



SUB-REGIONAL WORKSHOP ON
**ANTIMICROBIAL
RESISTANCE IN
AQUACULTURE**

ATELIER SOUS-REGIONAL SUR LA
**RESISTANCE AUX
ANTIMICROBIENS
EN AQUACULTURE**

Durban

SOUTH AFRICA / AFRIQUE DU SUD
26-28 November / Novembre 2019



Moetapele Letshwenyo, David Verner-Jeffreys and Jason Weeks
Sub-Regional Representative for Southern Africa
World Organisation for Animal Health (OIE)

“Risk Communication”

Presented at a workshop on
“ANTI-MIRCROBIAL RESISTANCE IN AQUACULTURE”

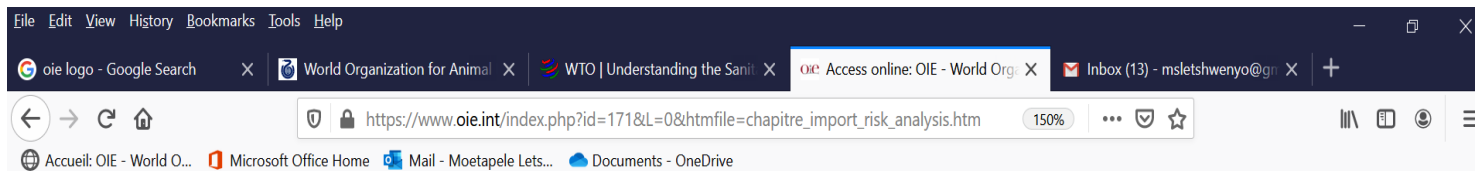
26 – 28TH NOVEMBER 2019, DURBAN, SOUTH AFRICA.

Aquatic Animal Health Code



2015
1st Edition

Risk Communication



Article 2.1.7.

