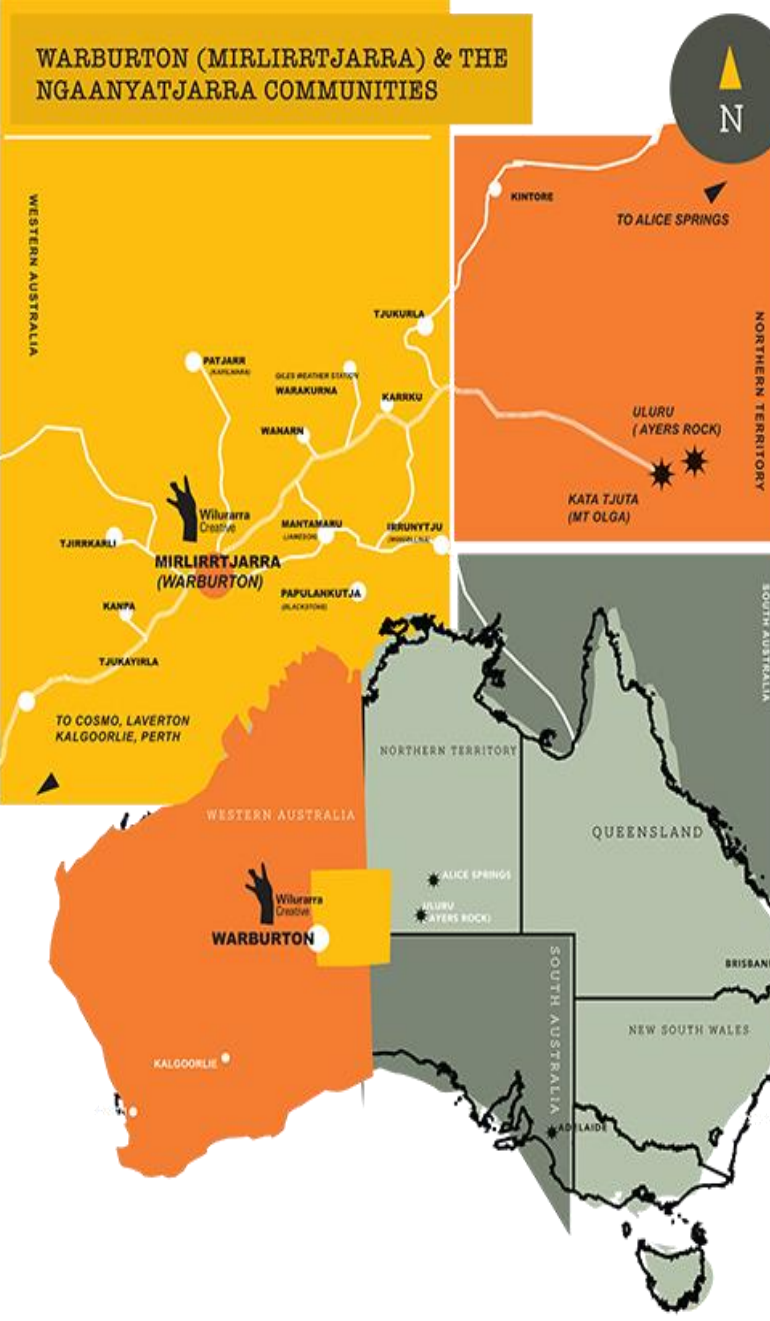


Works Cited

<https://www.nghealth.org.au/>
<https://en.wikipedia.org/wiki/Ngaanyatjarra>
https://en.wikipedia.org/wiki/WHO_Mode_L_List_of_Essential_Medicines

Essential Medicine for the Shire Ngaanyatjarra-Giles in Australia



By: Jeffery Abbott, Tristan Cone, Samuel Scruggs

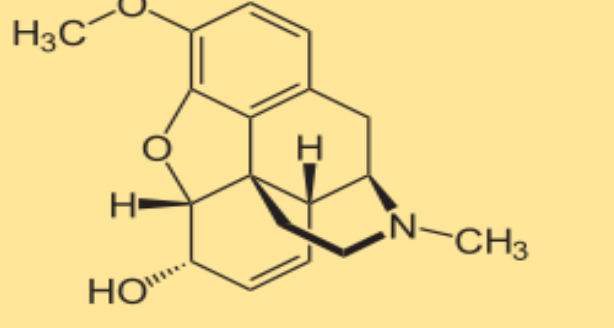
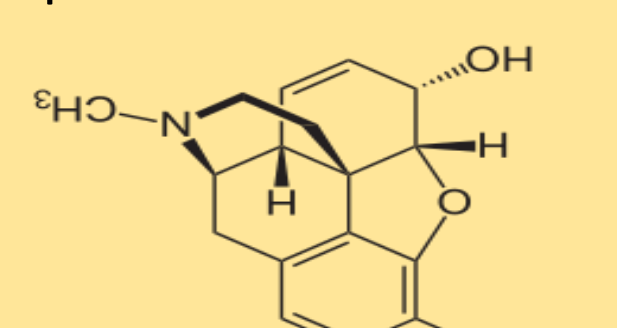
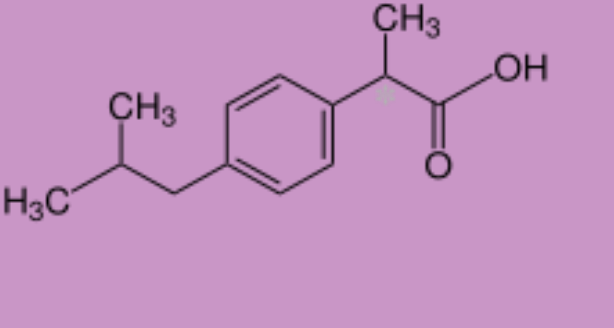
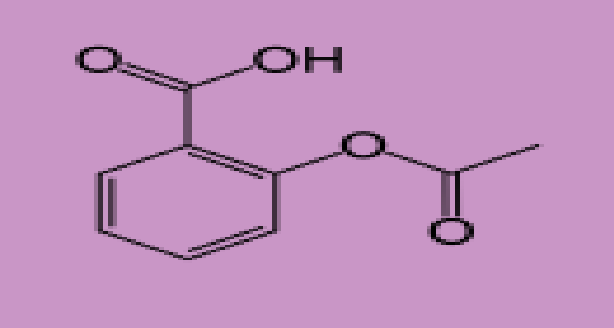
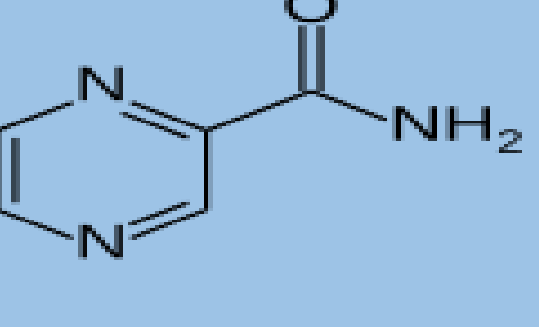
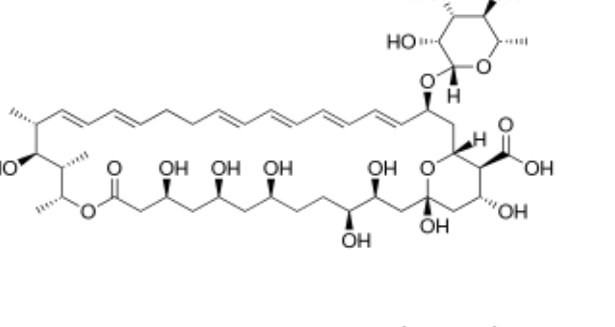
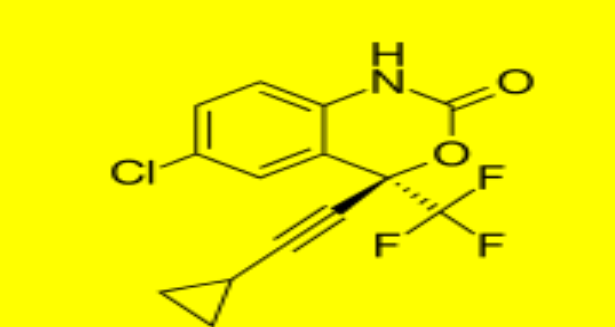
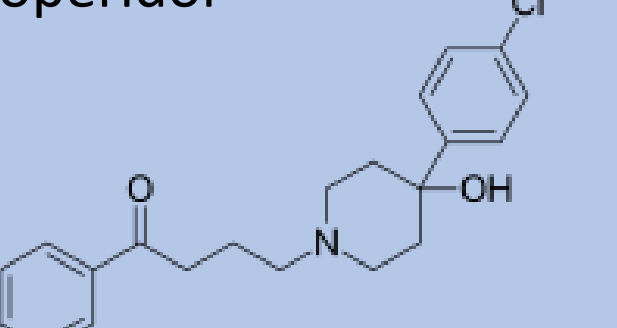
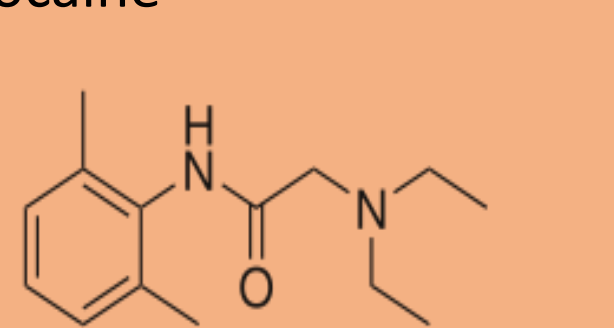
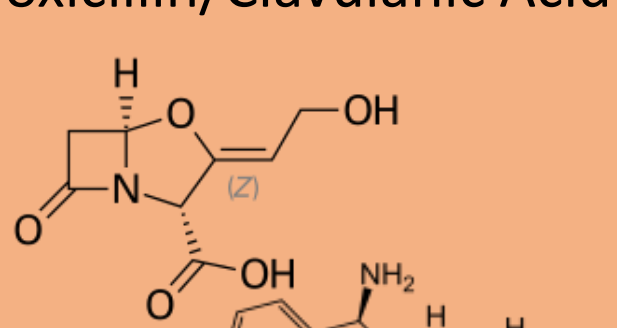
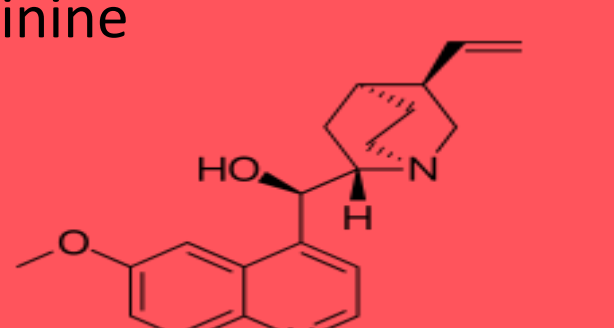
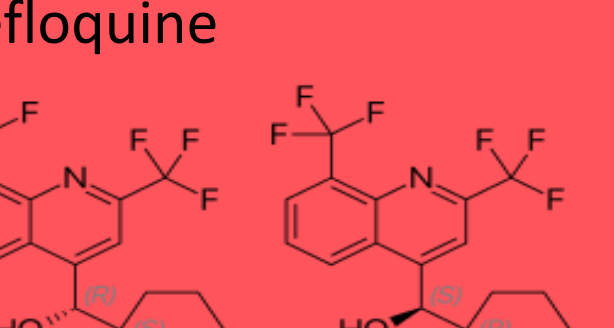
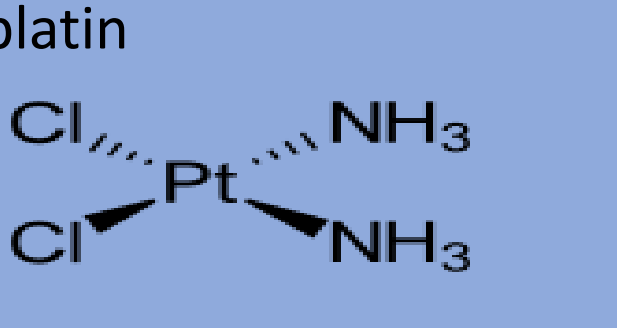
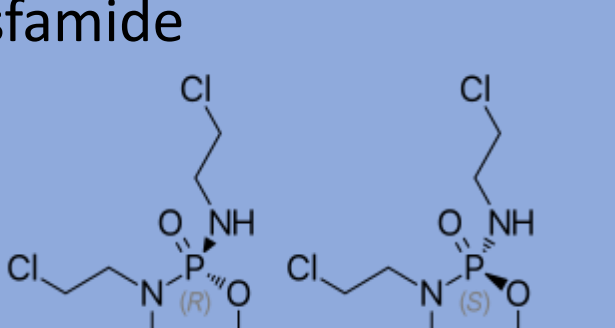
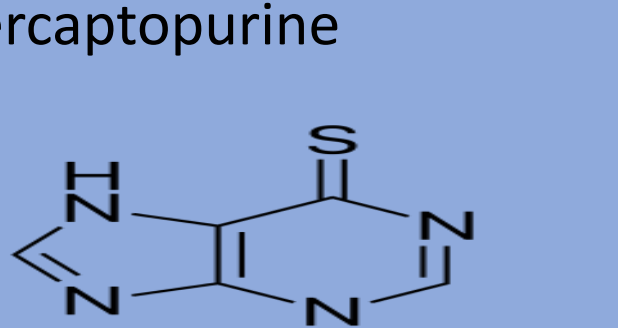
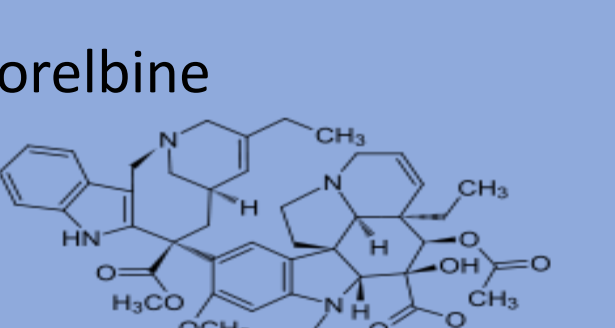
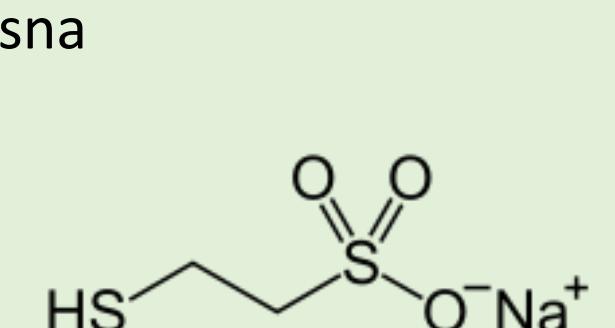
