

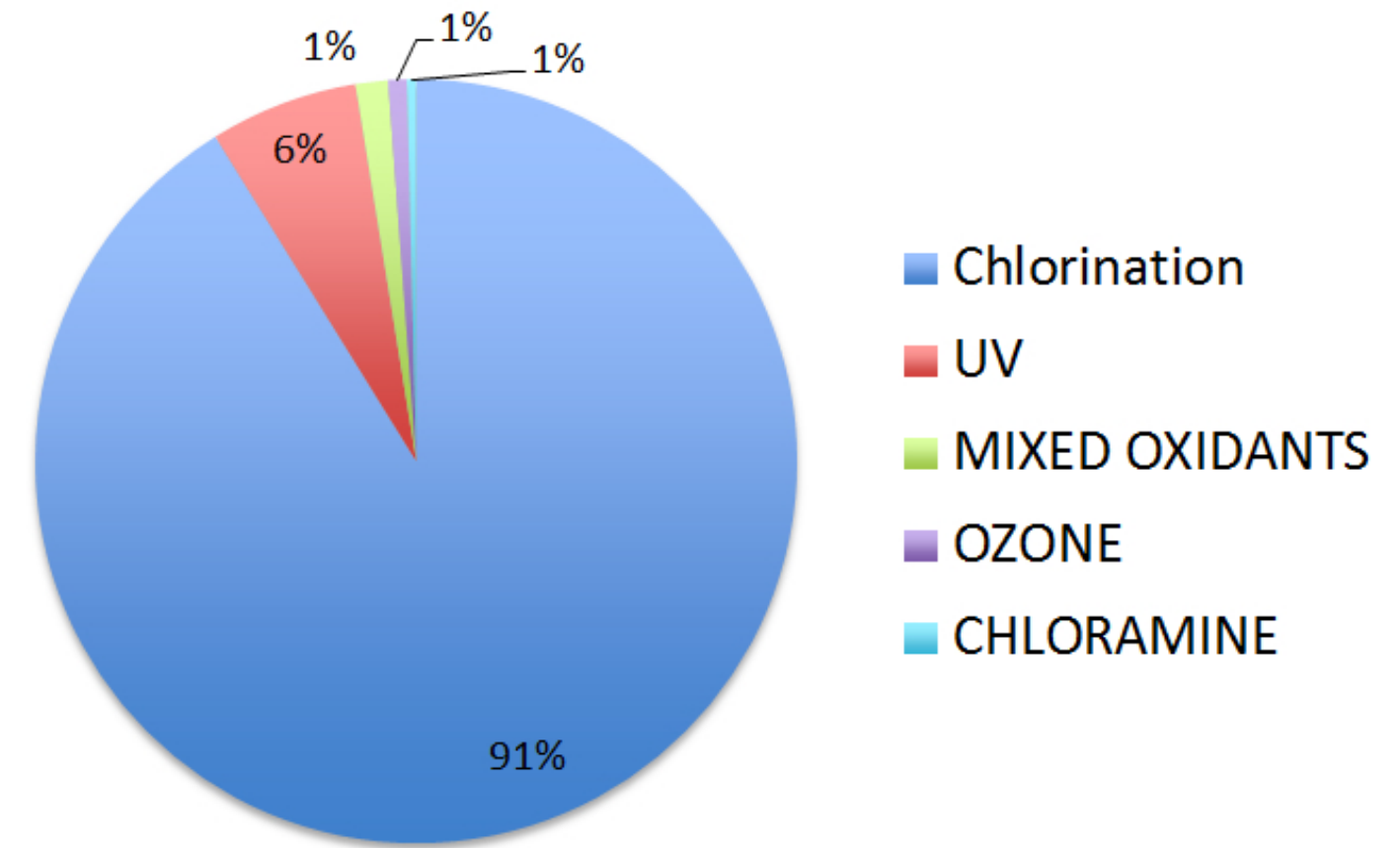
Drinking Water Disinfection By-Products (DBPs) in Newfoundland and Labrador