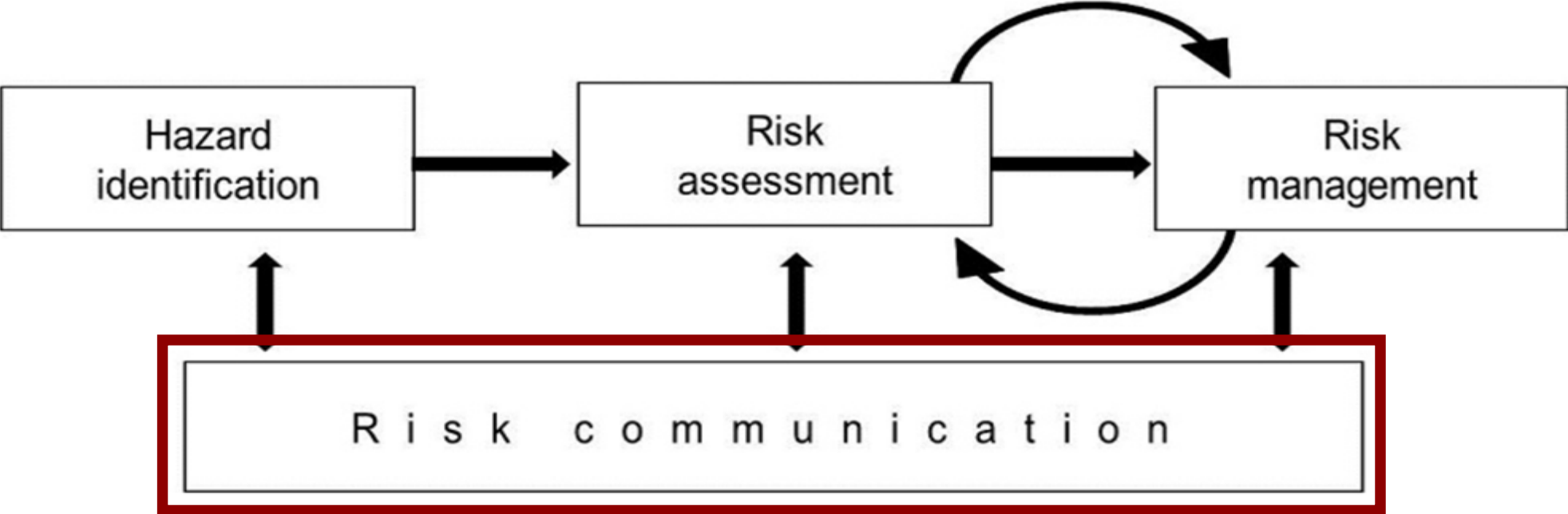
Principles of risk communication

1. *Risk communication* is the process by which information and opinions regarding *hazards* and *risks* are gathered from potentially affected and interested parties during a *risk analysis*, and by which the results of the *risk assessment* and proposed *risk management* measures are communicated to the decision-makers and interested parties in the *importing* and *exporting countries*. It is a multidimensional and iterative process and should ideally begin at the start of the *risk analysis* process and continue throughout.
2. A *risk communication* strategy should be put in place at the start of each *risk analysis*.
3. The *communication of risk* should be an open, interactive, iterative and transparent exchange of information that may continue after the decision on importation.
4. The principal participants in *risk communication* include the authorities in the *exporting country* and other stakeholders such as domestic aquaculturists, recreational and commercial fishermen, conservation and wildlife groups, consumer groups, and domestic and foreign industry groups.
5. The assumptions and uncertainty in the model, model inputs and the *risk* estimates of the *risk assessment* should be communicated.
6. Peer review of *risk analyses* is an essential component of *risk communication* in order to obtain a scientific critique and to ensure that the data, information, methods and assumptions are the best available.

NB: FIRST ADOPTED IN 1995; MOST RECENT UPDATE ADOPTED IN 2016.

Components of Risk Analysis - Hazard Identification, Risk Assessment, Risk Management and Risk Communication

The four components of risk analysis



Principles of Risk Communication (Article 2.1.7.)

- A process by which information and opinions regarding hazards and risks are gathered from potentially affected and interested parties during a risk analysis, and by which the results of the risk assessment and proposed risk management measures are communicated to the decision-makers and interested parties in the importing and exporting countries.
- a multidimensional and iterative process and should begin at the **start of the risk analysis process and continue throughout.**
- A **risk communication strategy** should be put in place at the start of each risk analysis.
- Communication of risk should be an open, interactive, iterative and transparent exchange of information that may continue after the decision on importation.

Risk Communication

- An interactive process for exchanging information and opinions between risk evaluators, risk managers and other interested parties
- Effective communication on risks of hazards : integral component of risk analysis
- Goals
 - Promote awareness and understanding
 - Promote consistency and transparency
 - Sound basis for understanding risk management decisions
 - Improve effectiveness & efficiency risk management decisions
 - Contribute to development info and education programmes
 - Foster public trust and confidence
 - Strengthen working relationships between participants
 - Promote involvement of all interested parties
 - Information exchange

Roles and responsibilities

- International organisations : WHO/ FAO/ OIE
 - Develop and promote principles and procedures of risk analysis and to communicate to member Governments
- Governments: fundamental responsibility for risk communication to interested parties
- Industry. Responsible for quality and safety of food it produce. Corporate responsibilities to communicate info regarding risks to affected consumers
- Consumers and consumer organisations
- Academia/ research
- Media

Elements of effective risk communication

- The nature of the risk
 - Hazard characteristics, magnitude & severity of risk, urgency, getting better/ worse, probability exposure, distribution, amount of risk, nature & size of population at risk, who/ what at greatest risk
- The nature of the benefits of risk communication
 - Actual benefits assoc with each risk, who benefits and how, balance between benefits/ risks, magnitude and importance of benefits, total benefits to all affected populations
- Uncertainties in risk assessment
 - Methods used, uncertainties: importance/ weaknesses/inaccuracies, assumptions, sensitivity to changes, effect of changes in assumptions/ estimates on risk management
- Risk management options
 - Actions to control/ manage risk, justifications, effectiveness of a specific option, costs of managing risks etc

Principles of Risk Communication (Article 2.1.7.)

