you regarding any of the information you provided in this survey?</b>                                   |
| 15 | <b>Please provide comments or explanations you wish to offer.</b>   |

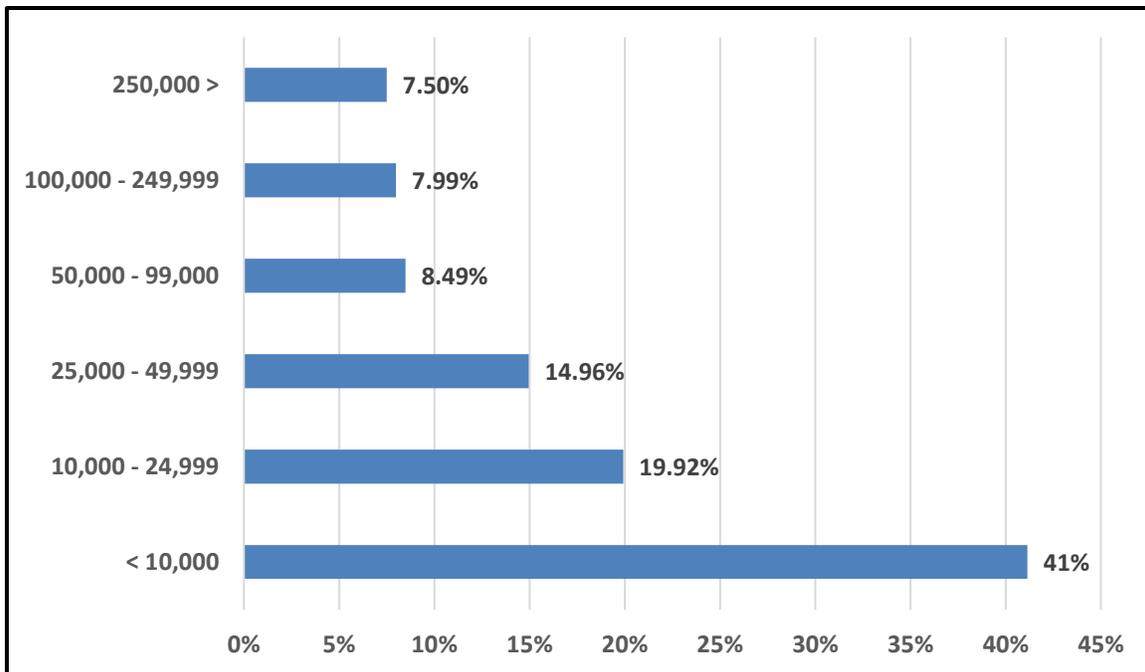
This “unidentified” dead survey began March 8, 2016 and continued for 90 days. As with the law enforcement portion, reminders were sent at 30 day intervals to the respective people and agencies. During this survey, the responses seemed to be a little slow and the fear was that not enough respondents would be received. As a result, an additional 1,259 emails were sent by the survey administrator to coroners and medical examiners listed in an email data base from The National Public Safety Information Bureau. Follow up individual emails and phone calls were also conducted to clarify information or to complete surveys.

During this process of conducting surveys to law enforcement agencies and coroners/medical examiners, the third phase was being conducted simultaneously. In this segment, a complete analysis of the Uniform Crime Reports (UCR) coupled with the Supplemental Homicide Reports (SHR) for the period 1980-2014, regarding all reported homicides and clearances, was performed. Interestingly enough, this process helped to validate some of the data provided by law enforcement agencies and served to identify, with confidence, the actual number of cold cases accumulated in the USA between 1980 and 2014.

**Results:**

*Phase One – Law Enforcement Survey*

The survey to 10,500 law enforcement agencies resulted in a return of over 1,200 responses; 992 of which were found to contain sufficient data for analysis in this study. The rest were incomplete, not properly filled out or did not answer the questions as guided by the survey instructions. The population distribution (Figure 1) of the responses was demographically representative for police agencies in this country.



**Figure 1: Population Distribution of LE Respondents**

When asked to define what constitutes a cold case in their agency, the respondents were given four choices: lack of leads, passage of time, original detective no longer there or do not know. Nearly seventy-three percent (73%) identified the lack of leads as the leading cause for the classification of a case to be labeled a “cold case”. This was followed by the “passage of time” at twenty percent (20%) and almost six percent (6%) said it was because the detective was no longer there. The remaining one percent (1%) responded with “I do not know”. In the category concerning the passage of time, the average time expressed was about 5 years.

