

National DNA Data Bank Advisory Committee

2000-2001 ANNUAL REPORT

National DNA Data Bank Advisory Committee

*Richard A. Bergman, Chairperson
Dr. George R. Carmody, Vice-Chairperson*



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Executive Summary

The National DNA Data Bank Advisory Committee (*the Committee*), was appointed by the Solicitor General of Canada in early 2000 to function as an independent body to oversee the effectiveness and efficiency of the National DNA Data Bank (*the Data Bank*). The Committee was established pursuant to the *DNA Identification Act* and the annexed *Data Bank Advisory Committee Regulations* and is charged to report to the Commissioner of the RCMP annually. Since the inauguration of the Committee and the opening of the Data Bank in June 2000, members have regularly reviewed all aspects of the implementation process and the Data Bank operations. Particular attention has been directed to the interrelationships between the Crime Scene Index and the Convicted Offenders Index.

Within this Report, the Committee has made recommendations regarding the training of the judiciary, the need to amend the *Criminal Code* to resolve the status of certain sexual offences, the requirement to amend the *DNA Identification Regulations* so as to clarify the fingerprinting process which occurs when bodily substances are collected from convicted offenders, the need to extend continued training to Data Bank personnel so as to ensure that they remain current with new technologies, and, the need for regional and provincial laboratories to promptly upload Crime Scene DNA Profiles of designated offences into the Data Bank Crime Scene Index.

The Committee has also identified their objectives for the coming year and these are contained within this Report. They include an evaluation of the Sample Tracking and Control System (STaCS), the examination of federal/provincial/territorial cost sharing agreements for biology casework, as well as a closer examination of Data Bank effectiveness.

The Committee has stated their very positive comments about how the Data Bank has progressed to date and will continue to monitor all aspects of the operation in accordance with their mandate.

The Committee extends its appreciation to all RCMP members and Project staff for their assistance during the past year.



Summary of Recommendations

The Committee makes the following recommendations to the Commissioner of the RCMP for consideration:

Recommendation 1 - Training of Judiciary

The Committee has been concerned about the apparent lack of training within the Provincial Court Judiciary sectors and their associated administrative support components. We have been informed that the Department of Justice is aware of this issue. The Committee recommends that in future, funding proposals for the training of the provincial judges and court administrators should be included in budget submissions which accompany new legislation to Parliament.

Recommendation 2 - Amending Legislation

The Committee recommends that the Department of Justice take action to resolve the status of certain sexual offences under previous editions of the *Criminal Code* in relation to the current *Criminal Code* which authorizes a process for retroactive sample collections. An amendment to the *Criminal Code* may be required in order to ensure that all appropriate retroactive authorizations can be pursued in the courts to their conclusion.

Recommendation 3 - Amending Regulations

This recommendation involves a set of proposed amendments to Section 2(2) of the *DNA Identification Regulations* which will clarify the fingerprinting process which occurs when bodily substances are collected from a convicted offender. The present wording of Section 2(2) does not provide sufficient detail to allow the O i/c of the Data Bank to deal effectively with samples accompanied by defective fingerprint submissions. Any priority assigned to processing of these amendments would certainly assist the efficacy of the Data Bank operations.

Recommendation 4 - CODIS Training

In view of its importance in the match process leading to identification conclusions, the Committee is of the opinion that senior operators must remain current with all CODIS updates, system enhancements and reporting trends. We therefore recommend that senior operators participate actively in the International CODIS user community through workshop and seminar participation.



Recommendation 5 - Operational

The Committee has been advised that a growing number of Crime Scene DNA Profiles are being retained in regional facilities. The Committee therefore recommends that Forensic Laboratories be encouraged through policy to upload Crime Scene DNA Profiles of designated offences (in accordance with the Act) into the Data Bank Crime Scene Index promptly in order to ensure timely effectiveness of ongoing investigations.

Recommendation 6 - Administration of the Committee

That funding be made available for the Committee to:

- a) increase the frequency of meetings from two to three times per year - the Committee actually met three times during 2000, however, the first meeting was an orientation session not covered in the budget allocation under the Financial Report;
- b) send a delegate to an annual meeting of the American Society of Crime Lab Directors or another national conference, such as the American Academy of Forensic Science, which offers discipline specific sessions dedicated to DNA technology and Data Banking;
- c) invite other State or National DNA Data Bank content experts to make presentations at future Committee meetings.