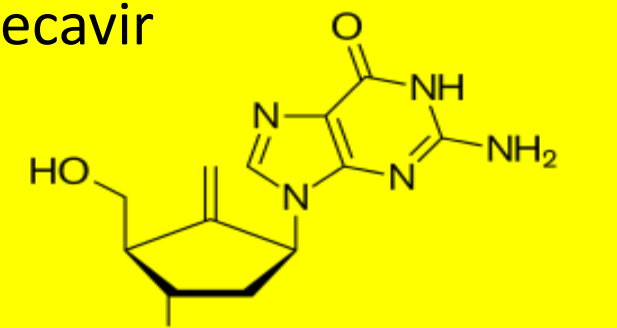
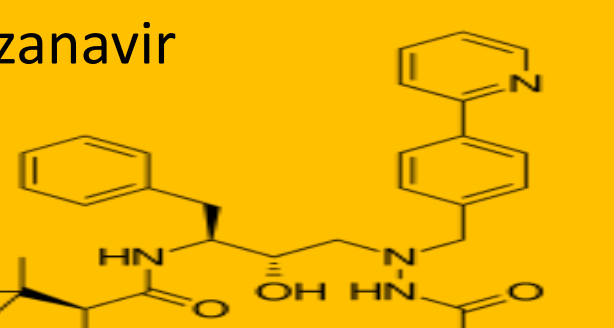
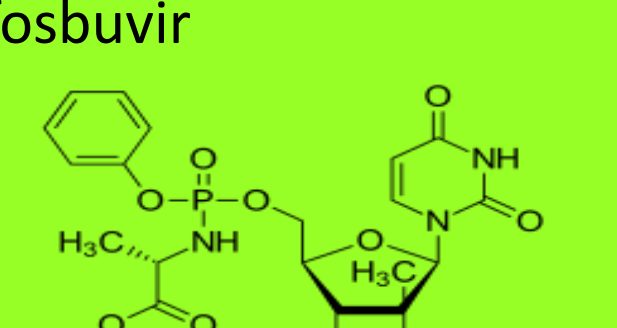

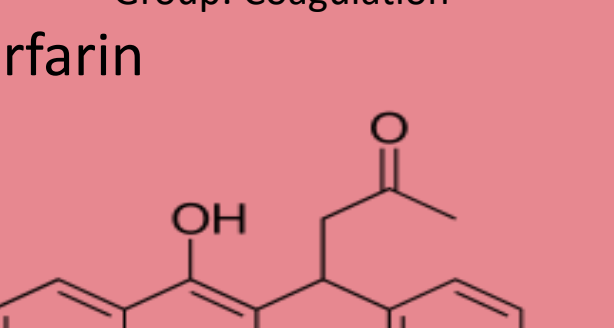
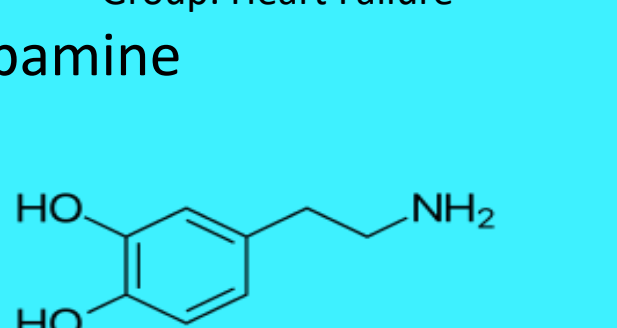
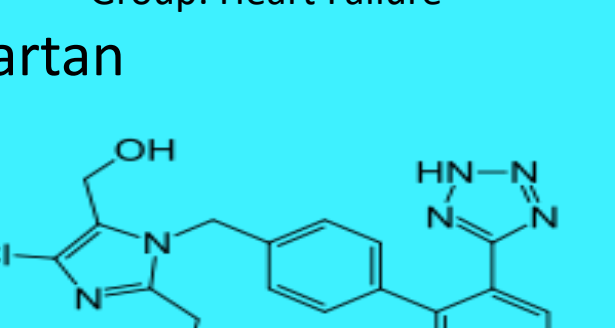
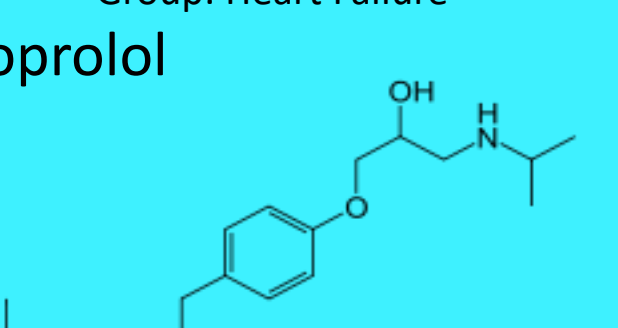
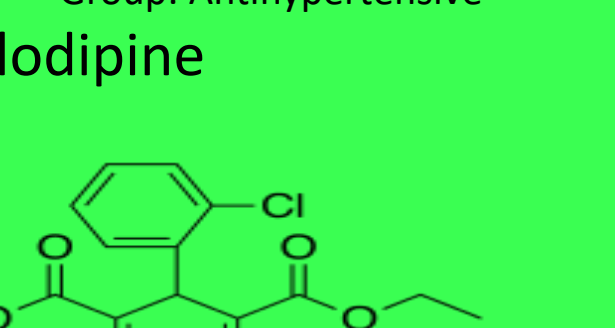
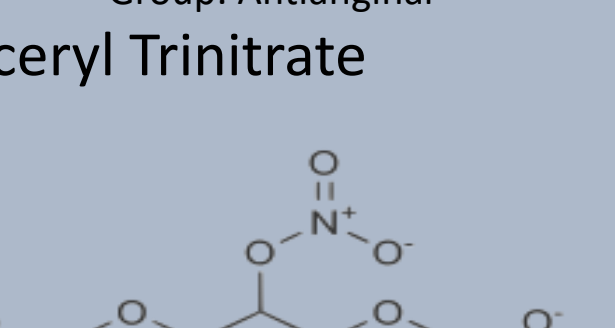

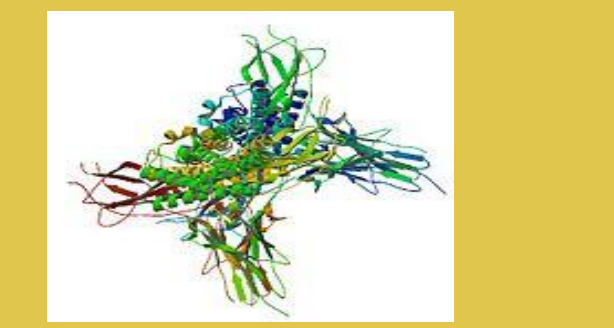
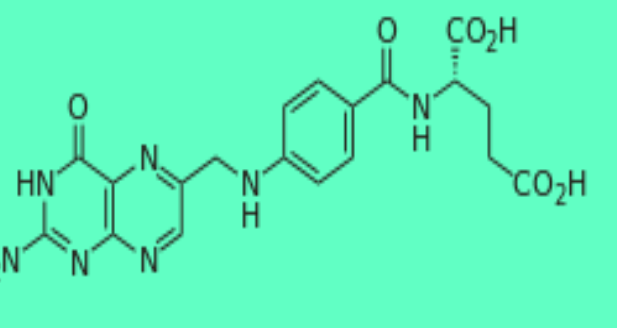
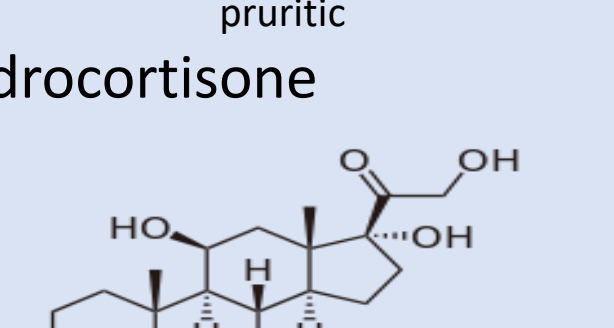
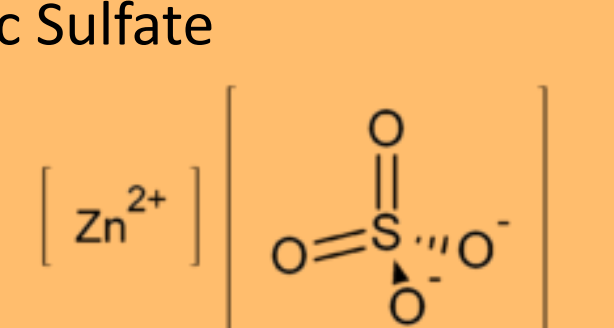
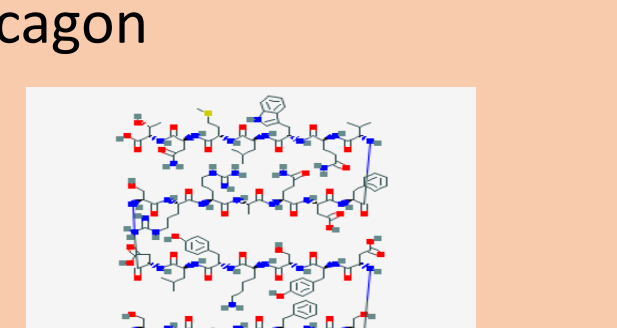
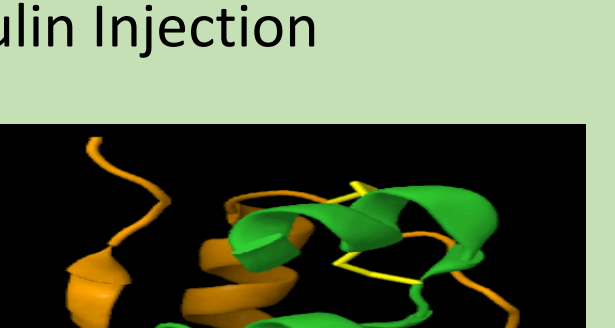
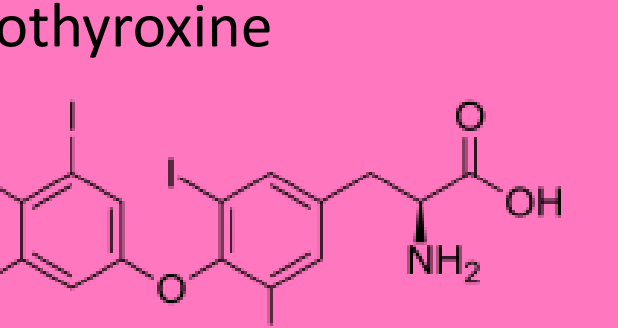
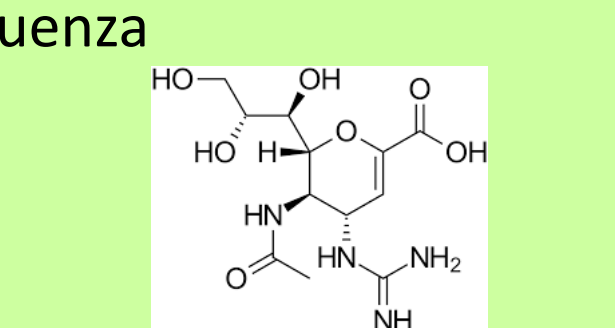
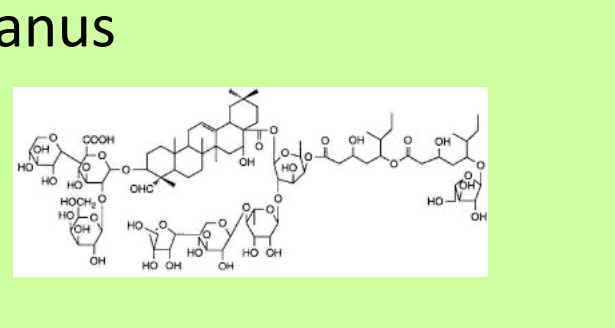
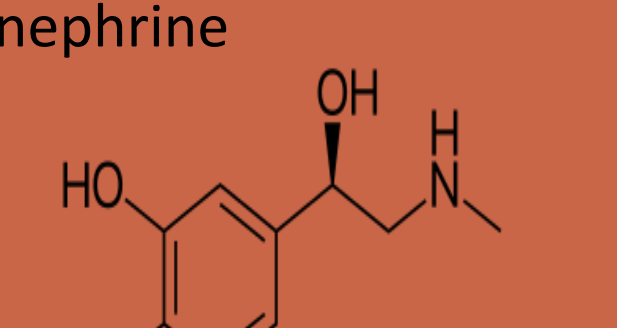
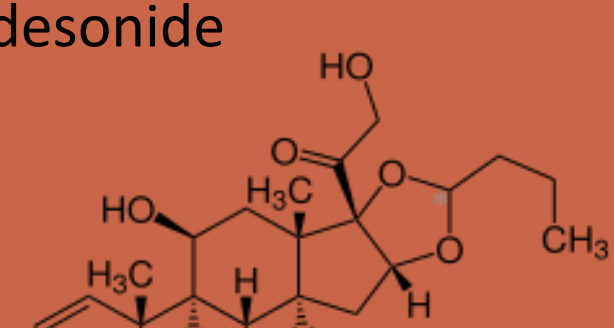
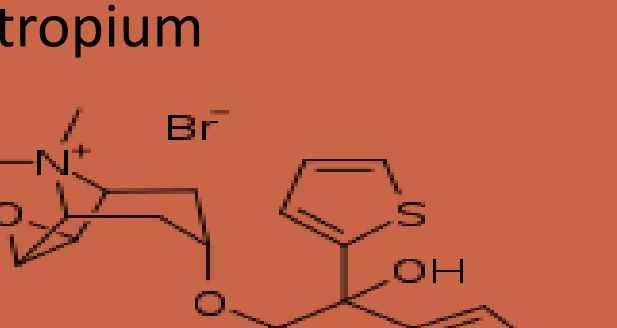
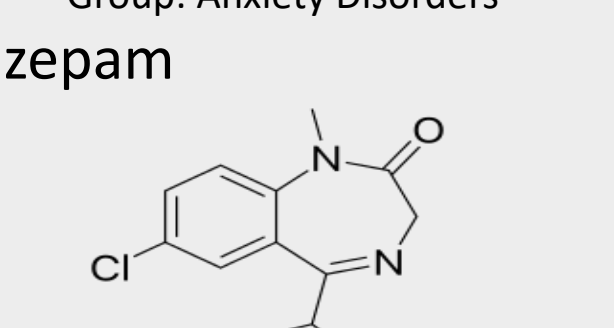
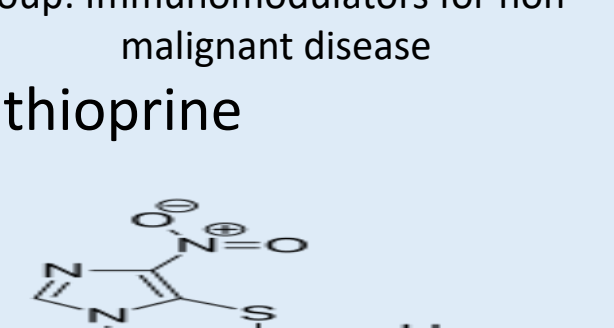
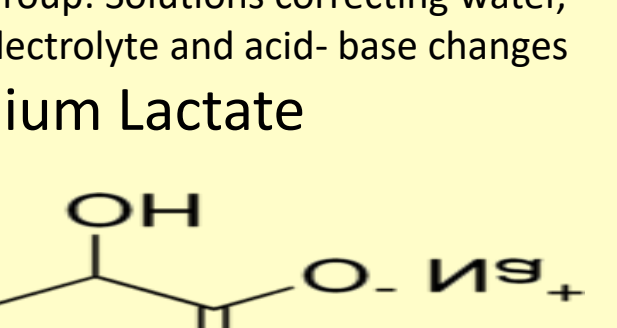