Two things to note here, while the lack of leads seems to be the predominant reason for a case becoming cold, we would suggest that it should be the lack of “viable” leads, not just any unresolved lead. However, for the purposes of the “best practices” guidelines as being suggested by the NIJ Cold Case Working Group, the definition of a cold case will probably change to something more along the lines of: “A UCR Part 1 violent crime, excluding rape and sexual assault, that has remained unsolved and has (1) the potential to be solved and/or prosecuted through the application of forensic techniques and/or technologies to evidence collected during the investigation; or (2) newly acquired evidence.”<sup>8</sup>

The second point concerns the answer suggesting the case does not become cold until the lead detective has left the unit and is no longer available to conduct the investigation. The reason for asking this question is that it comes from Sgt. Rivers’ initial list of criteria for cold case investigations where in Dade County they did not label a case a cold one until that detective was no longer in the unit, left or retired.

Another interesting result has to do with how many of the responding agencies reflected that they do in fact have cold cases on their docket. Five hundred and forty-four agencies (544) reported having unresolved homicides for a total of 40,512 cases; eighty-five percent (85%) of the cases were in jurisdictions with populations exceeding 250,000. From the 544 agencies, 101 or eighteen and a half percent (18.5%) reported having a dedicated cold case unit. For the purposes of this survey, it is important to note here, that while the definition for “dedicated” cold case unit is one that does nothing else but cold cases<sup>9</sup>; it is uncertain whether all of these 101 agencies were following that definition.

It is noteworthy that less than 20% of the agencies having cold cases also have a cold case team. It can only be assumed this is related to the agencies being too small where they cannot afford the manpower and/or do not have adequate funding available for such an endeavor. In such predicaments, a possible remedy would be to create regional teams with surrounding cities and counties where no one agency is carrying the entire burden. More on that in the recommendations portion of this report.

The next effort went towards determining whether any of the respondent answers were sufficient to use in a statistical model. A Linear Regression model was developed using the answer to the question of How many cold cases has your agency solved as a dependent variable and the following as independent variables: number of sworn officers in the agency; number of detectives; existence of a dedicated cold case team; number of detectives assigned to the team; assignment of a forensic person to the team; assignment of a crime analyst to the team; assignment of a prosecutor to the team; and whether or not the perpetrators name was in the case file prior to the initiation of the cold case investigation.

The model, as depicted below in Table 3, reflects that four of these variables were significant for their contribution to the solving of cold cases. The summary for this model reflects an R squared value of .767 that was adjusted to .765 which is good in explaining the activity between the variables. Most of these factors that significantly contributed to solving cases are probably common sense results like with number of sworn officers (.017), number of detectives (.001) and whether or not the perpetrators name was in the file (.000). The one surprise was the significance (.000) for the presence of the prosecutor as a member of the cold case team. It was thought that the crime analyst would have done better, but it did not.

Since it is anticipated a question will arise regarding the variable about the perpetrators name in the file prior to the initiation of the cold case investigation, this was presented because of the research conducted by Robert Keppel<sup>10</sup> in which he reports that in his serial murder study he found that the perpetrator was named in the case file during the first 30 days of the investigation about 90% of the time. In this study, we were unable to narrow the time frame as that would have taken too long for the respondents to research and determine, therefore causing them to not respond at all. However, in their responses the agencies collectively reported that in about 70% of the cases they solved, the perpetrators name was in the file prior to the initiation of the cold case investigation. This needs to be explored further.

**Coefficients<sup>a</sup>**

| Model |   | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|---|-----------------------------|------------|---------------------------|--------|------|
|       |   | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant)  | 3.640                       | .198       |                           | 18.366 | .000 |
|       | Number of sworn officers  | .000                        | .000       | .066                      | 2.397  | .017 |
|       | Number of detectives  | .002                        | .001       | .034                      | 1.295  | .196 |
|       | Does your agency have a dedicated Cold Case Team?   | .000                        | .003       | .002                      | .120   | .904 |
|       | How many detectives are assigned to your Cold Case Team?  | -.119                       | .036       | -.276                     | -3.275 | .001 |
|       | Is a forensics or CSI person assigned to your Cold Case Team?   | .150                        | .086       | .363                      | 1.742  | .082 |
|       | Is a crime analyst assigned to your Cold Case Team?   | .043                        | .070       | .105                      | .621   | .535 |
|       | Is a prosecutor assigned to your Cold Case Team?  | -.250                       | .063       | -.608                     | -3.992 | .000 |
|       | Of those cold cases your agency solved, how many of them was the perpetrator(s) name in the case file before you started the cold case investigation? | .501                        | .026       | .471                      | 19.402 | .000 |

a. Dependent Variable: How many cold cases has your team solved?

