NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES

Division of the National Health Laboratory Service

Agricultural or stock remedy poisoning notifications

Notifiable Medical Conditions Surveillance

Webinar: Pesticides & agricultural stock remedies poisoning

Date: 22 January 2026

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Outline / overview

- Introduction
- Notifiable Medical Conditions Surveillance System in South Africa
- Epidemiology of Agricultural or stock remedy poisonings in South Africa
- Limitations
- Conclusions and recommendations

Aim and objectives of the presentation

- To provide surveillance data on agricultural or stock remedy poisoning (ASRP) notifications reported to the NMCSS
  - Describe the distribution and epidemiology of ASRP in South Africa
  - Trends of ASRP over time
  - Discuss the limitations of current data

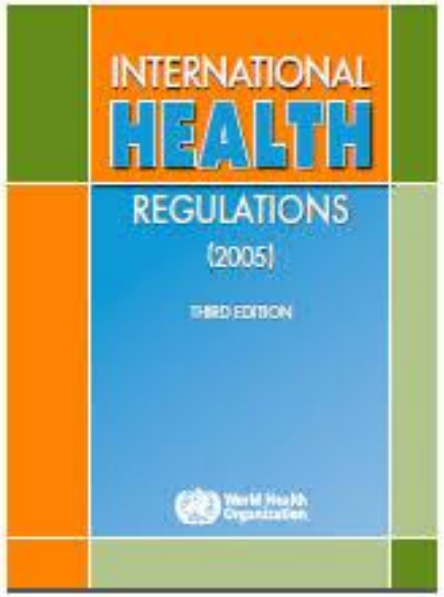
Public Health Surveillance

- Ongoing, systematic collection, analysis, and interpretation of health-related data, and the timely dissemination of data for public health action to those responsible for prevention and control or in a position to take action (decision makers)

- Acts as an early warning system to detect emerging health-related threats to enable rapid response and institute evidence-based interventions to protect the population

- South Africa's early warning surveillance system includes indicator-based surveillance (IBS) and event-based surveillance (EBS) in alignment with the Integrated Disease Surveillance and Response (IDSR) Strategy

International Health Regulations (IHR) 2005



Through the IHR, countries agreed to build national surveillance and response systems with capacities to detect, assess, notify and report *any public health emergency of international concern*.

- includes specific measures at points of entry (PoE) such as ports, airports and ground crossings to limit the spread of health risks to neighbouring countries.

"Prevent, protect against, control, and provide public health response to international spread of disease in ways that are relevant and restricted to public health risks, which avoid unnecessary interference with international traffic and trade"

PREVENT | **DETECT & REPORT** | **RESPOND**

Notifiable Medical Conditions in South Africa

- NMCs are diseases of public health importance
  - Pose significant public health risks that can result in disease outbreaks or epidemics with high case fatality rates, both nationally and internationally

- NMC legislated by the National Health Act, 2003 (Act No. 61 of 2003), and Regulations Relating to the Surveillance and the Control of Notifiable Medical Conditions, 2017
  - require rapid detection of public health risks, notification, prompt risk assessment, and timely response to the risks.

- NMCs are categorized into four: Category 1, 2, 3, and 4

NMC Categories and definitions

Category 1: Immediate reporting by the most rapid means available upon diagnosis, within 24 hours of diagnosis by healthcare providers

- Notified **based on clinical suspicion,** irrespective of laboratory confirmation
- Completion of NMC case notification form (written or electronic)

Category 2: within 7 days of diagnosis by healthcare providers, preferably as soon as possible

- Notified upon receipt of lab confirmation
- Completion of NMC case notification form (written or electronic)

Category 3: within 7 days of diagnosis by private and public health laboratories.

Category 4: within 1 month of diagnosis by private and public health laboratories

Notifiable Medical Conditions Surveillance System (NMCSS) in South Africa

- South Africa has established a surveillance system for Notifiable Medical Conditions (NMCs)

- NMCSS reengineered to develop an **integrated**, **efficient** and **real-time** national system that enables **timely** data collection, collation, analyses and dissemination for **effective** public health **action**
    - Create window of opportunity for rapid detection and response
    - Platform for efficient communication of information for action
    - Enable timely and coordinated follow-up on required clinical, laboratory and public health response interventions measures

Notifiable Medical Conditions Surveillance System

- To provide accurate data required for timeous response in a coordinated manner
  - Timely detection and response to public health threats to prevent disease outbreaks
  - Estimate the burden of priority diseases and identify populations at risk
  - Monitor epidemiological trends in priority diseases of public health importance
  - Direct public health interventions and inform policy decisions.

Who is responsible for reporting NMCs in South Africa

Who must report Notifiable Medical Conditions?

Healthcare providers, laboratories, and medical schemes in the public and private sector must report NMCs.

How to report NMCs in the NMCSS platform

How to report NMCs

The NMC surveillance system has two reporting platforms.

NMCs can be reported via the electronic NMC Reporting App or paper-based notification forms.

The paper-based forms should be sent to NMCSurveillanceReport@nicd.ac.za or WhatsApp number (072 621 3805).

Agricultural or stock remedy poisoning

- Agricultural or Stock Remedy Poisoning is a Category 1 NMC in South Africa, making it **immediately notifiable**
- Notification is on a clinical suspicion, should not wait for lab confirmation to notify
- HCP required by law to notify all cases on NMCSS

SCHEDULE

Definitions

1. In these regulations, any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned, unless the context indicates otherwise: -
"**the Act**" means the National Health Act, 2003 (Act 61 of 2003); and
"**Regulations**" means the Regulations Relating to the Surveillance and Control of notifiable Medical Conditions published in Government Notice No. 3007, Government *Gazette* No. 47983 of 03 February 2023.

