

# Exploring forensic genetics population data using massively parallel sequencing (shortened)

3rd QIAGEN Regional Investigator Forum – Africa  
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# Context

- Salt River Mortuary
- High murder rate



16 mortuaries in  
the Western Cape



# Burden of unidentified remains

Home → Local

## Bodies stored in containers in Cape Town due to mortuary backlogs

26 July 2019 5:18 PM by Zanele Zama Tags: Murder • Murder rate • Salt River Mortuary • mortuaries • bodies • cape town mortuaries

Metro Forensic Pathology Services regional manager Kevin Jones says they are dealing with a number of unidentified bodies.

Unidentified bodies are putting pressure on mortuaries in Cape Town. With the sky-high murder rate in the city, the Salt River mortuary is under a lot of strain.

## Bodies pile up in Cape Town's mortuaries

Wednesday 7 August 2019 - 11:45am



## Bodies stored in containers in Cape Town due to mortuary backlogs

26 July 2019 5:18 PM

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### Cape Town mortuaries not coping with intake

BY SIPOKAZI FOKAZI - 10 July 2019 - 07:25

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## Cape Town mortuaries store bodies in shipping containers because of backlog

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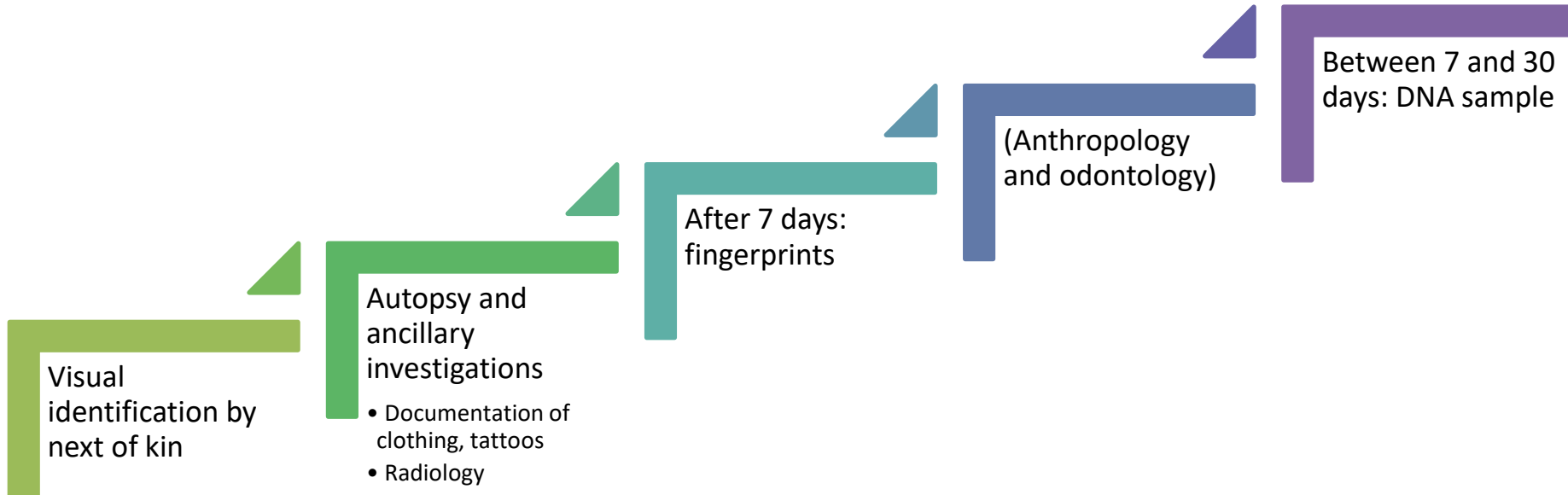
SOUTH AFRICA