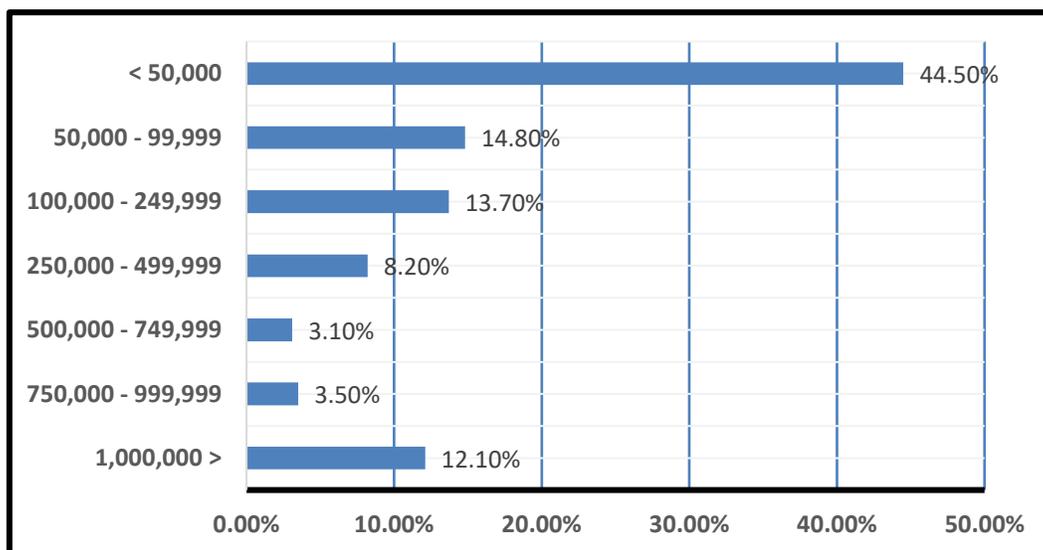
**Table 3 – Linear Regression Model results**

In response to the question about solvability factors, the responders were asked to rate the list of factors in the order to which they contributed most to the solving of their cold cases. There was no question that DNA would lead the list and did so about 35% of the time. But what was more revealing is that detective interviewing skills (25%) and detective decisions (22%) came second and third respectively. Surprisingly, cooperation and availability of witnesses was lower, placing fourth and fifth while other physical evidence was last.

As to what makes a cold case unit successful, the responders selected manpower first (47%) followed by faster forensic services (23%); more funds (19%) and then training (9%). The lack of manpower is without a doubt a driving force for supervisors to not have a cold case unit. Frequently, as previously mentioned, when grant funds run out cold case units are generally dissolved.