Amendment of Annexure A, table 1 of the Regulations

2. The Regulations are amended by substitution of Annexure 1, for the following: -

"ANNEXURE A

Table 1: Category 1 notifiable medical condition that requires immediate reporting by the most rapid means available upon clinical or laboratory diagnosis followed by a written or electronic notification to the Department of Health within 24 hours of diagnosis by health care providers, private health laboratories or public health laboratories.

No	Notifiable Medical Conditions
1	Acute flaccid paralysis
2	Acute rheumatic fever
3	Agricultural or stock remedy poisoning

NMC Case Definition

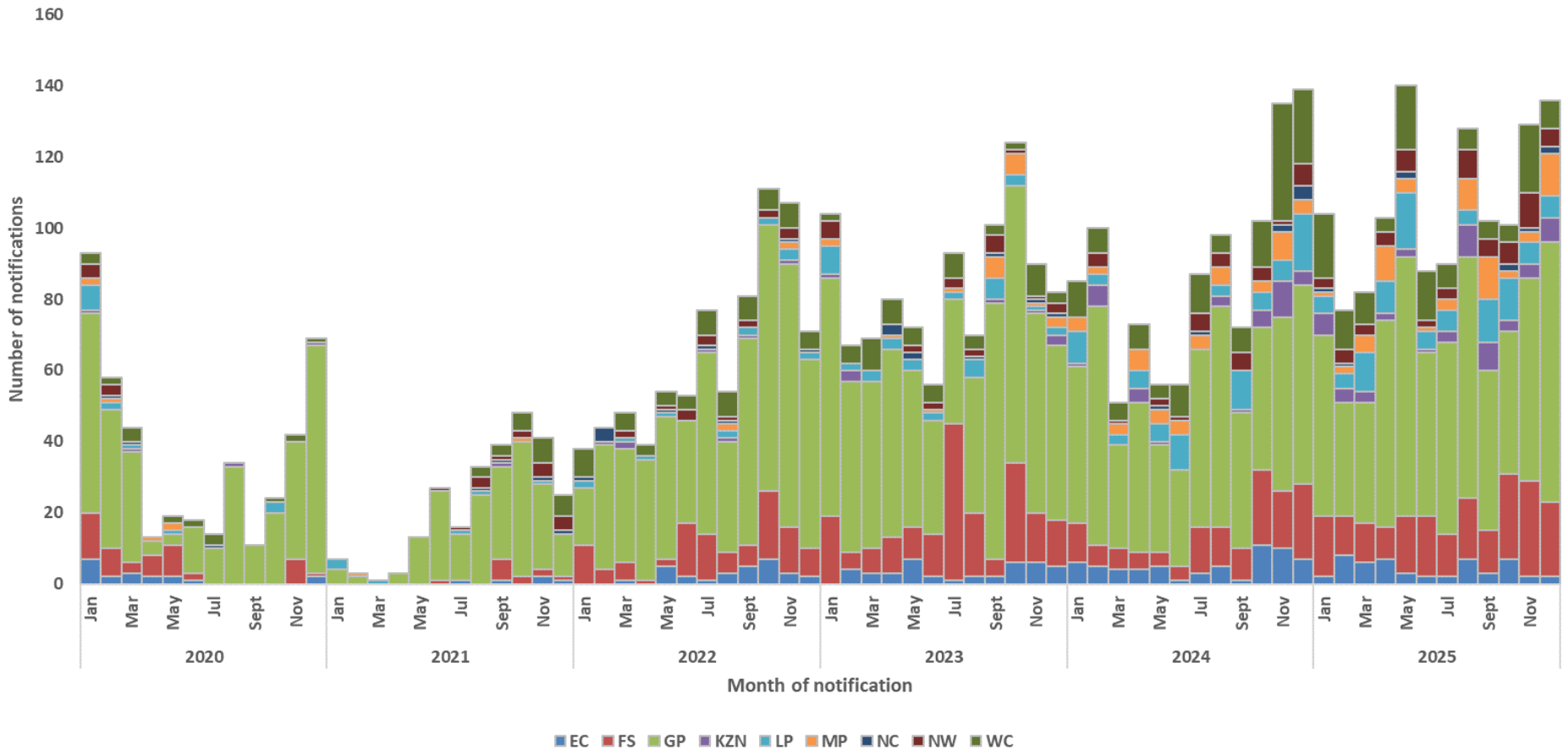
https://www.nicd.ac.za/nmc-overview/nmc-resources/

Category 1: Immediate reporting telephonically followed by written or electronic notification within 24hrs of diagnosing a case