Disinfection By-Products

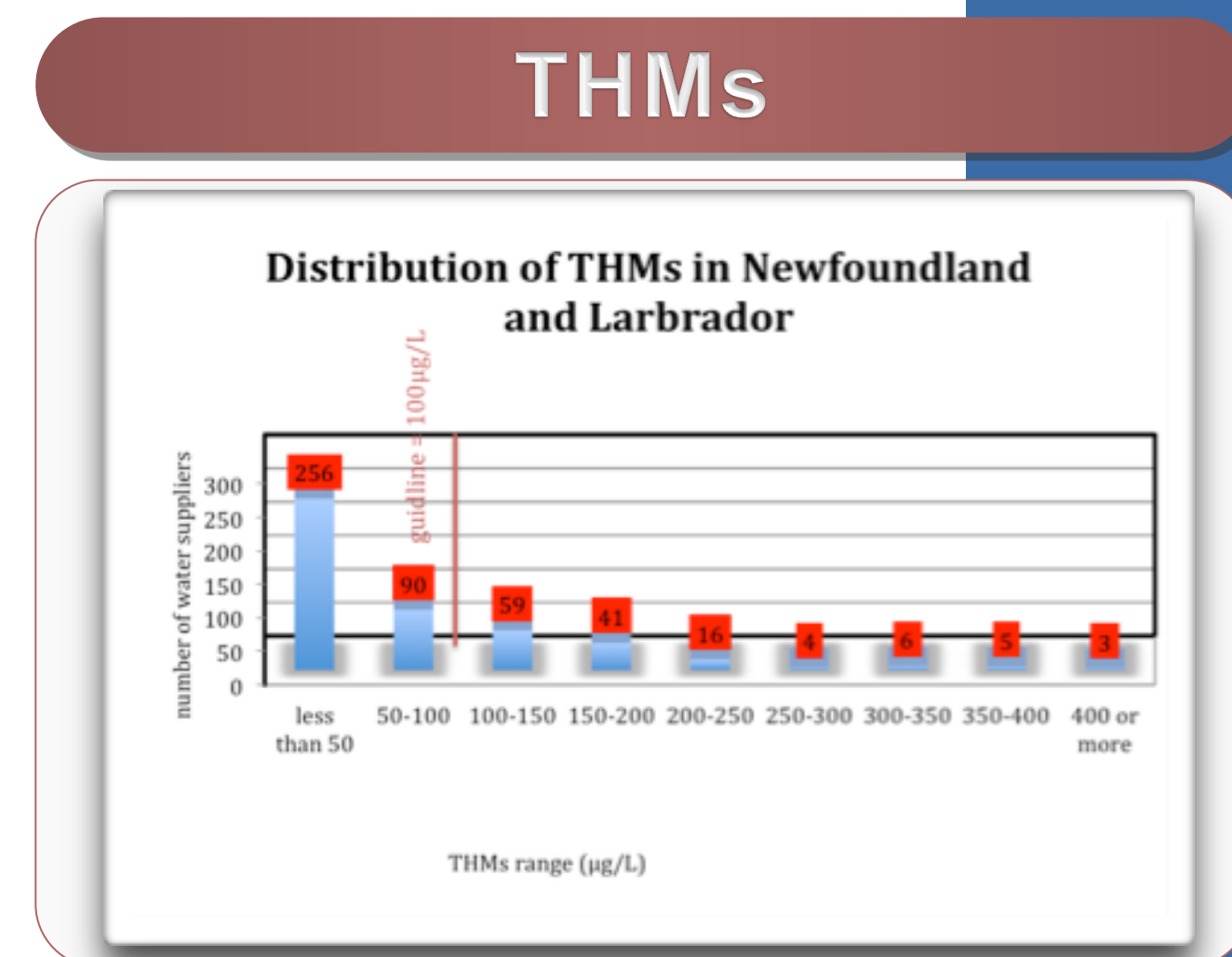
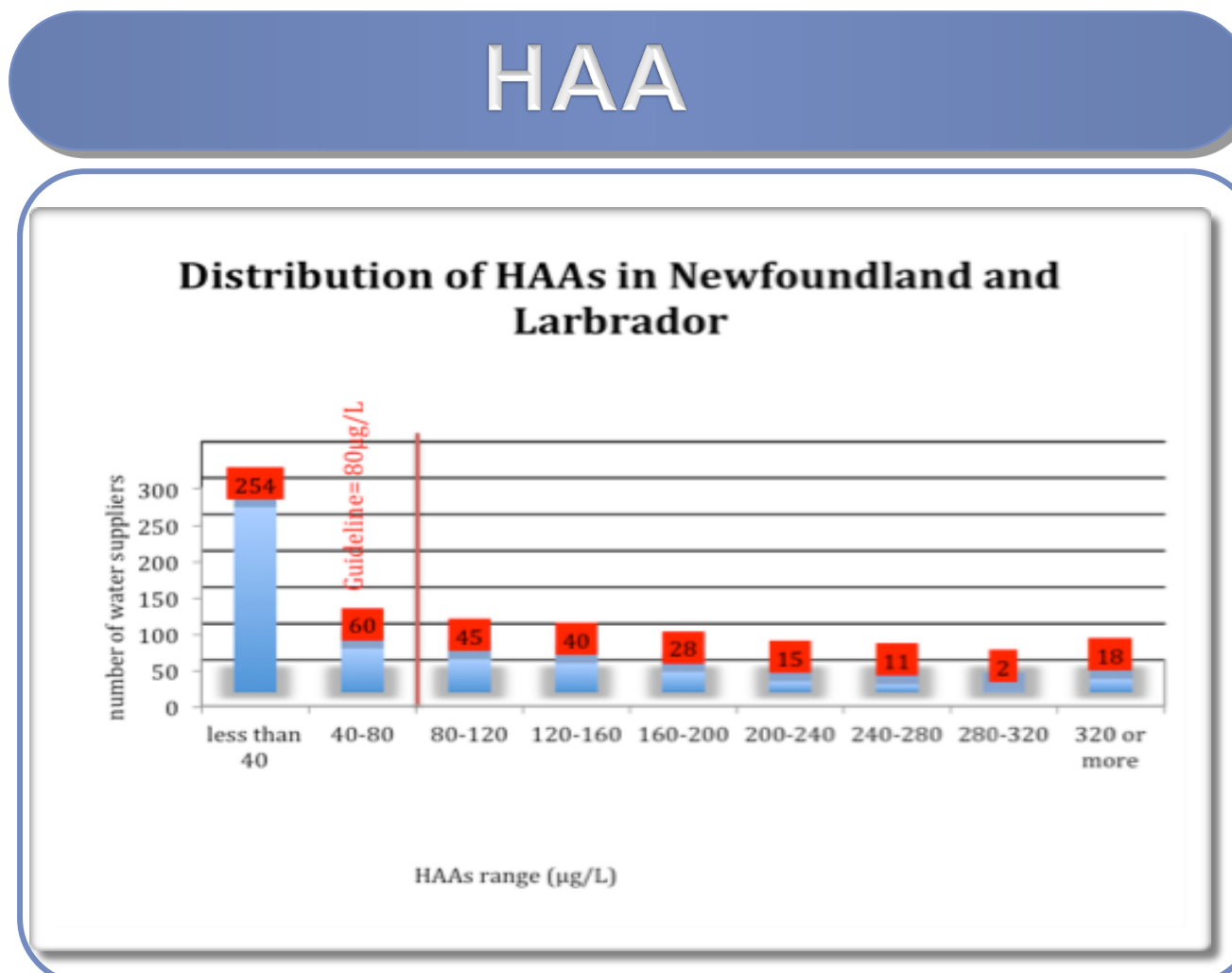
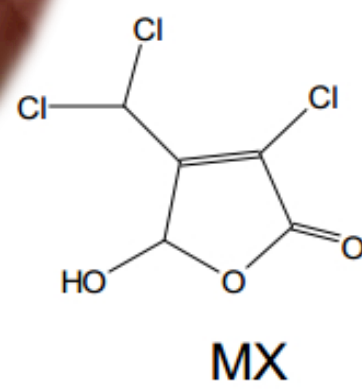