June 2001

Commissioner Giuliano Zaccardelli
Royal Canadian Mounted Police

Dear Commissioner Zaccardelli:

On behalf of the Members of the National DNA Data Bank Advisory Committee, I am pleased to present to you the first Annual Report of the Advisory Committee.

During the past year, the Advisory Committee has met on three occasions and during that period, has monitored the progress of the National DNA Data Bank, both before and after its official opening on July 1, 2000. I am pleased to report that the Committee has been very impressed with the accomplishments of both the Project Team and the Staff of the Data Bank. As noted in the Closeout Report of April 2001, the Data Bank Project was completed on time and slightly under budget, a rare achievement for a complex technical project. The Committee was equally impressed with the quality of the briefings, the scope of the information packages and the caliber of responses to our enquires.

As you are aware, the National DNA Data Bank consists of two components, namely; the Crime Scene Index and the Convicted Offenders Index. The Advisory Committee will continue to observe the interrelationships and cohesiveness between these two elements of the Data Bank.

It had earlier been suggested that this Annual Report of the Advisory Committee may be attached as an annex to the Annual Report of the Commissioner of the RCMP to the Solicitor General of Canada. This is for your consideration.

As we complete our first year as an official committee, we would be remiss if we did not recognize the invaluable assistance and cooperation that we have received from the RCMP, the Project Team and the Ministries of the Solicitor General and Justice. This assistance has been deeply appreciated.

On behalf of the Committee, I can assure you Commissioner, that our members are pleased to have the opportunity to contribute our constructive advice and counsel to you during the formative years of the National DNA Data Bank. We look forward to the challenges ahead as the DNA Data Bank matures and becomes a valuable tool within the Canadian justice system.

Respectfully yours,

Richard A. Bergman,
Chairperson



Members and Structure of the National DNA Data Advisory Committee



Richard A. Bergman
Chairperson

Deputy Commissioner, RCMP (ret'd)
Police Community Representative



Dr. George R. Carmody
Vice-Chairperson

Associate Professor of Biology
Carleton University
Ottawa, ON.
Population Biology Specialist



Dr. Frederick R. Bieber
Associate Professor of Pathology
Harvard University
Boston, Mass.

Bio-Medical Ethics Specialist



Hon. Peter deCarteret Cory
The Osler ADR Centre
Toronto, ON.

Representing the Law



Gisèle Côté-Harper
Professor, Faculty of Law
Laval University
Sainte-Foy, Quebec

Human Rights Specialist



Dr. William S. Davidson
Dean of Science
Simon Fraser University
Burnaby, B.C.

Medical Genetics Specialist



P. Julien Delisle
Executive Director
Office of the Privacy Commissioner of Canada
Ottawa, ON.

Dr. Ron Fournery
Officer in Charge
National DNA Data Bank
RCMP
Ottawa, ON.

Representing the Privacy Commissioner of Canada *Representing the National DNA
Data Bank*



Mandate of the Advisory Committee

The National DNA Data Bank Advisory Committee (hereinafter referred to as ‘the Committee’) was established pursuant to Section 12 of the *DNA Identification Act* through the annexed *Data Bank Advisory Committee Regulations*. The Regulations were enacted on May 8, 2000, several months before the proclamation of the *DNA Identification Act* and the *DNA Identification Regulations*, which occurred on June 30, 2000. The appointment of the Committee before the legislation came into force allowed the Committee to meet and become familiar with the proposed Legislation, the Project Team, its plans, activities and progress during the latter stages of the development of the National DNA Data Bank (hereinafter referred to as ‘the Data Bank’).

The establishment of an Advisory Committee was recommended by the Standing Senate Committee on Legal and Constitutional Affairs in its *Sixteenth Report* (December 8, 1998) wherein the need for an independent advisory committee was deemed necessary to contribute to the effective and efficient operation of the Data Bank by providing expert advice to the RCMP Commissioner. Both the Solicitor General of Canada and the Commissioner of the RCMP agreed with the recommendation and made commitments to establish such a committee and address its appointment through Regulations. Appointments to the Committee were made by the Solicitor General upon the recommendation from the Commissioner.

The composition of the Committee was to include a Chairperson, a Vice-Chairperson, a representative of the Office of the Privacy Commissioner and other members with expertise in the police, legal, scientific and academic communities. Its mandate, on its own motion when the Committee considers it necessary or upon request of the Commissioner, is to advise the Commissioner on all matters related to the effective and efficient operation of the Data Bank.