*Phase Two: Coroner/Medical Examiner Survey*

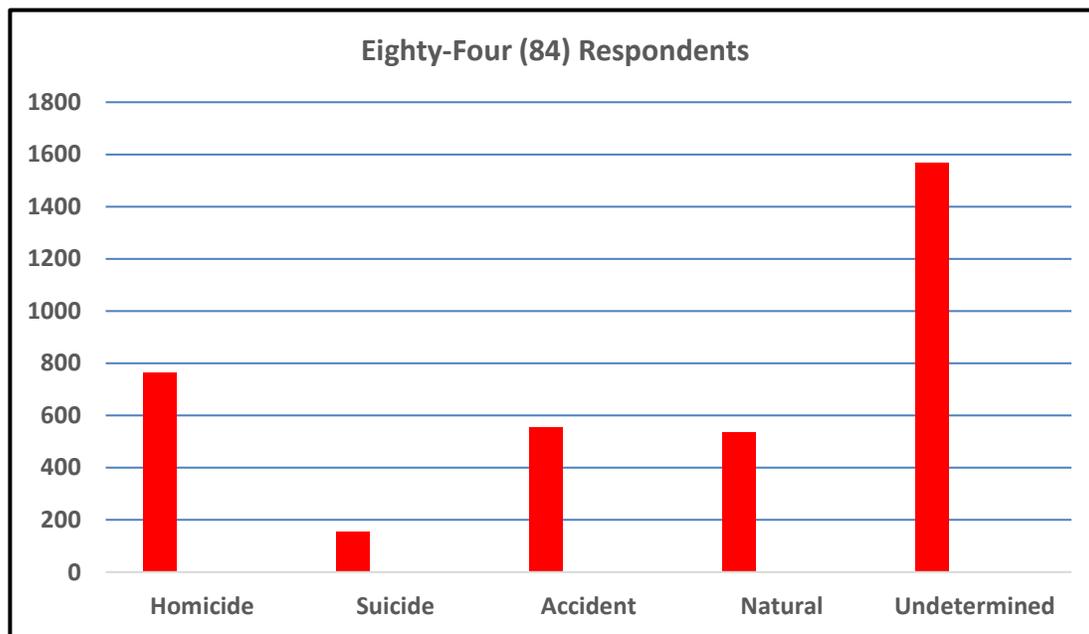
Regarding the solicitations and responses for this survey, NAME had 700 members, twenty-three (23) of which responded; IAC&ME had 985 members with a response of eighty-eight (88); the separate email data base of 1,245 emails had a return of 159; and there were seven additional responses from Georgia Coroners that were not previously emailed. According to the lead organizations NAME has 700 members who are spread out among 400 medical examiner offices and the IAC&ME with a membership of 985 are spread out over 2,400 coroners (or coroner/ME) offices. The total number of respondents was 277. Caution was taken to ensure that none of the responses were duplicated from the same office. The distribution of population regarding the respondents can be found in Figure 2 below.



**Figure 2: Population Distribution for Figure**

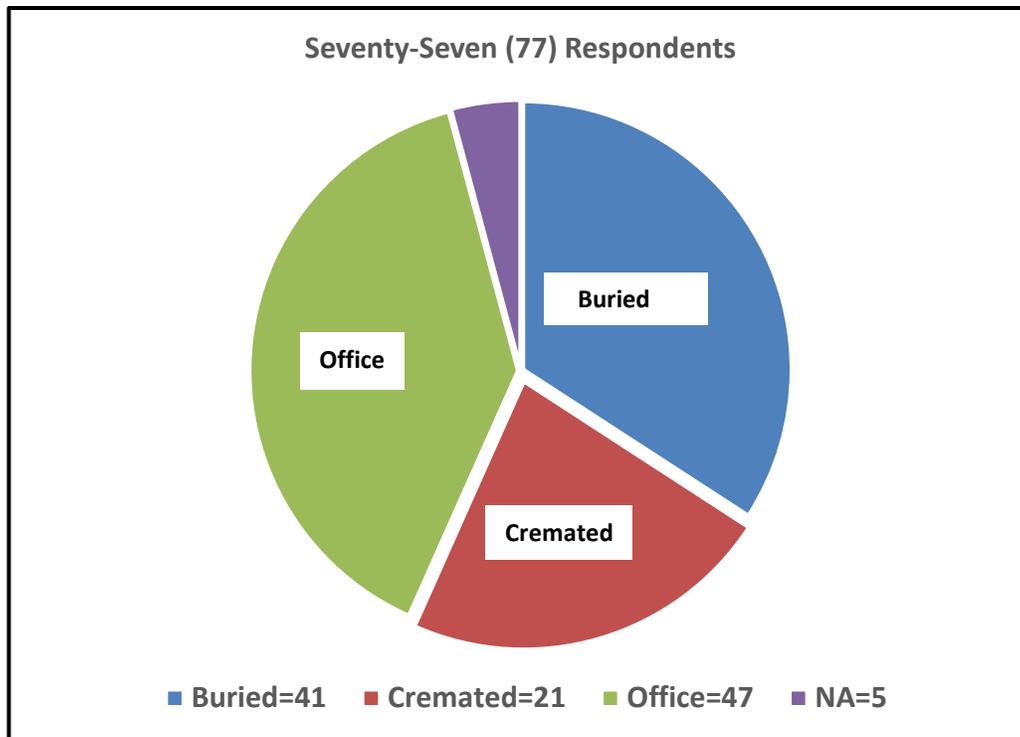
One hundred agencies (36.1% of reporting offices) collectively reported having 4, 514 unidentified dead in their facilities. There are unconfirmed and unsubstantiated reports that reflect the figure of unidentified dead is around 40,000. From those 4,514 reported unidentified dead cases, ninety percent (90%) of them were reported from agencies working in jurisdictions with populations that exceed 1,000,000.