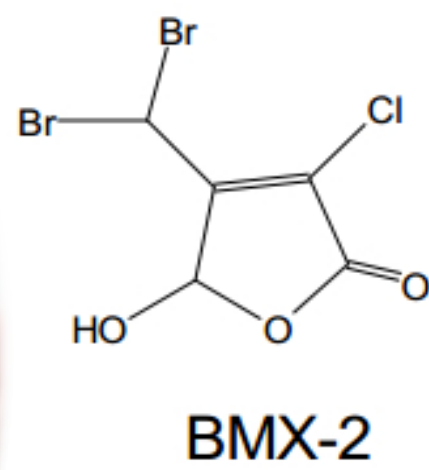
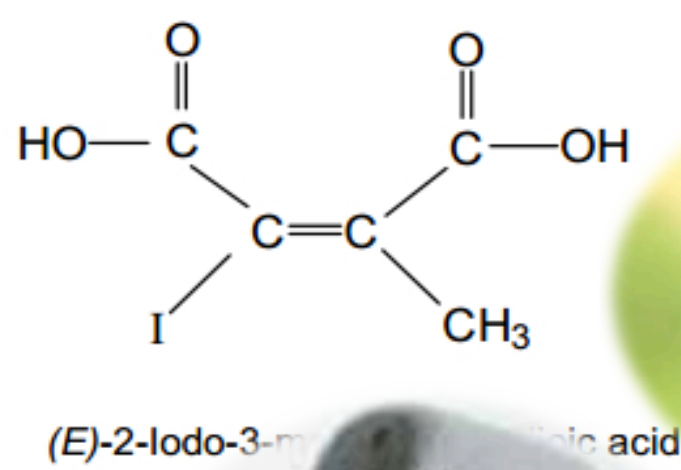
NOM +	Disinfectant	=	DBPs
Natural organic matter in water	Chlorine (Cl ₂)	=	Trihalomethanes (THMs); Haloacetic acids(HAAs)
	Chloramine (NH ₂ Cl)	=	THMs; HAAs
	Chlorine Dioxide (ClO ₂)	=	Chlorite; Chlorate
	Ozone (O ₃)	=	Bromate