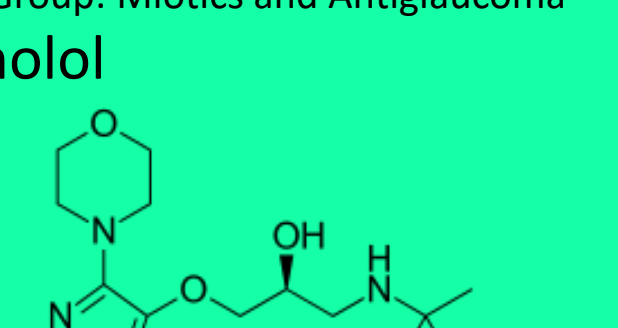
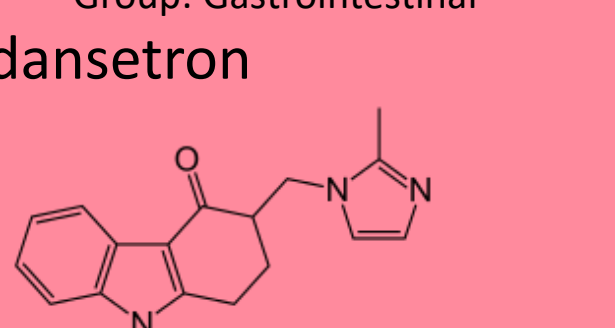
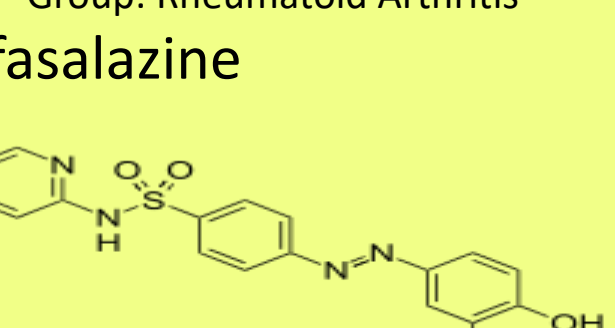
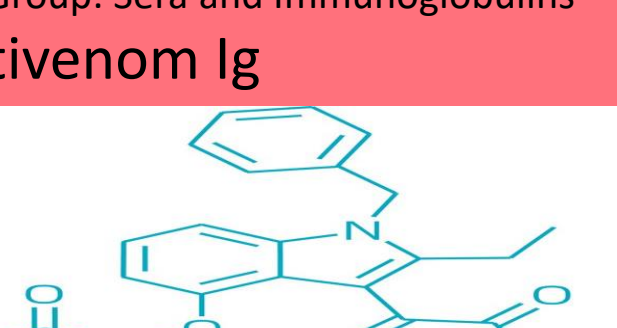
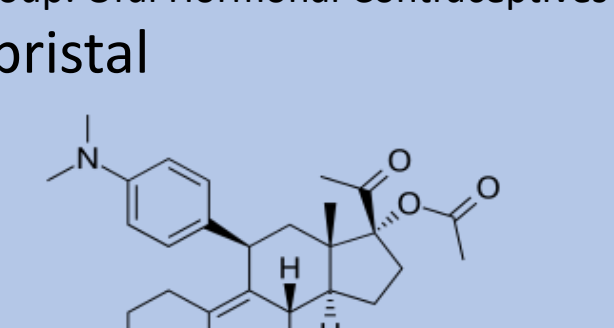
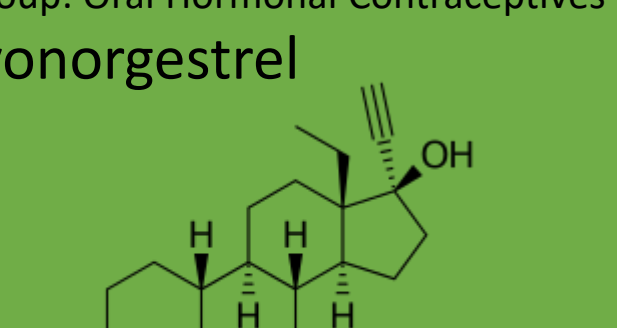
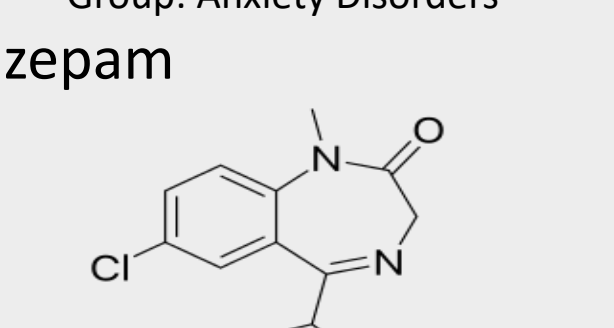
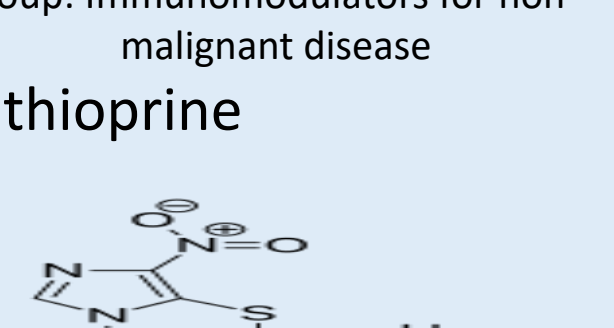
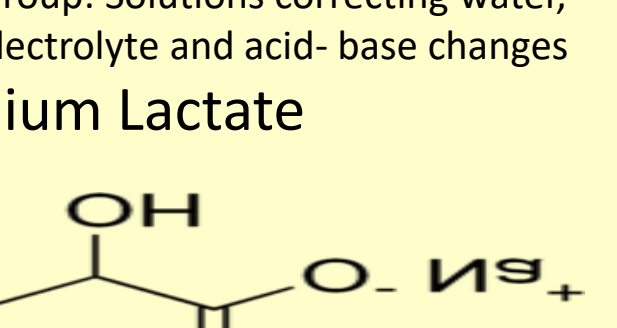

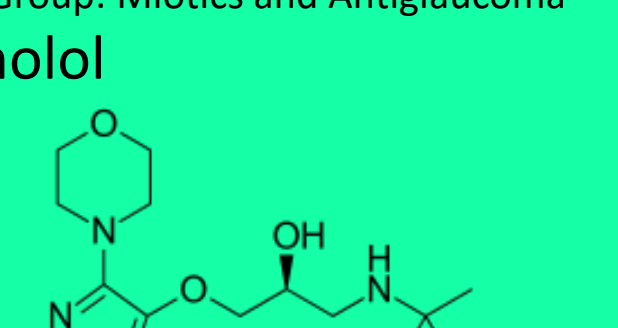
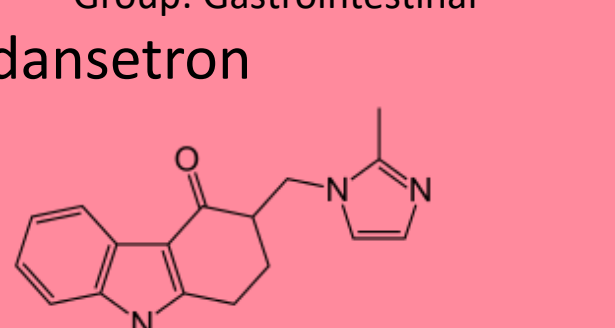
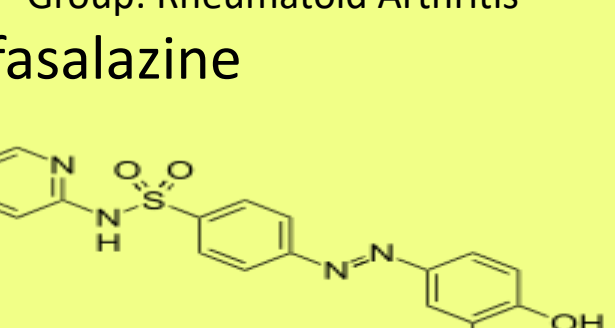
Abstract

This list of essential medicines was outlined by the World Health Organization [WHO]. These medicines were specifically picked out for the geographic region of Ngaanyatjarra-Giles a rural region in Western Australia. These medicines satisfy the health care needs of that population. They were selected to best suit the local population in the case of: disease prevalence, low-cost administration, and efficacy and safety of the medicine. This list also includes the drug structures of these medicines and general background information about them.