As to the manner of death labeling of these cases (Figure 3) the largest number, over 1,500, are “undetermined”. Several reasons could contribute to this number, one potentially being that the remains were skeletonized and an examination failed to reveal any signs of trauma or indicators that an accident or suicide occurred. Yet, even with that knowledge, many of these could have been homicides. Nearly eight hundred (800) of the reported cases were listed as “homicide” and these were passed on to a law enforcement agency for investigation.



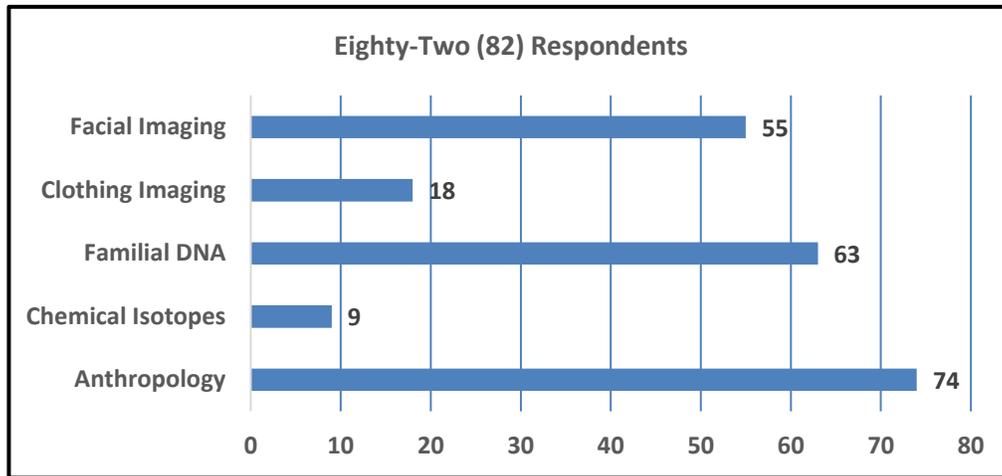
**Figure 3: Manner of Death Distributions**

The issue of storing unidentified human remains (Figure 4) has always been a problem as most facilities are not equipped to retain them over long periods of time, if at all. In response to this survey forty-seven (47) respondents indicated that they store them in their facility while almost the same number (41) buried their remains in pauper or government gravesites. Twenty-one (21) agencies reported that they use cremation as a means of handling the situation which seems to be common in rural jurisdictions. As long as the coroner/ME has properly registered the DNA, dental and maybe fingerprints from the body and possibly retained identifying material, then this process is probably adequate. While cremation may not be desirable from either a law enforcement or family’s perspective, it may be the only choice for certain jurisdictions.



**Figure 4: Storing of Unidentified Remains**

Forensic Anthropology (Figure 5) was used more than any other forensic service for the evaluation and identification of the unidentified dead. While Familial DNA was second on the respondents list, this process is not being used widely in the USA with only a few select states providing the service to the agencies they support. Other techniques such as facial and clothing imaging were mentioned as being utilized by some. The least used technique was Chemical Isotopes. This technique is becoming more widely accepted and has many successful cases where the origin of the remains has been established, thereby giving investigators a narrower lead towards identifying the remains, an absolute critical element for homicide cases.



**Figure 5: Utilization of Forensic Services**

Lastly, it was surprising and somewhat concerning to see that nine (9) agencies reported they did not compare their DNA results from their unidentified with CODIS nor state offender data bases. It is imperative that all samples be submitted to and compared with all regional, state and national data bases such as NamUS and CODIS.

*Phase Three: Analysis of the UCR and SHR homicide and clearance data for 1980-2014*

This was by far the longest and most tedious phase of the study but was necessary to not only identify what the law enforcement agencies were reporting but to also help validate some of the data collected through the first phase survey of the police agencies. The end result, based on what had been reported to the UCR and SHR, for the period 1980-2014, was that the USA has accumulated over 230,355 unresolved homicides. With that being said, the Murder Accountability Project reflects that figure should be closer to 235,000. And with 2015 and 2016 having significant increases in the number of reported homicides with a seemingly constant national clearance rate close to 62% (or less), an additional 6,000 cases will be added as each year passes while there are indications the clearance rate for 2016 is dropping to its lowest.