The Committee functions as an independent body to assist the Commissioner in ensuring that the Data Bank operates in compliance with the legislation and regulations. In addition, it reviews the methods used to issue notifications, transmit information and convey and store samples. Other functions of interest include sampling processes and sample integrity, scientific integrity, genetic privacy, analytical procedures, international information sharing protocols, sample re-analysis and the DNA profile format itself.

To ensure fulfillment of the Committee’s duties in accordance with the Regulations, the Committee is required to report annually to the RCMP Commissioner on its activities.



Summary of Activities for Fiscal Year 2000-2001

Prior to its official formation through Regulations, the Committee met for the first time at an orientation workshop in January 2000. Members were briefed on the scientific, legal, privacy and operational issues surrounding the Data Bank and a Chairperson was selected. The first official meeting was held in May 2000 at which time a Vice-Chairperson was selected. This was followed by a second meeting in November 2000 and a third meeting in April 2001, all meetings taking place in Ottawa.

The May 2000 meeting focused on the objectives and progress of the various processes and systems being developed in anticipation of the Data Bank opening on June 30, 2000, the proclamation date of all related legislation. All Members had received Letters of Appointment from the Solicitor General of Canada, The Honourable Lawrence MacAulay.

The highlights of the May 2000 meeting included:

- a briefing by officials of the Department of Justice on the background leading up to the DNA legislation;
- a review of the training requirements for the judiciary and police officials regarding collection of retroactive, retrospective and prospective samples;
- an overview of the *DNA Project*, an 18 month project to bring the Data Bank on line, including details of governance, scientific issues, information technology, human resources, budgeting, risk awareness and the Sample Tracking and Control System (STaCS). STaCS is designed control sample tracking and exhibit continuity from reception to completion of analysis;
- an update on the status of the *DNA Collection Project* which included an analysis of this multi-tiered task involving several levels of jurisdiction, police training, retroactive sample taking and statistical requirements for reporting;
- a demonstration and explanation of the Sample Kit and the processes developed to collect blood, hair and buccal swab samples;
- a proposed set of By-Laws and Rules of Procedure were tabled and approved;
- a decision by the Committee that it would benefit from the addition of one more member with expertise in ethics from a legal perspective, clinical human genetics or information management.

During the November meeting, the Members were able to explore the elements of the DNA analytical process in much greater depth. This served to enhance the understanding and knowledge base of the Data Bank.



Included in the November 2000 meeting were:

- a presentation focusing on the risks and successes of the *DNA Collection Project* during Phase 1 (Infrastructure Operation) and the schedule, issues and risks, communications and critical success factors expected in Phase 2 (Collections Operation);
- an update from Department of Justice officials on the training status for the Judiciary;
- an overview of the *RCMP Special Project*, set up in response to the concerns of the Auditor General of Canada, specifically applicable to Forensic Laboratory Services and the potential implications for the Data Bank;
- an updated operational status report on the *DNA Project* including governance, scientific issues, information technology, budget status, plans for the phase-out period and commercialization of products and technology developed as components of setting up the Data Bank;
- a review of the various applications of the Crime Scene Index procedures followed by a discussion of concerns raised by police officers in relation to Sec. 8.1 of the *DNA Identification Act*;
- a further update on the *Human Genome Project* in recognition of the potential implications that this project will have on the total DNA science;
- a briefing on the status of International Agreements and Protocols in the process of being established to allow for the exchange of DNA information with other agencies and countries throughout the world;
- and finally, a decision by the Committee to assign a two member sub-committee the task of completing an on-site review of the DNA Data Bank prior to the Project Close-Out anticipated for April 1, 2001.

The November meeting also provided the Committee an opportunity to meet and welcome its eighth member, Mme. Gisèle Côté-Harper, O.C., C.R., LL.M., a Professor of Law, Laval University. In addition to her expertise in Criminal Law and Evidence, Mme. Côté-Harper has a very distinguished international reputation for her expertise in Human Rights issues.

