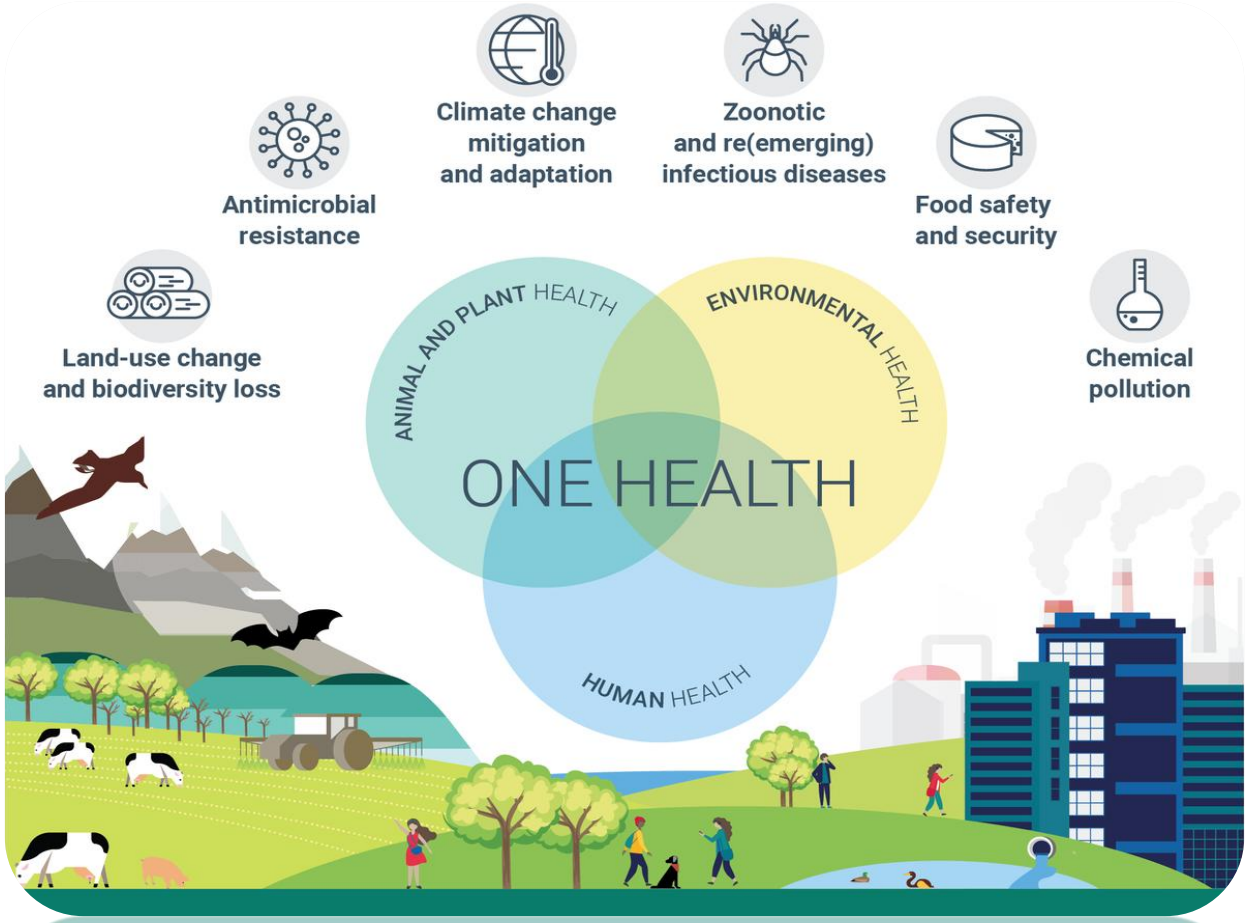
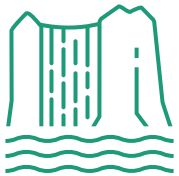
THE ONE HEALTH APPROACH : USING PRIMARY HEALTHCARE REENGINEERING AS A VEHICLE TOWARD THE IMPLEMENTATION OF THE NATIONAL ANTIMICROBIAL RESISTANCE STRATEGY (AMR): XHARIEP HEALTH DISTRICT



PRESENTED BY: MALCOLM L DE JAGER
ASSISTANT DIRECTOR: ENVIRONMENTAL HEALTH SERVICES
XHARIEP DISTRICT HEALTH SERVICES

DISTRICT PROFILE

Xhariep District Municipality, is located in the Southern part of the Free State Province