In the following tables are some comparison data from randomly selected cities that responded to the survey. These are broken down by population groups starting with the population group of 25,000 to 49,999 and reflect the police department name; the number of cold cases they reported having on their docket; what the UCR/SHR reflects they should have; and lastly, whether they have a dedicated cold case unit working these cases. A word of caution about the reported numbers from the agencies, as with all self-reported data, there is no way to guarantee that the respondent definitively knew the accuracy of the data s/he was reporting.

**Table 4 - Populations 25,000 to 49,999**

| City, State         | Survey | UCR/SHR | CC Unit |
|---------------------|--------|---------|---------|
| Biloxi, MS          | 35     | 22      | Yes     |
| Chester PD & CO, PA | 100    | 394     | No      |
| Saginaw City, MI    | 100    | 402     | Yes     |
| North Chicago, IL   | 10     | 14      | No      |

**Table 5 – Populations 50,000 to 99,999**

| City, State        | Survey | UCR/SHR | CC Unit |
|--------------------|--------|---------|---------|
| Norwalk, CT        | 48     | 48      | No      |
| Del Ray Beach, FL  | 20     | 43      | No      |
| Waukegan, IL       | 33     | 49      | Yes     |
| Jackson, TN        | 54     | 59      | No      |
| Roanoke County, VA | 15     | 94      | No      |
| Charleston, WV     | 40     | 66      | No      |
| Flint City, MI     | 600    | 785     | Yes     |

**Table 6 - Populations 100,000 to 249,999**

| City, State        | Survey | UCR/SHR | CC Unit |
|--------------------|--------|---------|---------|
| Rochester, NY      | 400    | 599     | No      |
| Tacoma, WA         | 150    | 144     | Yes     |
| Milwaukee, WI      | 400    | 724     | Yes     |
| Birmingham, AL     | 200    | 1364    | Yes     |
| Springfield, IL    | 30     | 190     | No      |
| San Bernardino, CA | 450    | 456     | No      |
| Columbia PD, SC    | 26     | 137     | Yes     |

**Table 7 - Populations 250,000>**

| City, State      | Survey | UCR/SHR | CC Unit |
|------------------|--------|---------|---------|
| Buffalo, NY      | 40     | 824     | Yes     |
| Phoenix, AZ      | 2500   | 2136    | Yes     |
| Nashville, TN    | 500    | 1213    | Yes     |
| Chicago, IL      | 500    | 9757    | Yes     |
| Washington, DC   | 1000   | 3884    | Yes     |
| Philadelphia, PA | 300    | 3392    | Yes     |
| Jacksonville, FL | 1300   | 1375    | Yes     |

That said, it is also interesting to note that some jurisdictions reported number of cold cases as being very close to what the UCR/SHR reflect them having. For example, San Bernardino, CA reported in the survey they have 450 while the UCR reflects it to be 456; Phoenix reported having 2,500 while our study reflects it to be 2,136. As a contrast look at Chicago with our figures of them having 9,757 when they reported only having 500; or Philadelphia, PA reporting 300 when in fact it should be closer to 3,392. The suggestion here would be that agencies like San Bernardino and Phoenix, have a handle on the problem and know what they are dealing with while many of the others may not know how many cold cases exist in their jurisdiction. This all goes back to one of the premises mentioned earlier, that today's law enforcement appears to focus more on issues relating to today and tomorrow and does not look at the past. This present-day focus results in an increase in their cold unresolved homicide numbers each year.

So, what have we learned from all this? First that the total number of unresolved homicides in the USA is much higher than expected and if one doesn't know the magnitude of the problem, then adequate plans and countermeasures cannot be easily developed. Second, it is quite clear that having a prosecutor on the cold case team significantly contributes to the proper resolution of the cases. Lastly, detective decisions are not only extremely significant in hot homicides, but are also critical for the resolution of cold cases where physical evidence including DNA is not always the solution.

### **Discussions:**

There is no question that with the rapid rising of the number of unresolved homicides in this country, law enforcement agencies, coroners and medical examiners, are all facing a dilemma that could have exorbitant effects on our society now and in the future. Doing little to nothing to solving these cases is only going to cause policing to be more difficult as society loses faith in the police to protect and serve them. Costs in the form of funds and manpower are very much at the top of the concerns expressed by the leadership. But there again, how much is a life worth and what do you tell the families?