The April 2001 meeting of the Committee was, for the most part, an extension of the topics covered in previous meetings. However, several new perspectives were brought to the Committee's attention and they included:

- a sub-committee report following the on-site review of the Data Bank, a study undertaken by two Members of the Committee and timed to preclude the Project Close-Out phase of the *DNA Project*;



- a presentation of the *DNA Project Closeout Report* which included the generic project life cycle, costing, lessons learned, the Data Bank organization, the Combined DNA Index System (CODIS) and the Sample Tracking and Control System (STaCS), sample processing, match inventory reporting, Data Bank Statistics, partnerships and collaborations including intellectual properties, accreditation and research and development;
- a review of the Data Bank statistics to date, including a lengthy discussion related to an apparent disparity in the sample contribution rates between several provinces, the most significant anomaly being the widely varying rates from Ontario and Quebec;
- a discussion related to the need to create policy or provide direction requiring Regional Laboratories to upload all available Crime Scene Index Profiles to the Data Bank promptly in order to ensure timely effectiveness of ongoing investigations;
- a discussion concerning the current scheme in place to fund the DNA Data Bank along with the effects, if any, that the funding structure may have upon the participation and widely varying sample contribution rates from several provinces;
- a decision to seek an independent service provider for the web site which is not tied to any branch of the Federal Government.

The Committee was pleased to meet with RCMP Commissioner Giuliano Zaccardelli for a discussion of the Committee's mandate, its observations to date and a general discussion on the importance of science in police investigations. The Commissioner emphasized his sincere interest in receiving advice on scientific issues from independent Committees, such as the National DNA Data Bank Advisory Committee.



Privacy, Legal and Ethical Issues Surrounding the Implementation of the Data Bank

The Committee is cognizant of its role to assist the Commissioner of the RCMP in safeguarding the legal, ethical and privacy rights of Canadians as the Data Bank comes on line.

In support of this role, the Committee is presently developing an internet web site in order to ensure that Canadians are aware of the Advisory Committee, its role and its interest in receiving their opinions and concerns respecting the operation of the Data Bank and any related legal, ethical or privacy issues. A summation of this feedback will be made available to the Commissioner in subsequent Annual Reports.

Retroactive Sample Collections Project

A standard process for collections is in place and the majority of police and corrections personnel involved in collections across Canada have been trained. The Committee is pleased to note that this project remains on schedule for retroactive samples with completion targeted for June 2002. We note, however, that while training to police and other agencies involved in collections appears to have been effective, there are indications that very little training occurred within the Provincial Court Judiciary sectors and their associated administrative support components, i.e. court clerks. The Department of Justice has advised that no training funds for the judiciary and courts were included in the budget proposals associated with the draft legislation which was ultimately approved by Parliament. Thus, Justice has not been able to initiate an active training component to cover the Judiciary and the Court Administrative sectors of the justice system. This issue is addressed in Recommendation No. 1.

In order to assist in this regard, the Committee will be corresponding with the Chief Judges of the Provincial Courts asking them to include Data Bank issues on the agenda of upcoming meetings and conferences. The Honourable Peter Cory and Mme. Gisèle Côté-Harper have volunteered to speak at such conferences and meetings if invited. In addition, Dr. Fourney, Officer in Charge of the Data Bank and Mr. Michael Zigayer, Department of Justice, are also available as speakers.

The Committee also notes that a strict interpretation of legislation has caused a number of offenders to be excluded from the collection process. This relates to those convicted under some Sections of earlier editions of the *Criminal Code*, which some courts have interpreted as not being included in the new legislation. This is addressed in Recommendation No. 2.

In relation to fingerprints, the Committee believes there is a need to amend the Regulations to include more explicit direction concerning the taking and processing of fingerprints which must accompany samples for confirmation of identity prior to processing and entry into the Convicted Offenders Index. An amendment would assist the Officer in Charge of the Data Bank to resolve cases which involve an irregularity in the associated fingerprint documentation. The Committee is aware that proposed amendments to Section 2(2) of the Regulations have been drafted and will continue to monitor progress



in this area. See Recommendation No. 3.

The Committee is conscious that there are two very critical components which are essential to the effective operation of the Data Bank and we offer the following observations:

Sample Tracking and Control System (STaCS)

STaCS tracks and provides high throughput and safeguards for the processing, integrity and privacy of DNA samples. It includes management reporting features, a chain of custody for DNA samples and a quality assurance component. This program was developed for the RCMP at a cost of some \$3 million.

The objective of STaCS is to provide a mechanism for creating a data bank of known convicted offenders and a process by which the police are able to use the Data Bank to assist in identifying suspects. The system tracks, controls and documents all the steps in a process that converts blood, hair, or buccal samples from convicted offenders into numeric profiles that can be matched against numeric profiles generated from samples found at crime scenes. It also ensures that the whereabouts of each sample and all of its derivatives, are accounted for as well as providing essential data for troubleshooting the scientific process. The Committee has not had the opportunity to evaluate the efficiency and effectiveness of the system at this time because it is just coming on line. However, the Committee is satisfied that progress to date is on time and meeting the design objectives. The Committee will evaluate the system in considerable depth during the coming year.