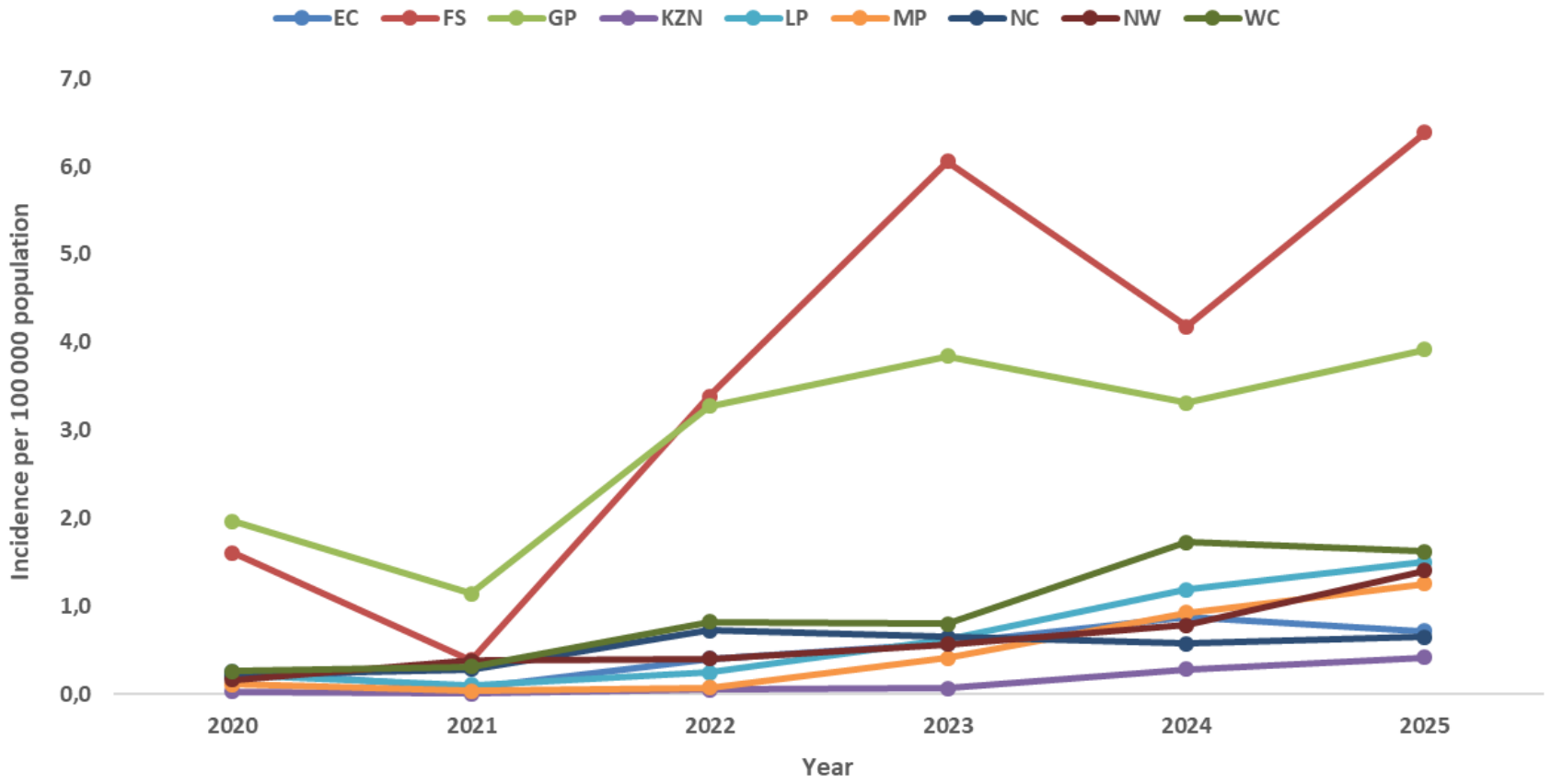
3. AGRICULTURAL OR STOCK REMEDY POISONING

Disease epidemiology	Who must notify	case definition		
		Clinical (Suspected case)	Probable case	Confirmed case
A pesticide (e.g. an agricultural or stock remedy) is any chemical substance, or mixture of substances, intended to kill, repel, or control forms of plant or animal life considered to be pests, or to regulate plant growth. Pesticides include herbicides, insecticides, fungicides, rodenticides, repellents. Pesticides are potentially toxic to humans and the environment, and can have both acute and chronic health effects, depending on the quantity and ways in which a person is exposed. Some pesticides can remain in soil and water for years. The toxicity of a pesticide depends on its function, formulation and the route of exposure (i.e. ingestion, inhalation, or direct contact through the skin or eyes). Pesticide poisoning can be classified as occupational, if exposure occurs while at work, or non-occupational, which includes exposure at home as well as all cases involving suicide or self-harming behaviour.	The health care provider making the clinical diagnosis for a suspected, probable or confirmed case. Clinicians should not wait for laboratory confirmation before notifying.	Must satisfy ONE criterion in EACH category listed below: 1. Pesticide exposure a. Report of acute pesticide exposure, from a patient or witness 2. Health effects a. Health care provider documenting ≥ 2 new post-exposure symptoms 3. Cause-effect relationship The health effects must: **a.** Not be associated with any other likely explanation AND Occur within a reasonable time period after exposure	Must satisfy ONE criterion in EACH category listed below: 1. Pesticide exposure **a.** If criterion as for a Suspected case, must have Health effects criterion as for Confirmed case OR **b.** If criterion as for a Confirmed case, may have Health effects criterion as for Suspected case 2. Health effects **a.** If criterion as for a Suspected case, must have Pesticide exposure criterion as for Confirmed case OR **b.** If criterion as for a Confirmed case, may have Pesticide exposure criterion as for Suspected case 3. Cause-effect relationship The health effects must: a. be characteristic of the pesticide AND b. occur within a reasonable time period after exposure	Must satisfy ONE criterion in EACH category listed below: 1. Pesticide exposure **a.** Observation of residue/odour by health care provider OR **b.** Clinical response to treatment or antidote (e.g. atropine) OR clinical description by a health care provider of ≥ 2 post-exposure health effects (at least 1 of which is a sign) characteristic for the pesticide OR c. Laboratory test demonstrating physiologic response to pesticide (e.g. prolonged clotting or pseudocholinesterase level below normal laboratory range) 2. Health effects **a.** Health care provider documenting ≥ 2 characteristic signs OR **b.** Health care provider documenting ≥ 3 new post-exposure characteristic symptoms OR **c.** Autopsy evidence of pesticide poisoning 3. Cause-effect relationship The health effects must: **a.** be characteristic of the pesticide