The number of unresolved homicides presented in this study are conservative as compared to what the Murder Accountability Project (MAP) are promoting. To be honest though, we really do not know for sure how many there are because the crime reporting system is voluntary. And as the MAP disclosed, some states were not reporting at all, especially when it came to homicides and clearance data. The problem is worse that the data tells us.

Some agencies have a couple of detectives they call cold case detectives but they are not a "dedicated" unit like has been explained here. As a result, their ability to concentrate just on cold cases is diminished because they are frequently called in to assist on freshly reported homicides, etc. This process is counter-productive. While the system does place a significant amount of emphasis on the forensic techniques to solve homicides, it is quite clear from the research that in hot homicides especially and as a strong component of cold cases, we find that detective decisions, not the evidence, play the most significant role.

Davis<sup>11</sup> reported that the cold cases that are picked up for investigation at the request of either the family or the media, are the least likely to be resolved. It is like we are constantly putting out fires by being reactive with no proactive activity at all. The pro-activeness comes from knowing what the problem is; designing an approach to resolve the problem (cold cases); creating a dedicated cold case team and organizing the process for mass effectiveness. This must be sustained over time to reveal its value and true colors. Most recently, Dr. Adcock wrote an op-ed (Why Solving Old Murders Can Help Prevent New Ones)<sup>12</sup> in which he provides a solution to the above problem in the form of a properly structured dedicated cold case team. As demonstrated by this exploratory study, the inclusion of a prosecutor on that team significantly contributes to the proper resolution of these cases.

As to the Unidentified dead, the question stills looms over us as to how many does the USA have and whether the 40,000-figure suggested earlier is actually a valid number. There is no question that in many of the jurisdictions the Coroner/Medical Examiner systems are overwhelmed and probably understaffed and do not have adequate space. The lack of resources coupled with the increasing number of homicides serves to intensify the problem.

## **Recommendations**

The primary goal of the first Cold Case Unit in Dade County, FL was to obtain a conviction. That was the premise for doing cold cases in the 1980s. However, today, it is suggested that we reconsider this position and add to it the factor of what the surviving family members bring to the situation.

We are seeing more and more involvement of these family members through organizations like the Parents of Murdered Children (POMC). They worked diligently with the National Sheriff's Association who in turn published a document providing guidelines for the development of a protocol for law enforcement investigation of cold cases.<sup>13</sup> One of the key elements was the view that the word "cold" meant to the parents that the case was no longer getting investigative attention. While that label was not the intent, the perception is there. With all that said, it is recommended that agencies listen carefully to the surviving family members and while the goal is to make an arrest with a conviction, it should also be to serve the families. Going that extra step, even when the perpetrator is deceased and exceptionally cleared, to validate the suspects involvement through a DNA test, after the fact, will go a long way towards improving and maintaining confidence of the public in law enforcement.

As one can see from the results of this study the far majority of cold unresolved homicides and agencies with cold case teams, are primarily located in larger jurisdictions where the manpower and funding are more readily available. This study also noted that less than 20% of all the agencies, who reported having cold cases in their departments, have a cold case unit. And with nearly 70% of all police agencies in the country being smaller agencies with 25 or less sworn officers, collectively, these smaller agencies have thousands of unresolved cases but do not have the where with all to investigate them properly.

In response to this dilemma, it is suggested that regional cold case units be created where the burden to support the unit falls on multiple agencies, not just one or two. Police have been multi-agency task forcing for decades against drugs, gangs, human trafficking, etc., so why not against cold cases? This concept has been successful in many jurisdictions and a couple of options exist: (1) formulate the team from surrounding police agencies, city and/or county with consideration to run the unit as is or include assistance from the State Police with broader powers and jurisdiction (the same could also be said about Federal agency representation such as the FBI); or (2) use the district attorney as the focus of the cold case unit where all agencies under the jurisdiction participate as team members. The advantage of the second approach is that the prosecuting attorney is already on board and in some situations, may be the agency taking the lead.

Another consideration would be to have legislation in place that mandates agencies over a certain size to have a cold case unit in place. If a department is not able to accomplish this individually, they would be required to join forces with surrounding agencies or counties, and form a regional unit as mentioned above. As to legislation, a couple of states (Arizona, Colorado and Florida) have reportedly moved in this direction. At the federal level, there is an effort afoot for the Unresolved Case Accountability Act (UCA)<sup>14</sup> that is being written, and if passed, could drastically affect the way cold cases are handled in the future, improving the system across the country.