Combined DNA Index System (CODIS)

CODIS is a software program provided to the RCMP by the Federal Bureau of Investigation. It is designed to provide a standardized methodology for comparing DNA typing profiles from crime scenes and convicted offenders. Canada is one of 29 countries using or evaluating this software program. In short, CODIS provides an internationally consistent methodology to make crime scene data and convicted offender information available for searching. CODIS consists principally of two transactions, namely input and search. The **crime scene** CODIS input is taken from STR data developed and uploaded by regional forensic laboratories. The **convicted offender data**, all of which is produced in the analytical labs of the Data Bank, is uploaded to CODIS directly from the Data Bank.

The Committee recognizes that CODIS is an important internationally accepted tool that has been subjected to vigorous testing for accuracy and efficiency over several years. In view of its importance in the process leading to identification conclusions, it is essential that senior operators participate in CODIS Workshops on a routine basis. See Recommendation No. 4.

Crime Scene Index Policy

Section 8.1 of the legislation requires that data must be removed from the Crime Scene Index if it can be clearly demonstrated that the sample is from a victim or a suspect cleared or eliminated during the course



of an investigation. This aspect of the legislation was the subject of many discussions involving the Department of Justice, the Solicitor General and the RCMP. Investigators have expressed concern that by removing the profiles associated with solved crimes or cleared and eliminated suspects as required by Section 8.1, the overall effectiveness of the Index could be compromised or reduced.

The Committee agrees that participating laboratories should continue to document and collect corroborative casework examples effected by the current application of Section 8.1. Furthermore, the Committee had suggested that similar scenarios be collected from other jurisdictions during the period leading up to the five year review so that Parliament will be able to assess the impact of varying Crime Scene Index legislation and practices in other countries.

Human Genome Project

The Committee has received regular reports concerning the *Human Genome Project* and will continue to monitor advancements and changes in DNA technologies along with their potential effects on the Data Bank. A number of other topics including the relationship between DNA and RNA (ribonucleic acid), the history of the genetic code, gene sequencing, the structure of DNA bodies, repetitive DNA, micro satellites, gene structure, ethical issues and microchip technology have been covered in the Committee meetings. These discussions will also continue.

Efficiency of the Data Bank

Although the Committee has had at its disposal various statistical information regarding the utilization of the Data Bank, including the build-up of the Crime Scene and Convicted Offenders indices, the Committee believes that the utilization of Data Bank information by police agencies, including results, should be closely monitored in order to allow for an accurate and objective determination of the value of the Data Bank to the Canadian criminal justice system. As an array of DNA statistics becomes available, the Committee will monitor it closely to ensure that the data elements required to measure value, efficiency and effectiveness are included. This area will be addressed by the Committee in the next fiscal year and the following Annual Report.

Funding Formula

Since the Treasury Board funding for the Data Bank will end in 2004, it will be important to identify future funding options prior to that date. The existing federal/provincial/territorial cost-sharing agreements to share the cost of biology casework analysis, which offsets some of the Data Bank expense, is extremely complex. While the Committee has not yet examined the agreement in detail, there is some concern that the present funding formula may have a negative impact on the number of crime scene samples being submitted for DNA analysis by police agencies, thus reducing the number of possible crime scene profile submissions to the Data Bank Crime Scene Index. During the coming year, the Committee will examine the funding formula in detail with a view to clarifying this issue.



Operation of the Data Bank

At each meeting the Committee has requested data on the current status of information being gathered for the Data Bank. In other sections of this Annual Report, concern has been expressed that the Data Bank is not receiving the number of samples expected in either the Convicted Offender Index or the Crime Scene Index and steps have been suggested to resolve this problem.

The following table provides the operational performance statistics for the Data Bank from the official opening on June 30, 2000 to April 11, 2001.