The biggest reserve dam in the country is in the District – Gariepdam

The population of the District is estimated at **131 901** people

It has **four** District Hospitals, **16** Clinics, **one** Community Health Center,
22 Ward Based Primary Healthcare Outreach Teams

The District rendered Primary Healthcare Services to approximately **317 899** annually

8 Environmental Health Practitioners (EHPs) service 16 Clinics and the CHC
2 EHPs service three of the four District Hospitals
1 Vacant post for one District Hospital,
7 Pharmacists and **22** Pharmacist Assistants and **198** Community Health Workers

INTRODUCTION

What is antimicrobial resistance?

Antimicrobial Resistance (AMR) occurs when bacteria, viruses, fungi and parasites no longer respond to antimicrobial medicines.

As a result of drug resistance, antibiotics and other antimicrobial medicines become ineffective and infections become difficult or impossible to treat, increasing the risk of disease spread, severe illness, disability and death.

WHO Recommends: One Health Approach

- It recognizes that the health of humans, domestic and wild animals, plants and the wider environment are closely linked and inter-dependent.
- The One Health approach to preventing and controlling AMR brings together stakeholders from relevant sectors to communicate and work together in the design, implementation, and monitoring of programmes, policies, legislation, and research to mitigate AMR and attain better health and economic outcomes.

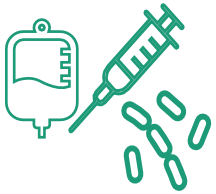
One of the objectives of the 2017 **National Antimicrobial Resistance Strategy** is to:

- Promote understanding and cooperation on AMR as a **One Health** issue across human, animal, agricultural, veterinary, and environmental health sectors

THE XHARIEP EHS STRATEGY: ONE HEALTH APPROACH

Objective 1:
To reduce inappropriate antibiotic prescriptions by 20% from the baseline within 12 months, as measured by a quarterly audit of a representative sample of patient files by the Pharmacy team, with findings reported to and endorsed by the Antimicrobial Stewardship Committee.

Objective 2:
Increase community knowledge on AMR and safe medication return rights by conducting a series of Health Education campaigns reaching a minimum of 20 000 (20%) residents across 22 Wards in the District, and by establishing 17 permanent medication return drop-box locations by end June 2024.



Objective 3: **Increase the number of clinics and hospitals fully compliant with national healthcare waste management standards from 85% to 100% (n= 21 facilities) within 12 months, as verified through monthly environmental health audits and counter verified by OHSC Compliance Inspections**

Objective 4: **By the end of March 2024, the district's pharmaceutical redistribution program will demonstrate R1.5 million in cost savings from prevented waste. This will be achieved by ensuring that less than 1% of total pharmaceutical inventory expires on shelves, down from the current baseline of 5%, as verified by end-of-year stock take protocol.**

Objective 5: **By the end of Q4 of 2025 FY, implement a formal accountability policy where any healthcare facility exceeding its Annual pharmaceutical waste target by 15% must: (1) submit a root-cause analysis report to management, and (2) adhere to a mandatory waste reduction plan. The success of this policy will be measured by a 100% submission rate of required reports from non-compliant facilities.**

INPUTS & PROCESSES

- Trained CHWs on AMRs
- CHWs outreach to households
- Education & Collection

- Facility Management of Returned and expired medication
- Compliance monitoring by EHPs
- Redistribution

- Data Management
- AMR Stewardship Committee
- Environmental Health Meetings
- Primary Healthcare Meetings

- Annual Centralized Collection and Treatment & Disposal of Pharmaceuticals

RESULTS TO DATE

District Environmental Health Services is integrated into a package of preventative healthcare services rendered by CHWs at point of care

Ward Based Primary Healthcare Outreach Teams were able to educate **40 220 (42%) of the adult population 15 years and older** in households on AMR and their rights to return unused / expired medication to a healthcare facility or themselves

A total of **658** Households successfully returned unused / expired medication to a Community Health Worker

Inspections of Pharmaceutical Waste Management Systems was found to be **100%** compliant for all inspections done by EHPs

External inspections by the Office of Health Standards Compliance also found pharmaceutical waste management in PHC Facilities at **100%** compliant: **Excellent Grading**