Additional research is needed on homicides, clearances, cold cases and unidentified dead, not only as a follow-up to this study to investigate any areas missed but also to identify and improve upon concerns seen by agencies regarding the status of the unidentified dead and cold case investigations. More exploratory inquiries are needed: further validate the present processes and the involvement of detective decisions and actions; find alternative methods to increase the productivity of physical evidence in these cases; evaluate the cost factors associated with having a cold case unit versus not; identify the cost of crime and its effects on society where there are no cold case investigations and those perpetrators remain on the streets committing more crimes; and lastly, find and establish a better method of evaluating detective work versus just using the number of clearances as the gauge.

Lastly, with unidentified dead, the following are suggested: make the utilization of NamUS a mandatory function; try to find better solutions about the storage and disposition of these remains; place more emphasis on forensic technology such as Chemical Isotopes and familial DNA; and include long term missing and unidentified dead as part of the discussions regarding all cold case investigations.

## References:

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- <sup>1</sup> Hargrove, T., Nearly 185,000 homicides since 1980 remain unsolved. Retrieved from <http://www.scrippsnews.com/projects/murder-mysteries/nearly-185000-homicides-1980-remain-unsolved>; retrieved June 2010.
- <sup>2</sup> Murder Accountability Project, (Thomas Hargrove) retrieved from <http://www.murderdata.org/> on April 4, 2017.
- <sup>3</sup> Baskin, D., & Sommers, I. (2010). The influence of forensic evidence on case outcomes of homicide incidents. *Journal of Criminal Justice*, 38, 1141–1149.
- <sup>4</sup> Schroeder DA, White MD. Exploring the use of DNA evidence in homicide investigations: implications for detective work and case clearance. *Police Q* 2009;12(3):319–42.
- <sup>5</sup> McEwen, Tom and Wendy Regoeczi. Forensic Evidence in Homicide Investigations and Prosecutions. *J Forensic Sci*, September 2015, Vol. 60, No. 5.
- <sup>6</sup> Davis, Robert C.; Carl J. Jenson, III; Lane Burgette; and Katherine Burnett. *Working Smarter on Cold Cases: Identifying Factors Associated with Successful Cold Case Investigations*. *Journal of Forensic Science*, March 2014, Vol 59, No 2. Pp 375-382.
- <sup>7</sup> Personal communication with Sgt David Rivers who started one of the first cold case units in the USA in the 1980s in Dade County FL. This conversation took place at the Markle Symposium on Cold Cases, hosted by the Henry C. Lee Institute of Forensic Sciences in 2004 at Fox Woods Casino, CT.
- <sup>8</sup> Notes taken by Dr. Adcock at the NIJ Cold Case Working Group meeting in New Orleans, November 2015.
- <sup>9</sup> Adcock, James M. *Getting Away with Murder: The National Crisis of Cold-Case Homicides*. <http://thecrimereport.org/2017/03/20/getting-away-with-murder-the-national-crisis-of-cold-case-homicides>. March 20, 2017.
- <sup>10</sup> Keppel, Robert D. and William J. Birnes; 2003. *The Psychology of Serial Killer Investigations*. Academic Press. San Diego, CA.
- <sup>11</sup> Davis, Robert C.; Carl J. Jenson, III; Lane Burgette; and Katherine Burnett. *Working Smarter on Cold Cases: Identifying Factors Associated with Successful Cold Case Investigations*. *Journal of Forensic Science*, March 2014, Vol 59, No 2. Pp 375-382.
- <sup>12</sup> Adcock, James M. *Why solving old murders can help prevent new ones*. Retrieved from: <https://thecrimereport.org/2017/04/04/why-police-units-dedicated-to-solving-old-murders-help-prevent-new-ones/> April 4, 2017.
- <sup>13</sup> National Sheriff's Association in cooperation with Justice Solutions and the National Organization of Parents of Murdered Children; *Serving Survivors of Homicide Victims During Cold Case Investigations: A Guide for Developing a Law Enforcement Protocol*. 2011.
- <sup>14</sup> This project for the Unresolved Case Accountability Act was formulated by Sarah L. Stein, PhD. The concept was derived from the present ongoing CART (Child Abduction Response Team) procedures.