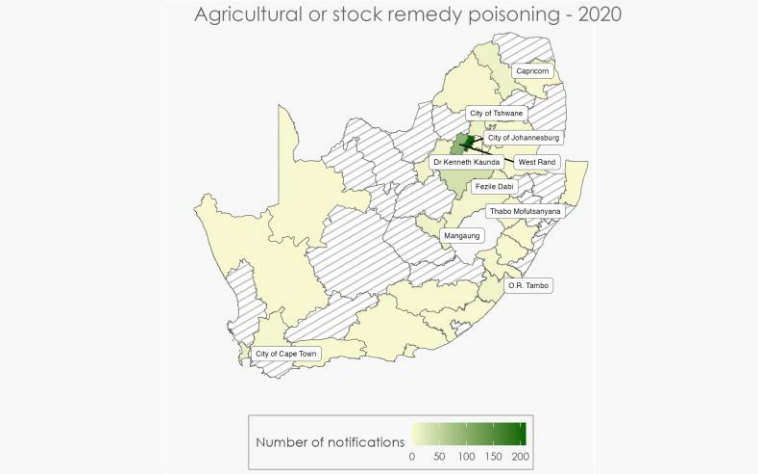
Number of ASRP reported to the NMCSS by month and year of notification, January 2020 – December 2025

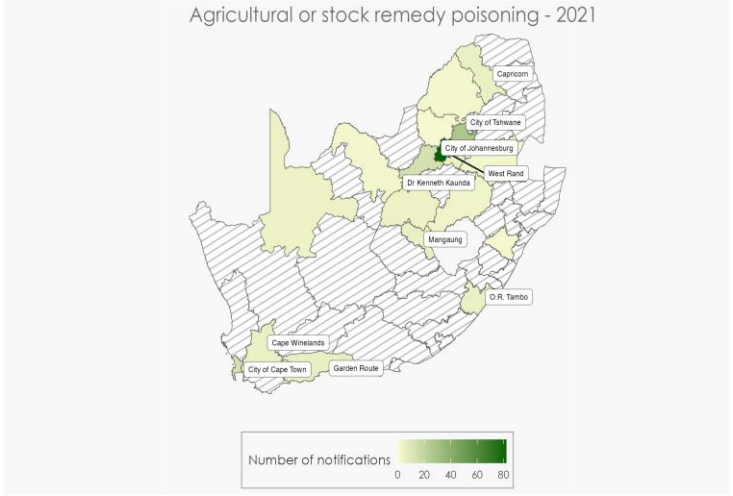


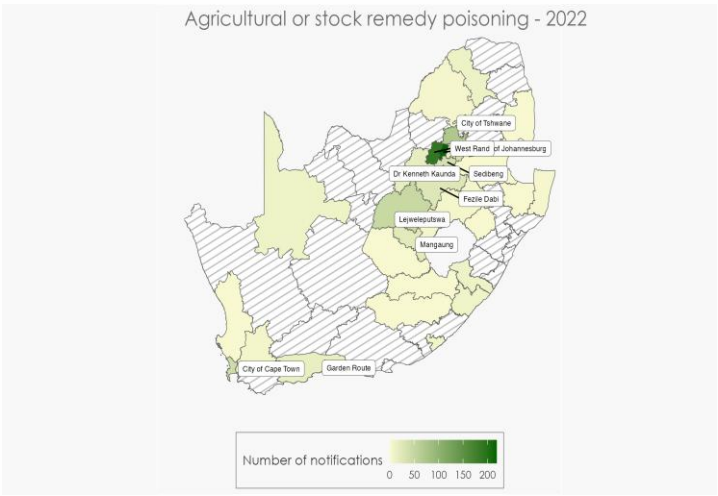
Incidence rates per 100 000 population by year notified and province, 2020 – 2025