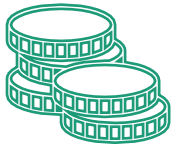
Installed brackets at all pharmacies in PHC Facilities for ease of patient returns

RESULTS CONTINUED

EHPs communicate via a **WhatsApp Group** with Pharmacists and routinely collect and drop-items for redistribution and it forms part of routine facility visits

The value of all redistributed items from April 2024, saved the Xhariep DHS **R 4,555,550.77,** including an approximate **59%** reduction in expiration of pharmaceuticals across the District

Patient returns accounted for **890.96 Kg (45%)** of pharmaceutical waste pharmaceutical waste generated in the District



The cost to treat and safely dispose the pharmaceutical waste was R11,325.85 **(31%)** of total expenditure **(R36,292.84)**

The cost of the program on the environment can at this stage not be determined, but there is a reassurance that **890.96 Kg** of pharmaceutical waste / expired / unused medicine was not dumped on a landfill site, illegal dumping or flushed down a toilet polluting rivers, dams and streams

Research finds that if pharmaceutical waste at these volumes were to have been flushed down a toilet, it may disrupt the effective operation of conventional wastewater treatment plants that utilize bacteria to break down waste. These antibiotics and other drugs may disrupt these essential microbial ecosystems, reducing the plant's efficiency

CHALLENGES, LESSONS LEARNED & SUCCESSES, SCALABILITY

The District is vast, including the Wards, sometimes discouraging walking long distances to educate and collect expired/unused pharmaceuticals

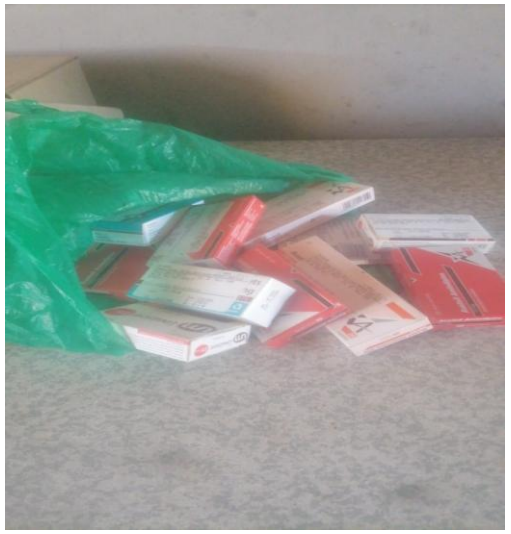
Adverse weather conditions (extreme heat and extreme cold temperatures)

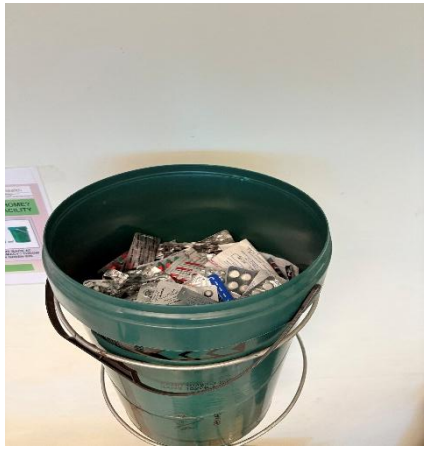
WBPHCOT are good drivers of the One Health Approach to prevent the incorrect disposal of unused / expired medication while encouraging patients to finish the full course of antibiotics prescribed to them by healthcare personnel

The Environmental Health Programme will monitor the programme, address challenges and short comings to ensure its continued success

