## Whole genome sequencing reveals insights into the challenges of identifying Vibrio cholerae amongst environmental Vibrio species in shellfish



- 2. Public Health Agency of Canada, Winnipeg, Canada
- 3. Health Canada, Ottawa, Canada

#### **BACKGROUND**:

- There are 160 Vibrio species and counting
- Global warming favours the emerging threat of Vibrio species
- Public health surveillance of Vibrio species in humans and food is lacking
- A genomics approach can improve Vibrio surveillance
- **Purpose**: confirm identity of suspect V. cholerae

### **METHODS**



#### CONCLUSIONS

- Shellfish are hosts to widely diverse Vibrio species
- Genome sequencing is indispensable for Vibrio species identification
- Surveillance of Vibrio species must reflect changing climate

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Schematic diagram created in BioRender



The VADA Program





in IQtree

# Genome sequencing finds new Vibrio species disguised as another

Only **11** out of **55** isolates were truly V. cholerae



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Identification	
	Vibrio alginolyticus
	Vibrio antiquarius
	Vibrio diabolicus
	Vibrio parahaemolyticu
	Vibrio mediterranei
	Vibrio shilonii
	Vibrio brasiliensis
	Vibrio aestuarianus
	Vibrio anguillarum
	Vibrio ordalii
	Vibrio cholerae
	Vibrio vulnificus
	Vibrio cidicii
	Vibrio navarrensis
	Unclassified
	Vibrio species
	NA