## Murder rate means Cape Town's huge new morgue is already too small

09 July 2019 - 17:35  
BY SIPOKAZI FOKAZI

f t p e print

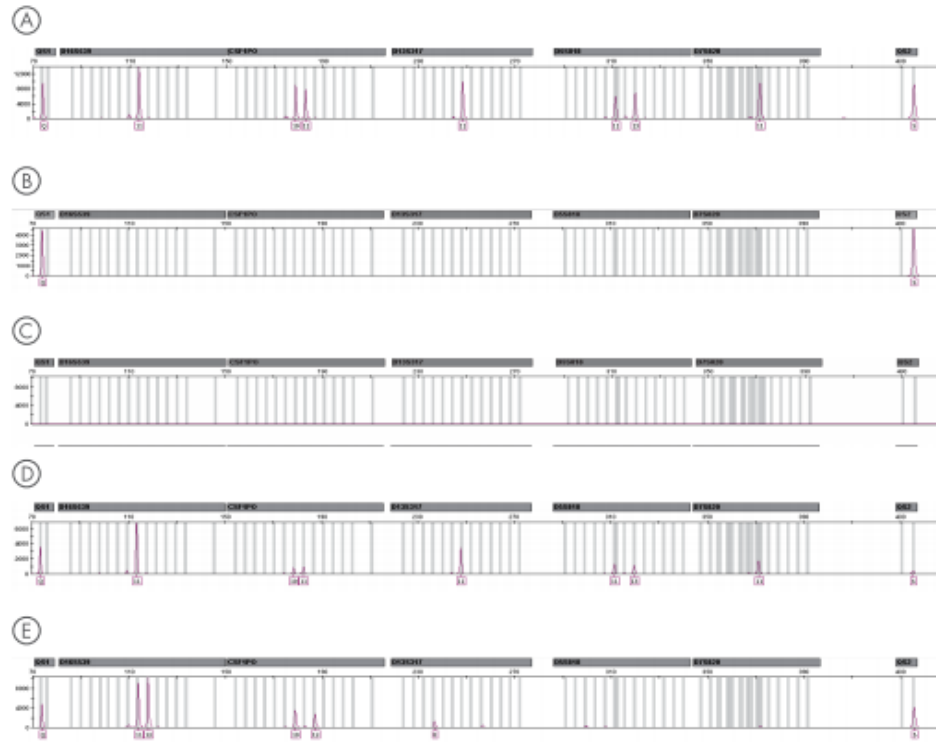
# Identification process



Reid K.M., Martin L.J. and Heathfield L.J. (2019) Bodies without names: a retrospective review of unidentified decedents at Salt River Medico-Legal Mortuary, South Africa (2010 – 2017). South African Medical Journal. Accepted

# Quality sensor

## Qiagen Investigator 24plex kit



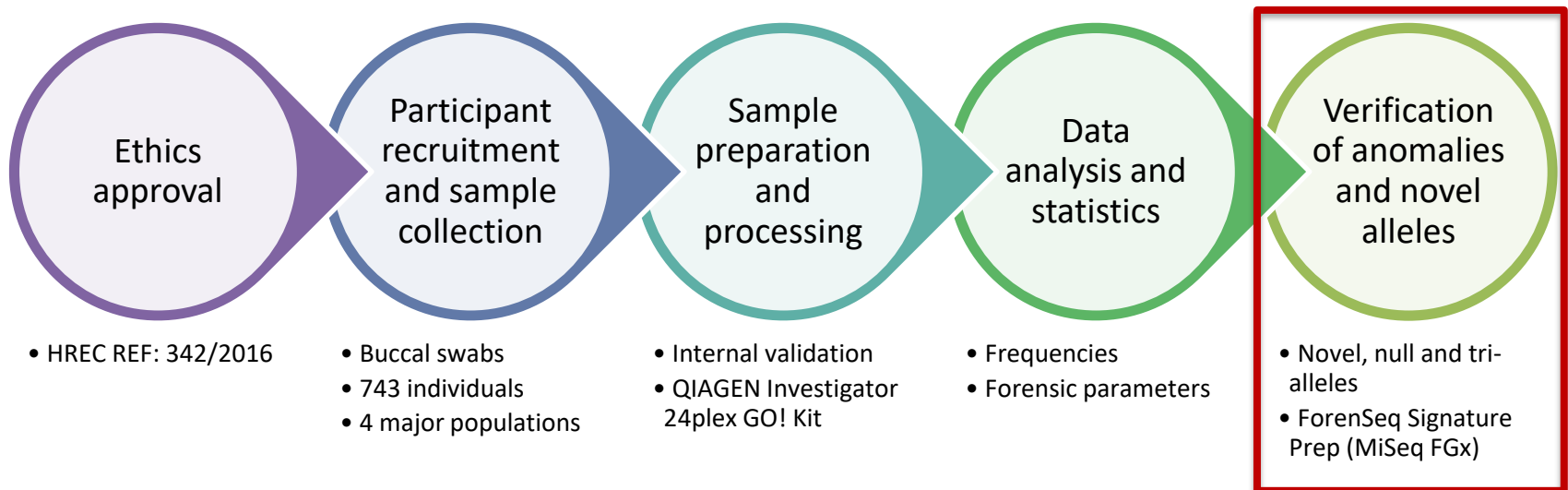
# Forensic genetics population data

- Forensic genetics population data in South Africa:
  - Lucassen *et al.* 2014 (15 STRs, AmpFISTR® Identifiler Plus™)
  - Ristow *et al.* 2016 (22 STRs, GlobalFiler™ Express)

## Aim of population study

To generate forensic DNA profile data for South Africa using the QIAGEN Investigator 24plex GO! Kit

# Methods overview



# Summary of results

- 8 novel alleles in 10 individuals
  - 4 confirmed with MPS
- 6 tri-allelic patterns in 11 individuals
  - all confirmed with MPS
  - no sequence variation in STR
- 1 null allele at Amelogenin
- Alleles 8 and 9 were seen for D1S1656
  - confirmed with MPS



# Final remarks

- Novel and rare alleles accentuates importance of local population studies

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