Geographical Information

1. Dry, desert region in Central Australia, Encompasses approximately 3% of the land in Australia.
2. Aboriginal Community, Ngaanyatjarra, claimed a "Native Title" in 2005, in the largest land claim by an Aboriginal Community in Australian history.
3. This region is plagued with poverty, leading many citizens to go without treatment.
4. Major Diseases Impacting the Region include: Diabetes, Cancer, and Heart Disease
5. The closest cities to this territory are Alice Springs and Kalgoorlie



<p>Group: Opioid Analgesics</p> <p>Codeine</p>  <ol style="list-style-type: none"> 1) Opiate used to treat pain 2) Broken down into morphine in the liver 3) We chose this drug because there is little access to healthcare so this would deal with a patients pain until help arrived. 	<p>Group: Opioid Analgesics</p> <p>Morphine</p>  <ol style="list-style-type: none"> 1) Natural opiate 2) First – pass metabolism in liver 3) We chose this drug because there is little access to healthcare so this would deal with a patients pain until help arrived. 	<p>Group: NSAIDS</p> <p>Ibuprofen</p>  <ol style="list-style-type: none"> 1) Inhibits production of prostaglandins by decreasing cyclooxygenase 2) Discovered in 1961 3) Reduce severity of symptoms or treat mild cases until better healthcare can be provided 		<p>Group: NSAIDS</p> <p>Acetylsalicylic Acid</p>  <ol style="list-style-type: none"> 1) Suppresses normal functioning of platelets 2) Can also help fever 3) Reduce severity of symptoms or treat mild cases until better healthcare can be provided 		<p>5 W.H.O. Groups that are not needed here</p> <p>Antiallergics and Medicines used in anaphylaxis - Most allergies are food related, based on the geographic location.</p> <p>Antimigraine Medicines - Some of these medicines overlap with Medicines for pain and palliative care</p> <p>Disinfectants and Antiseptics - This area is arid, which means infection is a less severe problem here than some where more humid, and otherwise moist.</p> <p>Parkinson's Disease - No information suggests Parkinson's being a significant part of aboriginal life. Diagnostic Agents Due to Medical Scans - These scans are particularly unavailable in the region without long distance travel</p>		<p>Group: Anti – Tb</p> <p>Pyrazinamide</p>  <ol style="list-style-type: none"> 1) Treats Tb, moa not entirely clear 2) Can Treat Tb if it arises in this remote community. 	<p>Group: Antifungal</p> <p>Nystatin</p>  <ol style="list-style-type: none"> 1) Disrupts the membrane of the fungal cells 2) Discovered in 1950 3) Could be used to treat a variety of fungal diseases that can be picked up in the remote area. 	<p>Group: Non – nucleoside reverse transcriptase inhibitors</p> <p>Efavirenz</p>  <ol style="list-style-type: none"> 1) Blocks function of reverse transcriptase 2) Not available generically 3) Can treat symptoms of HIV which can be common in this rural and poor area.
