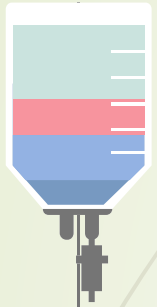


USING DNA TO SOLVE BIOLOGICAL RELATIONSHIP DISPUTES

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Relationship Testing

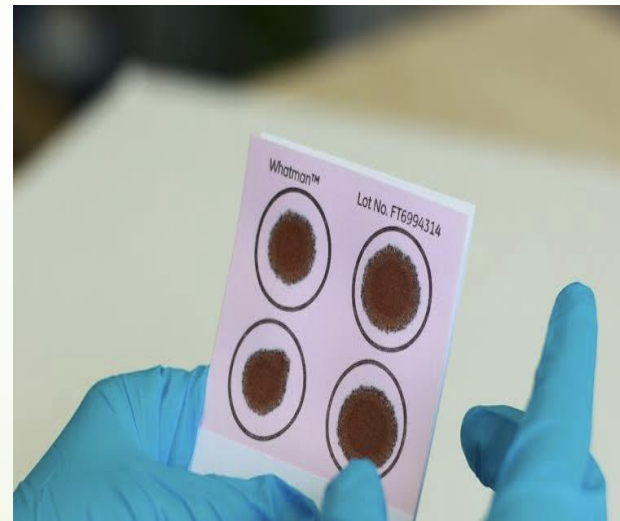
- Used to determine existing biological relationship between individuals
- Finds similarities between Deoxyribonucleic acid (DNA) sequences of tested parties.
- DNA- the unique genetic material inherited equally from both parents.
- Most advanced and accurate technology to determine parentage.

Major Sample Types Used at LSD&FC For Relationship Tests

- **Buccal swabs**
 - Non-invasive and pain free
 - Excellent source of DNA
 - Little biohazard waste
 - Room temperature storage
 - Good for newborns and children
- **Blood**
- **Bone**



(a)



(b)



(c)

Common Types of Relationship Tests Performed At LSD&FC

TYPE OF TEST	INDIVIDUAL 1	INDIVIDUAL 2
Paternity	Alleged Father	Child
Maternity	Alleged Mother	Child
Sibship	Alleged Sibling	Alleged Sibling
Avuncular	Alleged Aunty/Uncle	Child
Grand parentage	Alleged Grandparent	Child
Cousinship	Alleged Cousin	Alleged Cousin
Twin zygosity	Alleged Twin	Alleged Twin

LSD&FC Relationship Cases Categories

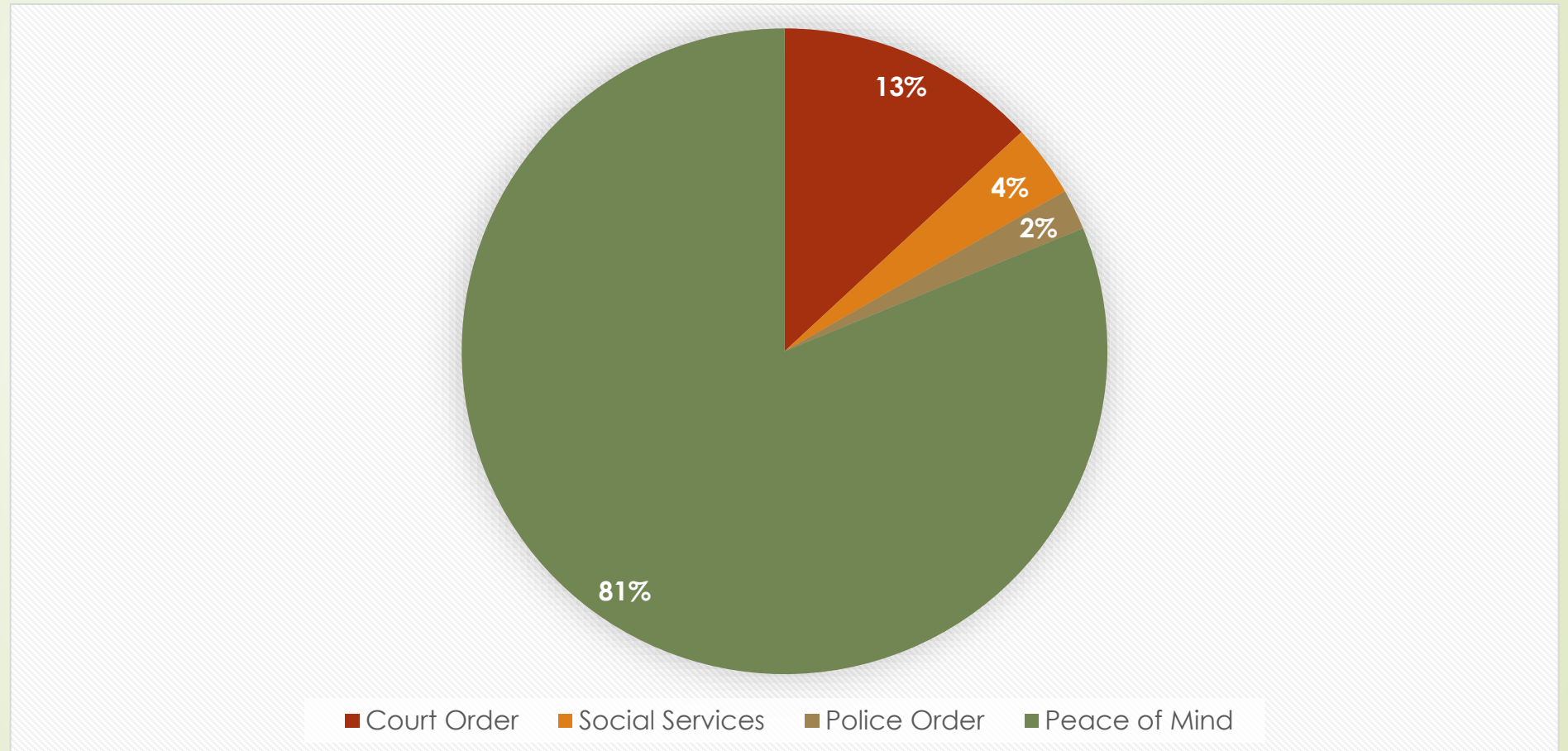
- ▶ Court Order (CO)
- ▶ Social Services (SS)
- ▶ Police Order (PO)
- ▶ Peace of Mind (PM)
- ▶ Peace of Mind - Legal (PML)