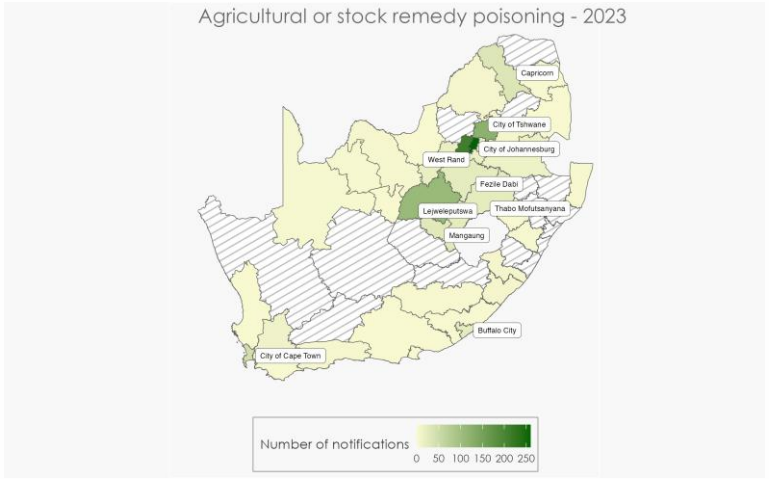


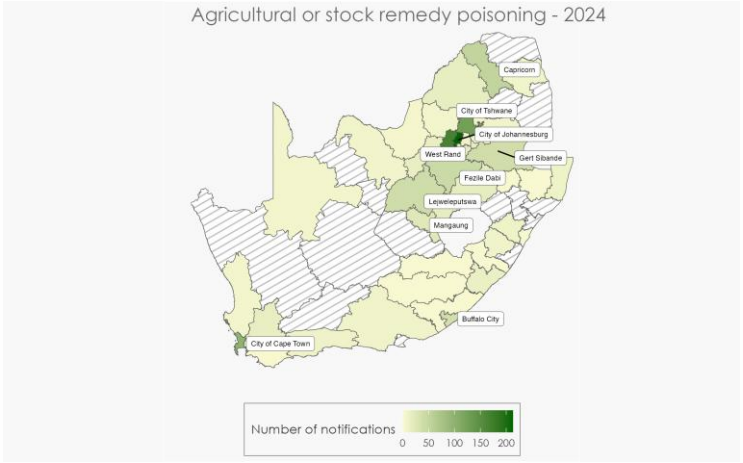
ASRP reported to the NMCSS by year notified and district, 2020 – 2025