- The principal participants in risk communication include the authorities in the exporting country and other stakeholders such as domestic aquaculturists, recreational and commercial fishermen, conservation and wildlife groups, consumer groups, and domestic and foreign industry groups.
- Assumptions and uncertainty in the model, model inputs and the risk estimates of the risk assessment should be communicated.
- Peer review of risk analyses is an essential component of risk communication in order to obtain a scientific critique and to ensure that the data, information, methods and assumptions are the best available.

Principles

- Know the audience
- Involve scientific experts
- Establish expertise in communication
- Be credible source of information
- Share responsibilities
- Differentiate between science and value judgements
- Assure transparency
- Put the risk into perspective
- Public comms: often need to react quickly... prevent and respond to scare stories etc. Balance to be struck: uncertainty versus timely getting info out. Agree lines (reactive versus active)

2. Prioritise your stakeholders





Figure 1
Stakeholders involved in risk communication

ResAlert system





Vibrio vulnificus biotype 2, pathogenic for eels, is also an opportunistic pathogen for humans.

[C Amaro](#) and [E G Biosca](#)

► [Author information](#) ► [Copyright and License information](#) [Disclaimer](#)

This article has been [cited by](#) other articles in PMC.

ABSTRACT

We report that the eel pathogen *Vibrio vulnificus* biotype 2 is also an opportunistic pathogen for humans. Results from a detailed comparative study using reference strains of both biotypes revealed that the clinical strain ATCC 33817, originally isolated from a human leg wound and classified as *V. vulnificus* (no reference on its biotype is noted), belongs to biotype 2 of the species. As a biotype 2 strain, it is negative for indole and pathogenic for eels and mice, harbors two plasmids of high MrS, and belongs to serogroup

DAO 108:201-209 (2014) - DOI: <https://doi.org/10.3354/dao02703>

***Vibrio vulnificus* outbreaks in Dutch eel farms since 1996: strain diversity and impact**

O. L. M. Haenen^{1,*}, E. van Zanten², R. Jansen³, I. Roozenburg¹, M. Y. Engelsma¹, A. Dijkstra⁴, S. A. Boers³, M. Voorbergen-Laarman¹, A. V. M. Möller²

STs, of unknown zoonotic potential, were newly identified and were deposited in the MLST database. The REP-PCR and the MLST were highly concordant, indicating that the REP-PCR is a useful alternative for MLST. [The strains isolated from the farmer and his eels were ST 112, a known potential zoonotic strain. Antimicrobial resistance to cefoxitin was found in most of the *V. vulnificus* strains, and an increasing resistance to quinolones, trimethoprim + sulphonamide and tetracycline was found over time in strain ST 140.](#) Virulence testing of isolates from diseased eels is recommended, and



[Emerg Infect Dis.](#) 2017 Dec; 23(12): 2002–2010.

PMCID: PMC5708258

doi: [10.3201/eid2312.170596](https://doi.org/10.3201/eid2312.170596)

PMID: [29148967](https://pubmed.ncbi.nlm.nih.gov/29148967/)

Group B *Streptococcus* Infections Caused by Improper Sourcing and Handling of Fish for Raw Consumption, Singapore, 2015–2016

[Man L. Chau](#),¹ [Swaine L. Chen](#),¹ [Min Yap](#), [Sri H.P. Hartantyo](#), [Paul K.T. Chiew](#), [Charlene J. Fernandez](#), [Wai K. Wong](#), [Rockey K. Fong](#), [Wei L. Tan](#), [Brian Z.Y. Tan](#), [Youming Ng](#), [Kyaw T. Aung](#), [Kurosh S. Mehershahj](#), [Christopher Goh](#), [Joanne S.L. Kang](#), [Timothy Barkham](#), [Adeline O.K. Leong](#), [Ramona A. Gutiérrez](#), and [Lee C. Ng](#)[✉]

► [Author information](#) ► [Copyright and License information](#) [Disclaimer](#)