LSD&FC Relationship Cases Categories

Category	2017	2018	2019	2020	2021*	No of cases in category
Court Order	2	14	25	12	5	58
Social Services	2	3	0	4	7	16
Police Order	0	1	3	1	4	9
Peace of Mind	19	110	112	85	33	359
Total no of cases	23	128	140	102	49	442

***As of August 4, 2021**

LSD&FC Relationship Cases Categories



Application of Relationship Tests At LSD&FC

► Disaster victims Identification

- 2018 Otedola Bridge fire incident
- All victims matched with their family members for appropriate burial arrangements
- First time local identification of remains of a Nigerian mass disaster using DNA technology

► Custody case

- Parental establishment needed for a custody battle between two alleged fathers
- Relationship test issued under the directive of the court
- Parental rights and responsibilities issued to the biological parent after testing

Application of Relationship Tests At LSD&FC

► **Child trafficking**

- Paternity, maternity and grand parentage of three children needing confirmation
- Confirmed biological relationship between alleged father and child
- Allowed unification of with right relative (alleged grandparent)
- Allowed prosecution of offender (alleged mother) due to test result

Application of Relationship Tests At LSD&FC

► **Inheritance disputes**

- Familial dispute several generations later on true family members
- Alleged children of a deceased laying claim to estate
- Confirmed familial links and helped the court reach a conclusion
- Proved genuine heir to the estate

► **Rape**

- Minor allegedly raped and impregnated
- Paternity test done on the suspect and child
- Accused exonerated due to test result

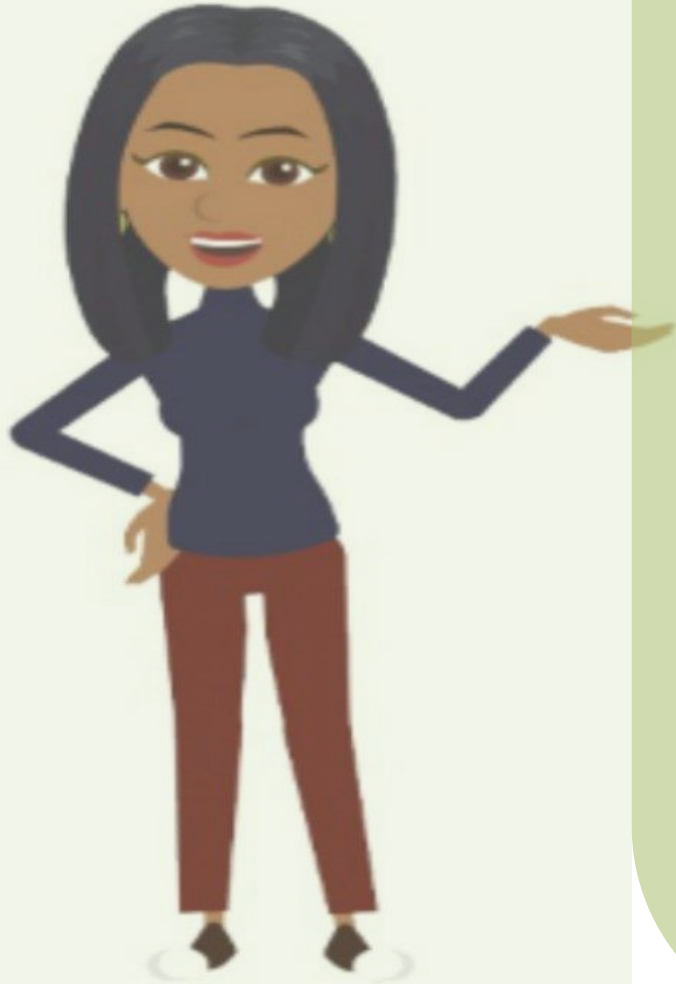
Accuracy of Relationship Tests Done at LSD&FC

- ▶ 99.99% accuracy
- ▶ Stringent QA/QC measures
- ▶ Internal and external audits
- ▶ Confidentiality maintained



ISO/IEC 17025:2017
Accredited Laboratory





CONCLUSION

- Wide application of relationship testing available even in criminal investigations.
- LSD&FC has performed over 440 tests to resolve relationship disputes.

Acknowledgements

- Dr. Richard Somiari
- Adesola Onabanjo
- Afeez Akande
- Folashade Richards
- Vivian Ehziem
- Olamide Adeyemo

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QUESTIONS?





Thank You!!!