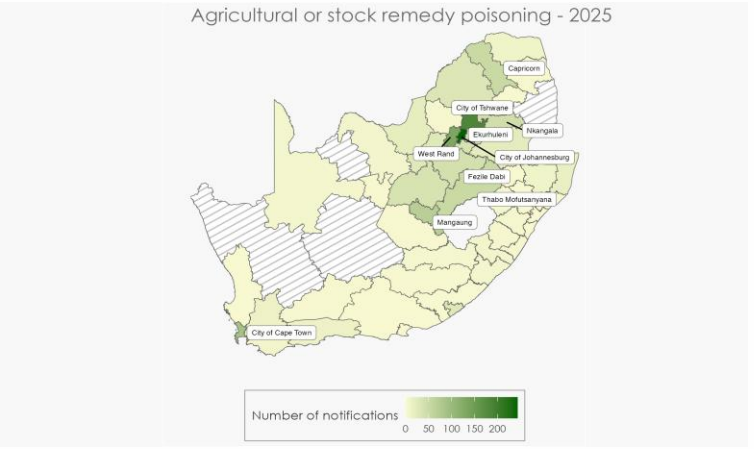




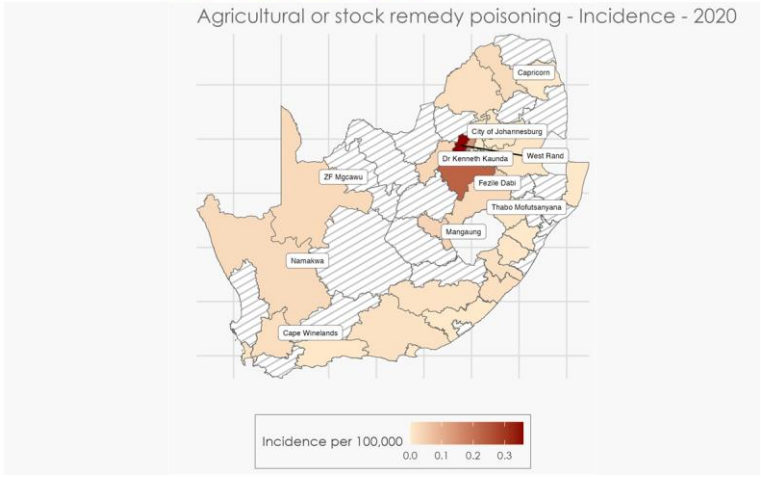


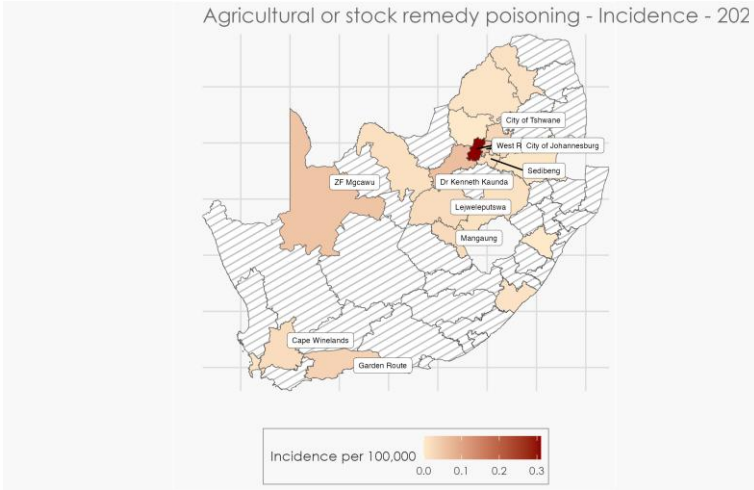


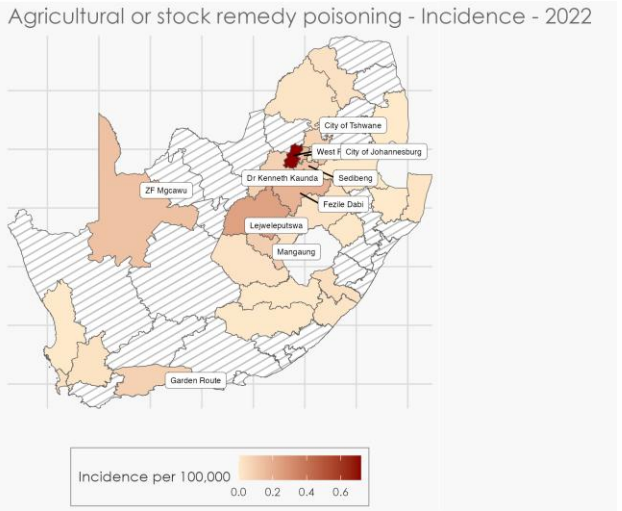


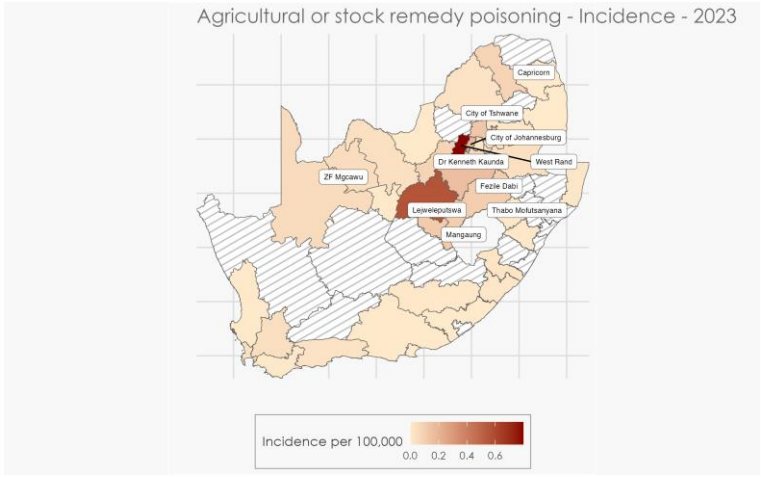


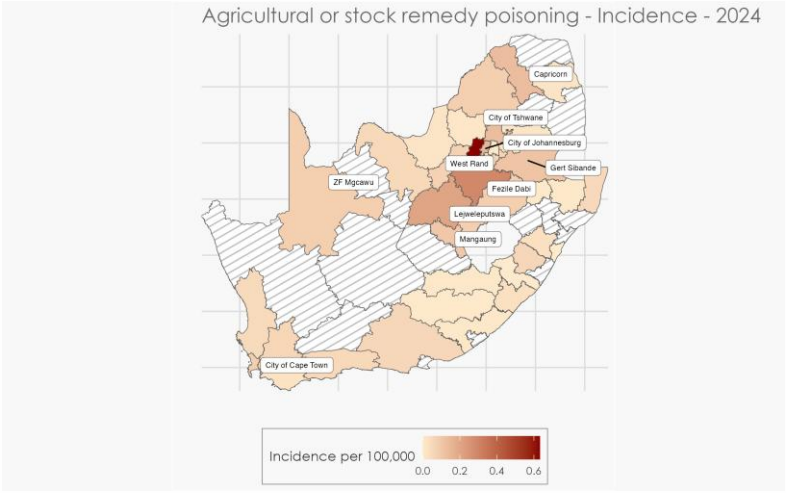
ASRP Incidence rate per 100 000 population by year notified and district, 2020 – 2025