Group B *Streptococcus* Serotype III Sequence Type 283 Bacteremia Associated with Consumption of Raw Fish, Singapore

[Shermin Tan](#),[✉] [Yijun Lin](#), [Kelly Foo](#), [Han Fang Koh](#), [Charlene Tow](#), [Yiwen Zhang](#), [Li Wei Ang](#), [Lin Cui](#), [Hishamuddin Badaruddin](#), [Peng Lim Ooi](#), [Raymond Tzer Pin Lin](#), and [Jeffery Cutter](#)

► [Author information](#) ► [Copyright and License information](#) [Disclaimer](#)

This article has been [cited by](#) other articles in PMC.

Abstract

Go to:

We conducted a retrospective study of 40 case-patients and 58 controls as part of a nationwide investigation of a group B *Streptococcus* outbreak in Singapore in 2015. Eating a Chinese-style raw fish dish (yusheng) was a major risk factor for bacteremia, particularly caused by serotype III sequence type 283.

Timeline

Early July Text message claiming man died from a Group B Streptococcus (GBS) infection after eating contaminated sashimi goes viral. Social media!

July 24 Singapore: banned sales of raw fish dishes containing Asian bighead carp and snakehead fish MOH issues statement suggesting possible links

Singapore newspapers: provide info on (Effective risk communication by MOH w



Perspective: hospitals not full of people sick from eating GBS or *Vibrio vulnificus* infected fish

New emergent strain GBS: increased zoonotic risk. But most common GBS fish strain still ST261/ *S. dificile*. Not considered zoonotic.



Communications Strategy

‘Explore how proactive PR along with stakeholder management (mapping) can help your organisation protect and build on its excellent reputation; but also raise profile and appeal to all stakeholders on the awareness of the AMR issue’

Strategic communication goals

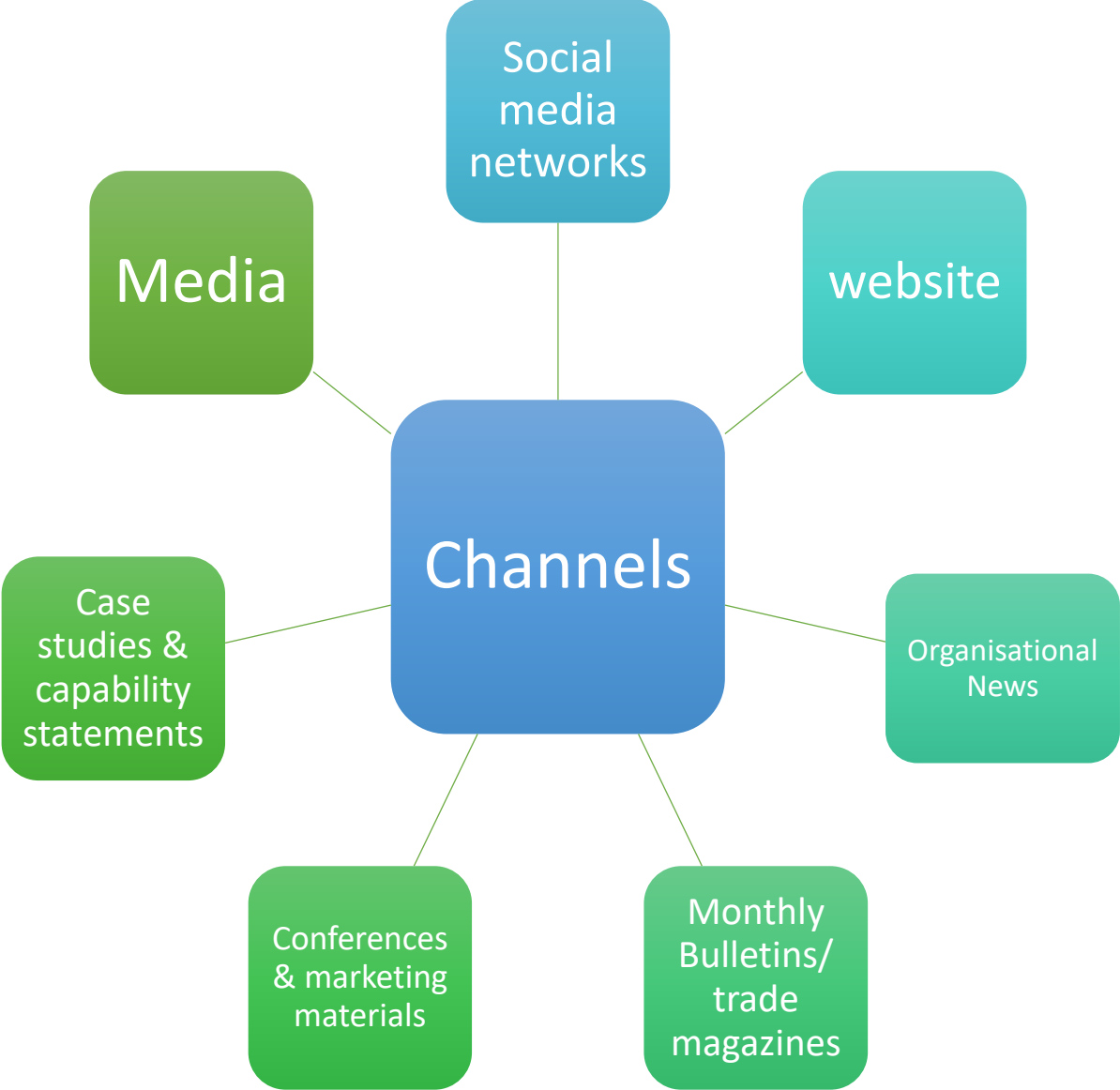
- Maintain reputation, be impartial
- Raise your profile with existing and new stakeholders
- Develop partnerships to deliver outcomes
- Increase awareness of the issue(s)
- to maintain your visibility and credibility