The good news is that chlorine has done a good job in killing off most microorganisms in the water

Disinfection Systems in Newfoundland and Labrador



HOWEVER...relying on chlorine disinfection alone is a false guarantee that the water from your tap is safe to drink...

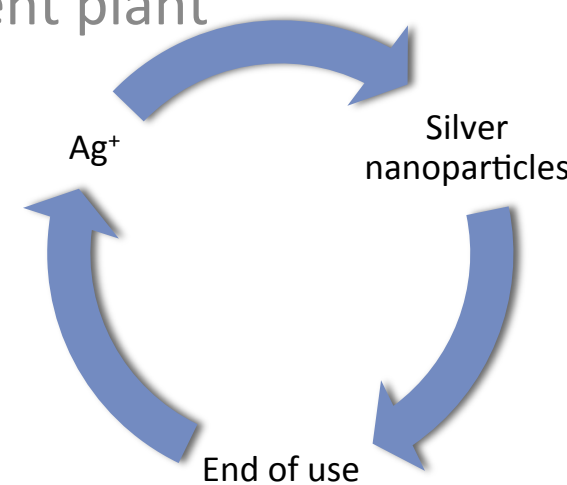


Better Ways to Access Safe Water...

Silver nanoparticles

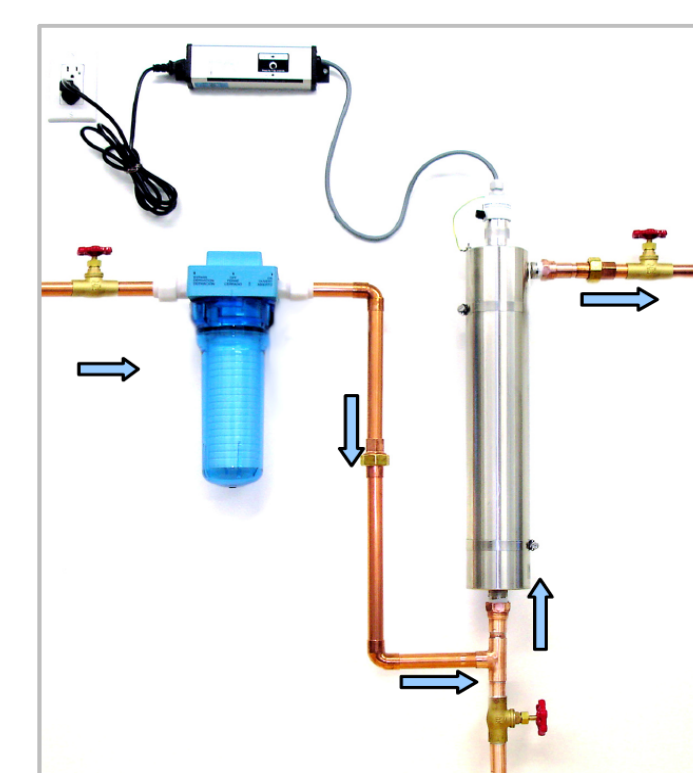
- S
 - I
 - L
 - V
 - E
 - R
- Selective
Inorganic
Less chemical
Variable
Efficient
Recyclable

- Silver nanoparticles can be coated on materials such as cation resin, gel, porous carbon.
- The size of them varied from pill size to feasible full scale treatment plant



Rainfresh water treatment system

- Comprised by filtration and UV lamp disinfection system
- Low cost and available in - Most Canadian stores
- Remove the chlorine taste and disinfection for both cold and hot water → reduce the intake from shower



<http://www.rainfresh.ca/images/file/R518,%20830,%201245.pdf>

Zirconium Coagulant

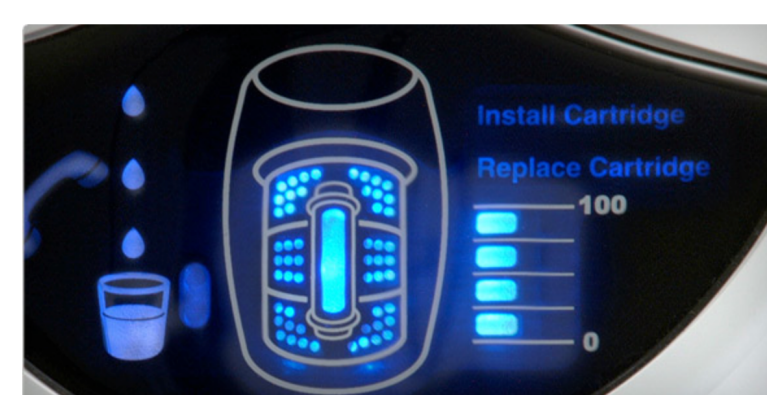
- Better performance on NOM removal
- Less toxicity than Alum coagulant
- No upgrade from conventional water treatment plant
- No more specific training required for existing operators



<http://www.waterinnovate.co.uk/product-datacentre/zr-coag>

eSpring® water treatment system

- Activated carbon combined with UV lamp
- High removal rate of THMs and bacteria
- LED indicator for UV lamp service life
- Attached to tap and under the counter



<http://www.espring.com/technology/overview/smart-chip-technology>

Get to Know Your Options for Healthier Drinking Water!