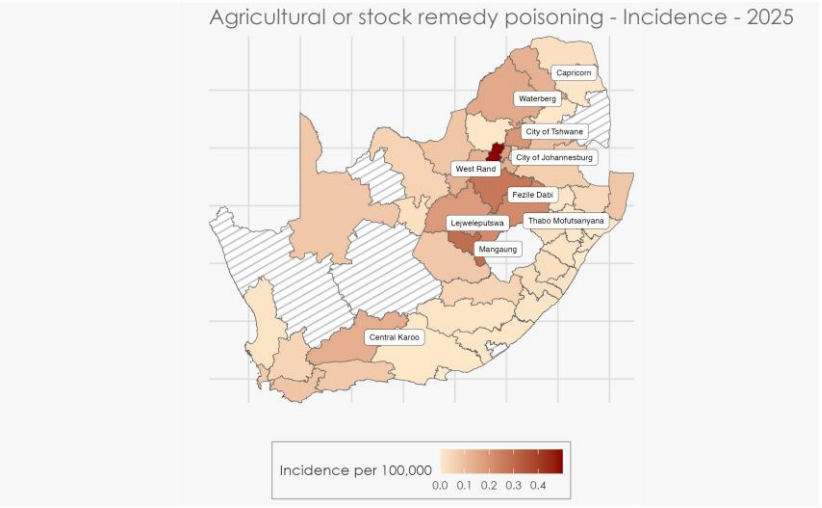




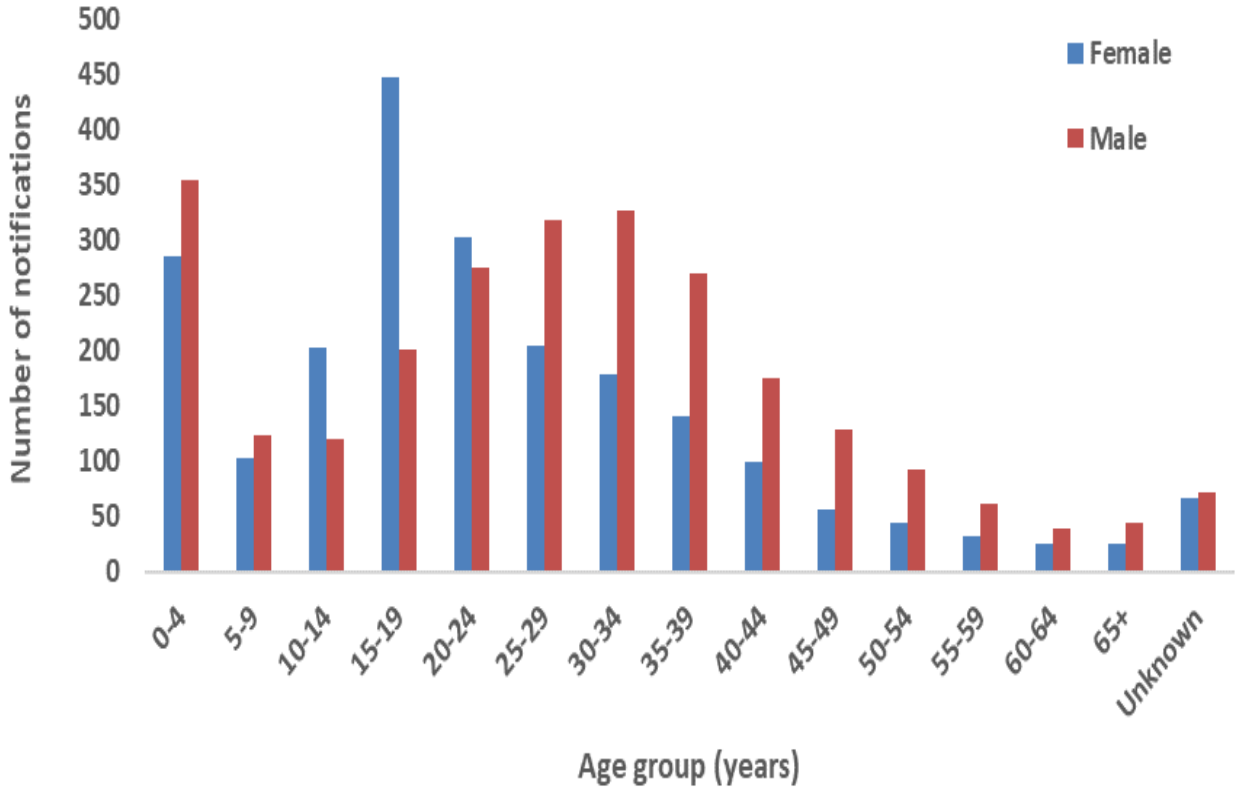


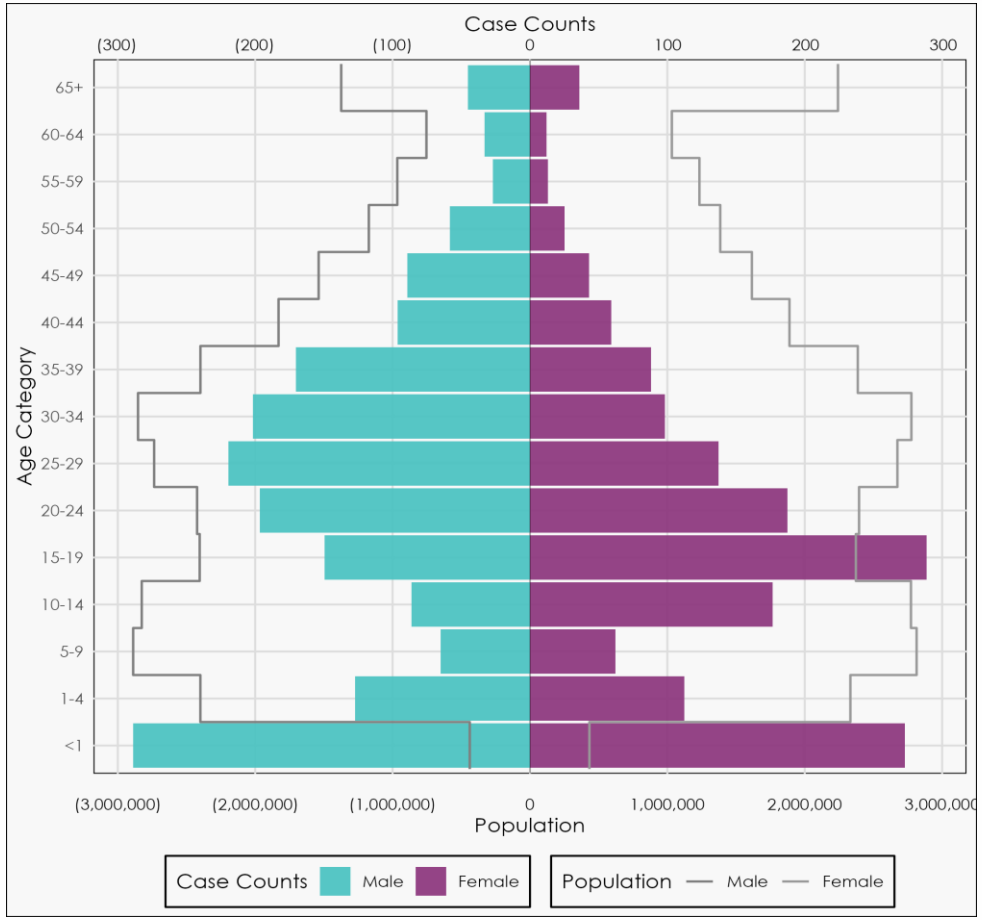




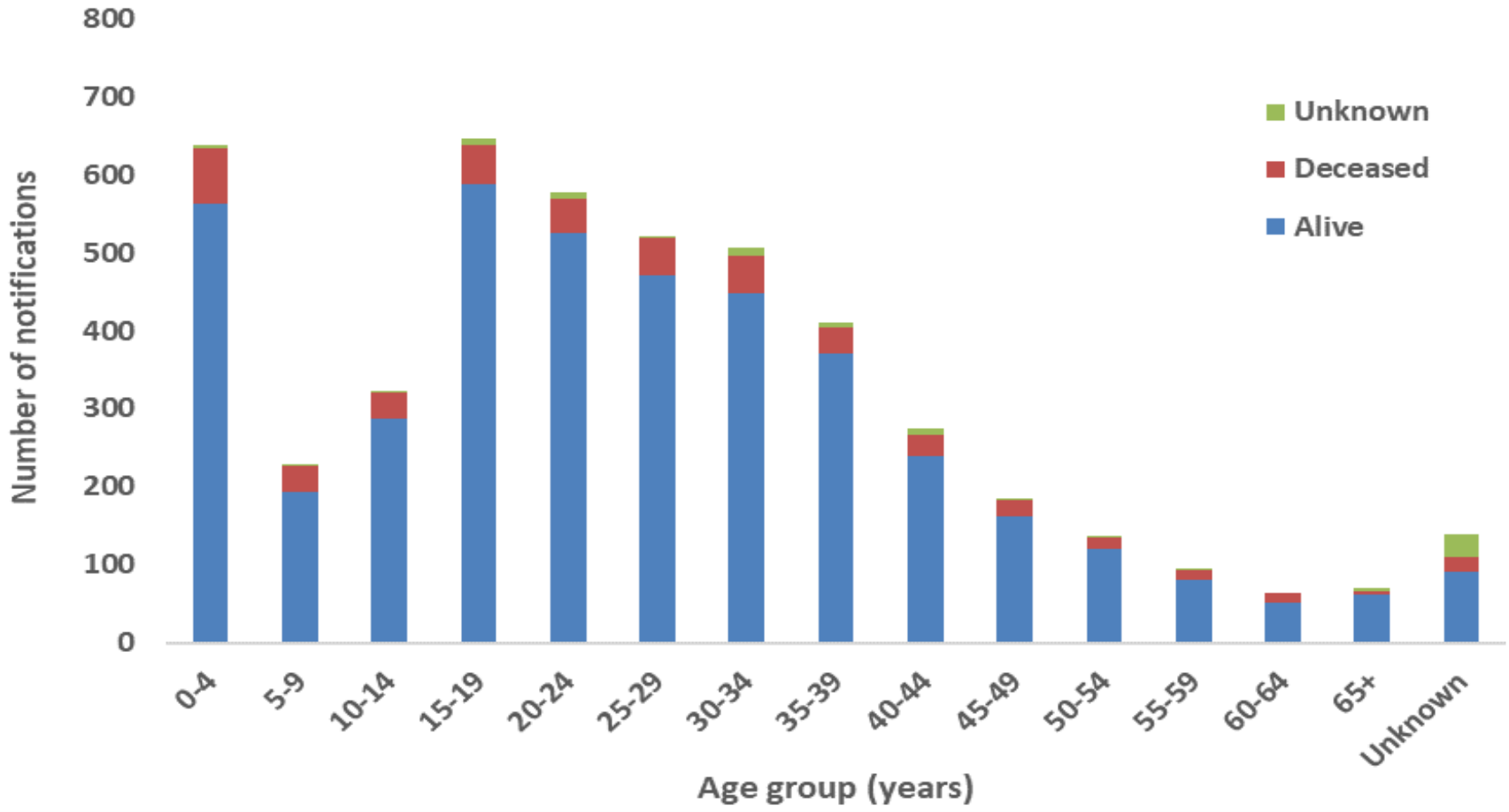


ASRP reported to the NMCSS by age group and gender, 2020 – 2025





ASRP reported to the NMCSS by age group and vital status, 2020 – 2025



Limitations

- NMC is a surveillance system that has competing priorities
- Likely underestimate the true burden of ASRP
- Some provinces appear to use the poison information helpline as notification
- NMC may overreport ASRP in children
  - Other data sources shows lower rate of poisoning exposure in children

Conclusions and recommendations

- ASRP notifications **continue to rise** from previous years, suggesting that poisoning is a long-standing problem
- Poisonings have been reported from all provinces; however, some provinces are more affected than others
- Notable burden exists in certain age groups, gender groups
- Enhanced surveillance required to identify risk factors/exposures
- There are “spikes” in notifications during the October-November period each year
  - Research to determine contributing factors required
- Increase awareness and education on ASRP to prevent exposure and control
  - Improve detection and reporting
- Integrate programmatic data into the NMCSS (e.g. cholinesterase levels)
- Identify chemical agents via toxicology testing in admitted patients

Acknowledgements

- All stakeholders involved in the detection, notification, and reporting of NMCs
- Brian Brummer among others

Thank you