<p>Group: Palliative Care</p> <p>Haloperidol</p>  <ol style="list-style-type: none"> 1) Can help reduce hallucinations/tremors from many effects 2) Antagonist of dopamine receptor 3) Little access to healthcare relief so this would help quality of life near death. 	<p>Group: Anesthetics</p> <p>Lidocaine</p>  <ol style="list-style-type: none"> 1) Blocks sodium channels 2) Can be a numbing agent 3) Can be used to numb areas of pain and perform rudimentary surgeries in very rural areas. 	<p>Group: Anti – infective</p> <p>Amoxicillin/Clavulanic Acid</p>  <ol style="list-style-type: none"> 1) Opens B – lactam ring 2) Inhibits B – lactamase 3) Treats infectious diseases that could quickly spread in the remote area. 	<p>Group: Antimalarial</p> <p>Quinine</p>  <ol style="list-style-type: none"> 1) Naturally occurring in cinchona tree, not known exactly how it works 2) Treats Malaria which is very common in this rural area. 	<p>Group: Antimalarial</p> <p>Mefloquine</p>  <ol style="list-style-type: none"> 1) Synthetic analogue of quinine, developed by US army 2) Treats Malaria which is very common in this rural area. 	<p>Group: Antipneumocytosis/plasmosis</p> <p>Cisplatin</p>  <ol style="list-style-type: none"> 1) Binds to DNA and inhibits replication 2) Over 100 years passed between discovery and licensing 3) Used to treat Cancer which can be hard to diagnose and treat in this rural area. 	<p>Group: Antipneumocytosis/plasmosis</p> <p>Ifosfamide</p>  <ol style="list-style-type: none"> 1) Disrupts duplication of DNA and creation of RNA 2) Used for a variety of Cancers 3) Used to treat Cancer which can be hard to diagnose and treat in this rural area. 	<p>Group: Antipneumocytosis/plasmosis</p> <p>Mercaptopurine</p>  <ol style="list-style-type: none"> 1) Nucleoside Metabolic Inhibitor 2) Used to treat Cancer which can be hard to diagnose and treat in this rural area. 	<p>Group: Antipneumocytosis/plasmosis</p> <p>Vinorelbine</p>  <ol style="list-style-type: none"> 1) Disrupt normal function of microtubules 2) Used to treat Cancer which can be hard to diagnose and treat in this rural area. 	<p>Group: Supportive</p> <p>Mesna</p>  <ol style="list-style-type: none"> 1) Alter breakdown products of cyclophosphamide and ifosfamide (less toxic) 2) Helps support the uses of other medicines that are helpful for people in this region. 	
<p>Group: Nucleoside/tide RT inhibit.</p> <p>Entecavir</p>  <ol style="list-style-type: none"> 1) Prevents Hep B by blocking reverse transcriptase 2) Can treat Hepatitis B which can arise in this rural and poor area. 	<p>Group: Protease Inhibitors</p> <p>Atazanavir</p>  <ol style="list-style-type: none"> 1) Blocks HIV protease 2) Can treat symptoms of HIV which can be common in this rural and poor area. 	<p>Group: Hepatitis C</p> <p>Sofosbuvir</p>  <ol style="list-style-type: none"> 1) Blocks Hep C NS5B protein 2) Discovered in 2007 3) Can treat Hepatitis C which can arise in this rural and poor area. 	<p>Group: Antianemia</p> <p>Hydroxocobalmin</p>  <ol style="list-style-type: none"> 1) Required to make DNA 2) Vitamin B12 3) Can help reverse the effects of cyanide poisoning which could become a problem in such a rural region. 	<p>Group: Coagulation</p> <p>Warfarin</p>  <ol style="list-style-type: none"> 1) Decreases blood clotting by blocking enzyme Vitamin K. Factors II, VII, IX, and X have decreased clotting ability 2) First used as a rat poison in 1948 3) Used to decrease blood clots which could save lives in such a rural region. 	<p>Group: Heart Failure</p> <p>Dopamine</p>  <ol style="list-style-type: none"> 1) Low levels – triggers dopamine receptors and B1 – adrenergic receptors 2) High Levels – a – adrenergic receptors 3) Reduces symptoms of shock someone might face in this rural area. 	<p>Group: Heart Failure</p> <p>Losartan</p>  <ol style="list-style-type: none"> 1) Blocks angiotensin II receptor 2) Renin – Angiotensin – Aldosterone system 3) Lower blood pressure which is important for people in this region who have heart conditions. 	<p>Group: Heart Failure</p> <p>Bisoprolol</p>  <ol style="list-style-type: none"> 1) Blocks Beta receptors, particularly the B1 selective type 2) Lower blood pressure which is important for people in this region who have heart conditions. 	<p>Group: Antihypertensive</p> <p>Amlodipine</p>  <ol style="list-style-type: none"> 1) Long acting Ca²⁺ channel blocker of dihydropyridine type 2) Lower blood pressure which is important for people in this region who have heart conditions 	<p>Group: Antianginal</p> <p>Glyceril Trinitrate</p>  <ol style="list-style-type: none"> 1) Believed to dilate blood vessels 2) Can be used in dynamite 3) Can be used to treat heart pain and heart attacks which can be life saving for anyone in this rural region. 	