<i>Results</i>	<i>Totals</i>	<i>Ref.</i>
Received	5974	1
Collection Kits Deployed	55015	2
In CODIS (convicted offender)	5172	
In CODIS (crime scene)	1688	
HITS (convicted offender to crime scene)	14	
HITS (crime scene to crime scene)	6	
Pending (awaiting information)	19	
Conviction Matches	20	3
Offender Duplicates	27	
Different ID's	3	4
Sample Rejections	75	5

- Notes:
1. Blood - 5946...Hair - 6...Buccal - 333. Currently receiving about 300 samples per week.
 2. Blood - 43665...Hair - 2550...Buccal - 8800
 3. Where a new convicted offender sample matches a previous casework sample for which they were convicted
 4. Same DNA, different individuals, i.e. twins
 5. Non-designated offences - 38...biological sample inadequate - 19...wrong kit - 16...no order - 2



Financial Report

The Committee Budget Allocation for the Fiscal Year 2000-2001		\$25000
Cost of holding April meeting in Ottawa		
Members travel expenses including hotel	6505	
Printing/supplies	1500	
Service fees	5400	
Total	13405	\$13405
Cost of holding November meeting in Ottawa		
Members travel expenses including hotel	8664	
Printing/supplies	1450	
Service fees	5400	
Total	15514	\$15514
Sub-committee expenses	1250	\$ 1250
Total Expenditures		\$30169
Balance		(\$5169)

Notes:

1. All expenditures were in accordance with the regulations of the Treasury Board of Canada.
2. Expenses do not include the cost of the Secretariat services, shared with another Committee, and covered by the Assistant Commissioner, Forensic Laboratory Services.
3. For 2001-2002 the financial framework of the Committee will be altered so as to separate travel expenses (\$20000) from service fee expenses (\$12000).



Objectives for 2001-2002

The following objectives for 2001-2002 were approved at the April 26-27, 2001, meeting.

1. In view of the pace of change associated with DNA technology and the number of ongoing issues, the Committee should meet three times per year, i.e., fall winter and spring. At least one meeting per year should occur in Ottawa in order to tour the Data Bank and meet with the Commissioner.
2. The Committee will attempt to synchronize one meeting per year with the scheduled meeting of a national professional association such as the Canadian Society of Forensic Science.
3. Examine the Federal/Provincial/Territorial Cost Sharing Agreement for Biology Casework and its effect, if any, upon crime scene submissions to Regional Laboratories.
4. Evaluate the Sample Tracking and Control System (STaCS).
5. Identify an independent service provider and implement the web site by the fall of 2001.
6. Develop a recommendation in relation to what the Data Bank should report regarding matches, within reasonable limitations, for first degree relatives.



The Committee makes the following recommendations to the Commissioner of the RCMP for his consideration:

Recommendation 1 - Training of Judiciary

The Committee has been concerned about the apparent lack of training within the Provincial Court Judiciary sectors and their associated administrative support components. We have been informed that the Department of Justice is aware of this issue. The Committee recommends that in future, funding proposals for the training of the provincial judges and court administrators should be included in budget submissions which accompany new legislation to Parliament.

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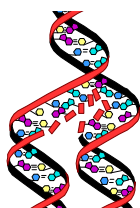
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- c) invite other State or National DNA Data Bank content experts to make presentations at future Committee meetings.



Appendix - What is DNA ?



Deoxyribonucleic acid (DNA) is a long, double-stranded molecule that looks similar to a twisted rope ladder or double helix.

Sometimes referred to as the blueprint of life, DNA is the fundamental building block for a person's entire genetic makeup. When sperm and egg unite, equal amounts of DNA from each parent combine. This combined DNA determines that person's characteristics.

DNA is found in virtually every cell in the human body. A person's DNA is the same in every cell. For example, the DNA in a man's blood is the same as the DNA in his skin cells, semen, saliva, and the roots of his hair.

DNA is a powerful tool for identifying individuals because it is highly discriminating. Each person's DNA is unique to them. Identical twins are the only exception as they share the same DNA.

Using modern technology, a person's DNA can be extracted from a small biological sample, such as a few drops of blood. This sample can be analyzed, creating a DNA profile that can be used in much the same way as fingerprints are used to identify a person.

A known DNA profile, drawn from an identified biological sample, can be compared to another unknown DNA profile drawn from a different biological sample. If the profiles match, the two samples come from the same person. If the profiles do not match, the samples come from different people.

DNA collected from a crime scene can either link a suspect to the evidence, or eliminate a suspect. It can also identify a victim through DNA from close relatives. Evidence from one crime scene can be compared with evidence from another to link to the same perpetrator whether the crime took place locally, across the country, or around the world.

The DNA molecule is also very stable. This means usable DNA can often be found on evidence that is decades old.

The stability of the DNA molecule when combined with the discriminating features of each individual's DNA, and the accuracy of current DNA analysis techniques, make DNA evidence a valuable and reliable forensic tool.