Examples of targeted messages for key stakeholders

Communication needs for each sector


Public sector	Research sector	NGO and conservation community sector	Industry and wider markets
<p>Info on projects that JNCC is leading on</p> <p>Corporate information, e.g. staff contacts for key areas of work</p> <p>Protected sites information</p> <p>Current legislation summaries</p> <p>Presentation/management of data</p> <p>Cataloguing of publications/reports</p> <p>Official statistics if JNCC involved</p>	<p>Profiles of key science staff, including blogs and publications</p> <p>Details on what's special and different about JNCC and how researchers can benefit by engaging with us</p> <p>Current research activities and opportunities</p> <p>Links to published scientific papers/reports</p> <p>Case studies to demonstrate the use of research in policy making and to showcase success stories</p> <p>Promotion of research community events</p>	<p>Directory of current projects/activities</p> <p>Info on staff working in different areas</p>	<p>Corporate information</p> <p>Capability statements</p> <p>Relevant, current and dynamic case studies</p> <p>Need to be able to find the website and be attracted by the clarity and quality of the content and professional appearance</p>

Methods of communication



Evaluation

- ❖ Social media statistics
- ❖ Google Analytics
- ❖ Media coverage assessment
- ❖ Stakeholder surveys



JNCC
Beyond the Coast 2018
JNCC's offshore marine conference

Twitter stats

These analytics are based on tweets using the conference hashtag

#BeyondtheCoast



1,015,029 
impressions

An impression is how many times tweets have been seen by Twitter users



Buzz Words 
#BeyondtheCoast



396,055 
reach

Reach is the number of unique Twitter users who saw the posts

Plan communications



You should deliberately plan communications



How are we going to communicate our message?

Do we have/need a communications plan?

Do we need to produce any new materials?



Do not rely n National Antibiotic week, or National days – continuous messaging

Shock messaging **does not** work

<https://www.nhs.uk/video/pages/antibiotics-dont-work-for-everything.aspx>

<https://www.youtube.com/watch?v=YmOey7FGrfE>

<https://www.youtube.com/watch?v=cgiuGns3rZs&feature=youtu.be>