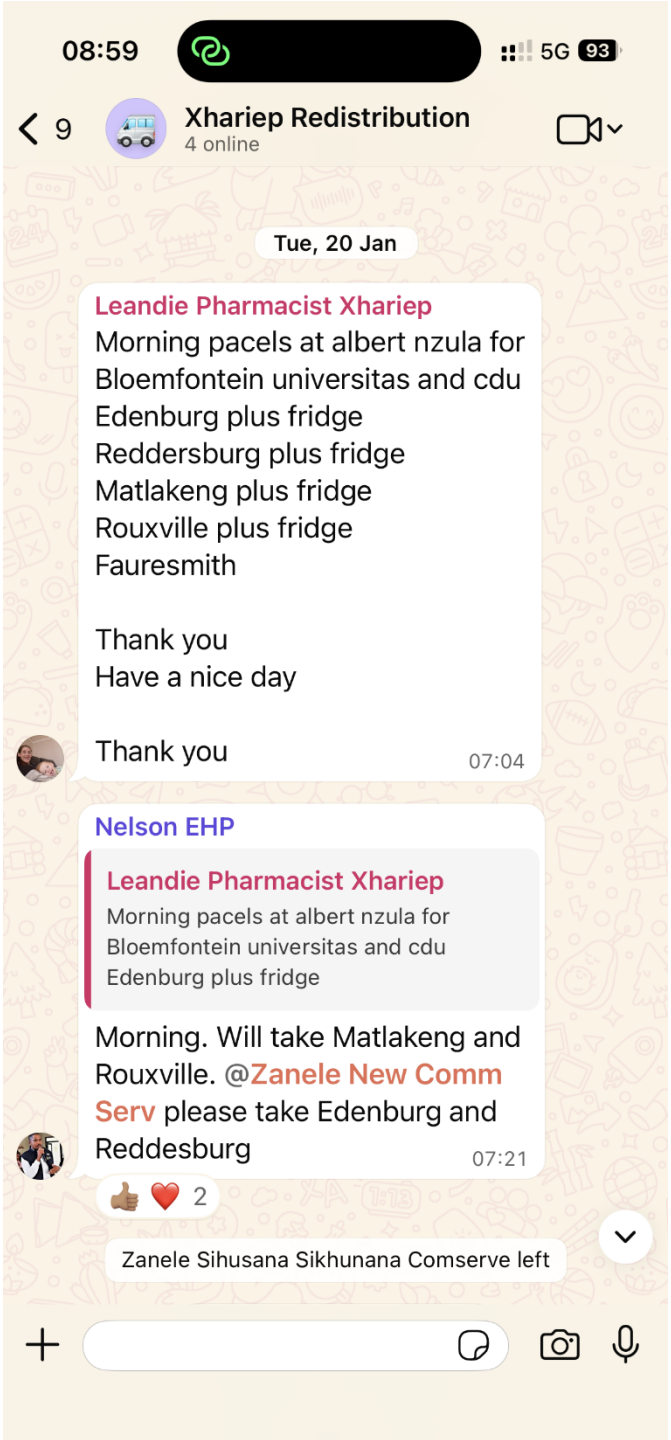
- To investigate and implement new indicators to scale-up the role of Environmental Health in AMR in the healthcare facilities across the District, i.e., wastewater and WASH services,
- Be on the look-out for the inclusion of environmental indicators as recommended in the Draft updated global action plan on AMR 2026 – 2030