<p>Group: Targeted Therapies</p> <p>Rituximab</p>  <ol style="list-style-type: none"> 1) Created cluster of CD20 surface protein on B cells which increased infectiveness of natural killer cells 2) Used to treat Cancer which can be hard to diagnose and treat in this rural area. 	<p>Group: Immunomodulators</p> <p>Filgrastim</p>  <ol style="list-style-type: none"> 1) Stimulates the body to increase neutrophil production (G – CSF) 2) Helps people recover after multiple cancer treatments. 	<p>Group: Antianemia</p> <p>Folic Acid</p>  <ol style="list-style-type: none"> 1) Lack of this can lead to anemia which may lead to death 2) Helps body make red blood cells which can help regulate organ function for people in this region. 	<p>Group: Anti – inflammatory and anti – pruritic</p> <p>Hydrocortisone</p>  <ol style="list-style-type: none"> 1) Glucocorticoid; anti – inflammatory and immune suppression 2) Used to treat many skin conditions that may arise in this rural region. 	<p>Group: Diuretics</p> <p>Zinc Sulfate</p>  <ol style="list-style-type: none"> 1) Decreases number of bowel movements, and time until diarrhea stops 2) Used since the 1600s 3) Reduces loss of water which can be vital in arid climate. 	<p>Group: Hypoglycemia</p> <p>Glucagon</p>  <ol style="list-style-type: none"> 1) Regulates the metabolism of glycogen 2) Treats Diabetes which is life saving and a common disease in this region 	<p>Group: Insulins</p> <p>Insulin Injection</p>  <ol style="list-style-type: none"> 1) Helps lower blood glucose levels so your blood does not have increased sugar levels 2) Treats Diabetes which is life saving and a common disease in this region 	<p>Group: Thyroid and Anti – thyroid</p> <p>Levothyroxine</p>  <ol style="list-style-type: none"> 1) Synthetic form of thyroxine, converted to triiodothyronine for use 2) Treats hyperthyroidism which is a common condition in this region. 	<p>Group: Vaccines</p> <p>Influenza</p>  <ol style="list-style-type: none"> 1) Effectiveness varies, depends on how virus is presented based on H and P surface proteins 2) Vaccine used inhibit spread of Influenza in this poor region. 	<p>Group: Vaccines</p> <p>Tetanus</p>  <ol style="list-style-type: none"> 1) Artificial active immunity, makes immune system produce antibodies which remember virus if ever introduced 2) Vaccine used to inhibit Tetanus which could be deadly in this region. 	
<p>Group: Antiasthmatics and COPD</p> <p>Epinephrine</p>  <ol style="list-style-type: none"> 1) Important role in flight-or-flight response to increase blood flow to muscles, the heart, and pupils. 2) Does this by binding to alpha and beta receptors 3) Life saving for people with COPD in this region. 	<p>Group: Antiasthmatics and COPD</p> <p>Budesonide</p>  <ol style="list-style-type: none"> 1) Corticosteroid that is also a glucocorticoid and can manage asthma and rhinitis 2) Life saving for people with COPD in this region. 	<p>Group: Antiasthmatics and COPD</p> <p>Tiotropium</p>  <ol style="list-style-type: none"> 1) Anticholinergic; blocks ACh on smooth muscle 2) Life saving for people with COPD in this region. 	<p>Group: Anxiety Disorders</p> <p>Diazepam</p>  <ol style="list-style-type: none"> 1) Increasing effect of GABA neurotransmitter 2) Treats high-anxiety which can be common in this region. 	<p>Group: Immunomodulators for non – malignant disease</p> <p>Azathioprine</p>  <ol style="list-style-type: none"> 1) 6 – thioguanine to disrupt making of RNA and DNA by cells 2) Can treat rheumatoid arthritis which can be common in this region. 	<p>Group: Solutions correcting water, electrolyte and acid- base changes</p> <p>Sodium Lactate</p>  <ol style="list-style-type: none"> 1) Neutralizes lactic acid 2) Helps someone recover from physical activity in this very arid region. 	<p>Group: Antiviral</p> <p>Acyclovir</p>  <ol style="list-style-type: none"> 1) Nucleoside analogue, that mimics guanosine and decrease production of invading virus's DNA 2) Stops the spread of herpes virus which can be common in this region. 	<p>Group: Miotics and Antiglaucoma</p> <p>Timolol</p>  <ol style="list-style-type: none"> 1) Non – selective beta blocker 2) Lower blood pressure which is important for people in this region who have heart conditions. 	<p>Group: Gastrointestinal</p> <p>Ondansetron</p>  <ol style="list-style-type: none"> 1) Serotonin 5 – HT3 Receptor antagonist (no effect on dopamine or muscarinic receptors) 2) Prevents nausea and vomiting which can reduce water loss in this arid region. 	<p>Group: Rheumatoid Arthritis</p> <p>Sulfasalazine</p>  <ol style="list-style-type: none"> 1) Unclear how it works but is broken down into sulfapyridine and 5 – aminosalicylic acid 2) Can treat rheumatoid arthritis which can be common in this region. 	
<p>Group: Sera and Immunoglobulins</p> <p>Antivenom Ig</p>  <ol style="list-style-type: none"> 1) Immobilizes snake venom and its effects on the human body through immunoglobulins 2) Could save someone life if snake bitten in this region which has many venomous snakes. 	<p>Group: Oral Hormonal Contraceptives</p> <p>Ulipristal</p>  <ol style="list-style-type: none"> 1) Prevents effects of progesterone thus stopping ovulation 2) Contraceptive that can be easily accessed in this rural region. 	<p>Group: Oral Hormonal Contraceptives</p> <p>Levonorgestrel</p>  <ol style="list-style-type: none"> 1) Helps stops STDs and prevent pregnancy 2) Contraceptive that can be easily accessed in this rural region 	<p>Group: Anxiety Disorders</p> <p>Diazepam</p>  <ol style="list-style-type: none"> 1) Increasing effect of GABA neurotransmitter 2) Treats high-anxiety which can be common in this region. 	<p>Group: Immunomodulators for non – malignant disease</p> <p>Azathioprine</p>  <ol style="list-style-type: none"> 1) 6 – thioguanine to disrupt making of RNA and DNA by cells 2) Can treat rheumatoid arthritis which can be common in this region. 	<p>Group: Solutions correcting water, electrolyte and acid- base changes</p> <p>Sodium Lactate</p>  <ol style="list-style-type: none"> 1) Neutralizes lactic acid 2) Helps someone recover from physical activity in this very arid region. 	<p>Group: Antiviral</p> <p>Acyclovir</p>  <ol style="list-style-type: none"> 1) Nucleoside analogue, that mimics guanosine and decrease production of invading virus's DNA 2) Stops the spread of herpes virus which can be common in this region. 	<p>Group: Miotics and Antiglaucoma</p> <p>Timolol</p>  <ol style="list-style-type: none"> 1) Non – selective beta blocker 2) Lower blood pressure which is important for people in this region who have heart conditions. 	<p>Group: Gastrointestinal</p> <p>Ondansetron</p>  <ol style="list-style-type: none"> 1) Serotonin 5 – HT3 Receptor antagonist (no effect on dopamine or muscarinic receptors) 2) Prevents nausea and vomiting which can reduce water loss in this arid region. 	<p>Group: Rheumatoid Arthritis</p> <p>Sulfasalazine</p>  <ol style="list-style-type: none"> 1) Unclear how it works but is broken down into sulfapyridine and 5 – aminosalicylic acid 2) Can treat rheumatoid arthritis which can be common in this region. 	