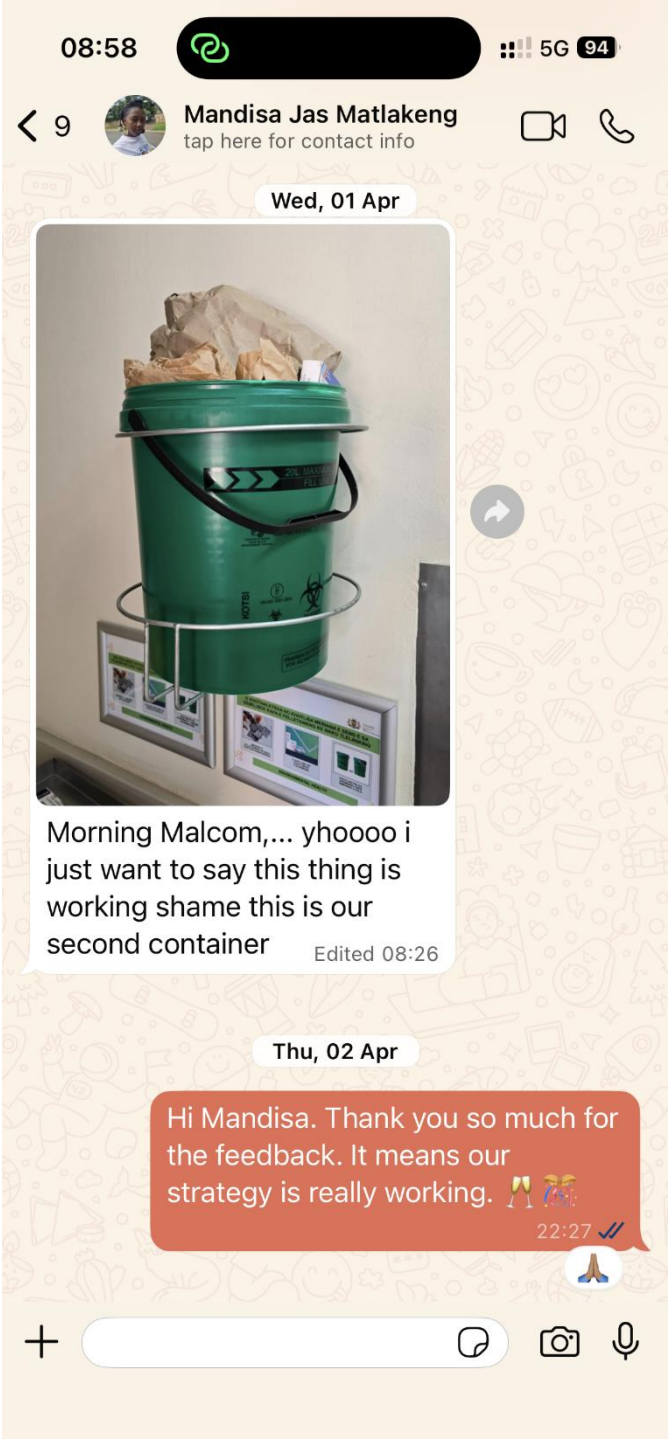
PHOTOS WBPHCOTs





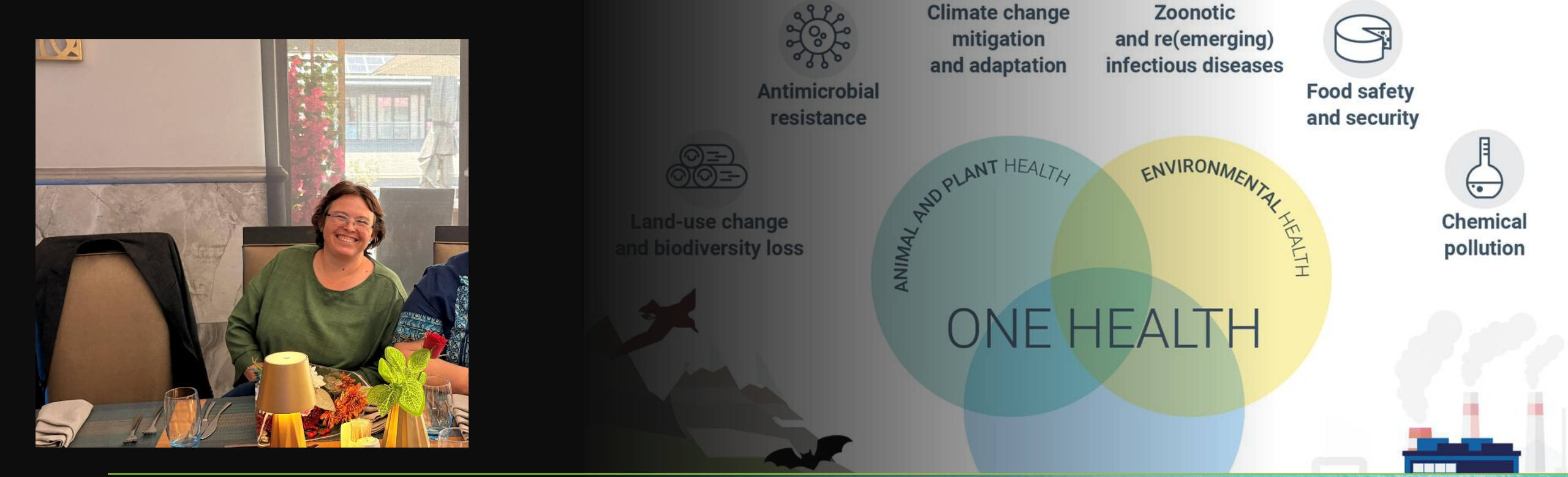
REDISTRIBUTION & COMMUNICATION





PHOTOS FOR REFRESHER TRAINING WITH CHWs

HST VIDEO OF OUR AMR STRATEGY – GOOD PRACTICE



THANK YOU

Teamwork Makes the Dream Work

The Great Team of EHPs, Pharmaceutical Services, CHWs are the drivers of the success of this programme, across the District, without them and their support and willingness to implement programs and strategies, none of this would be possible – **A big thank you** to each of them

PLUS A SUPER SPECIAL THANK YOU TO MARISSA FOR ALL HER SUPPORT