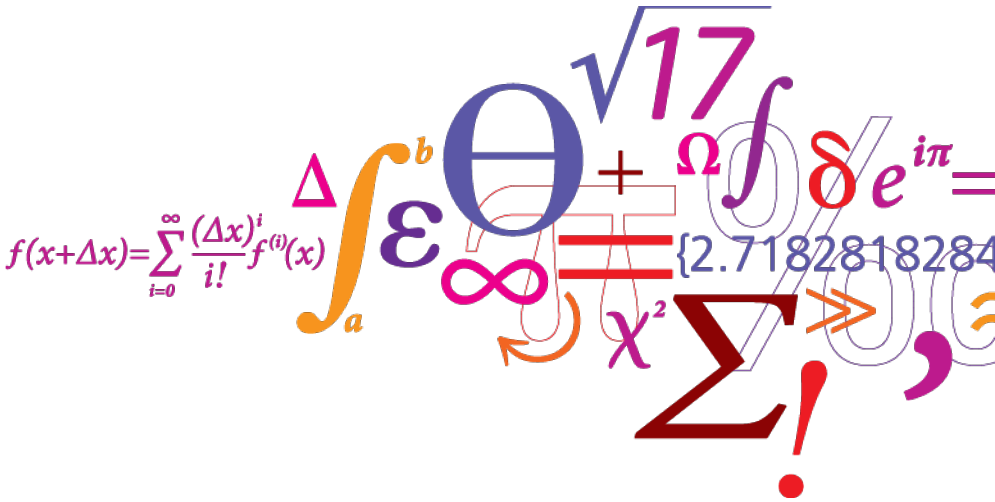
One Health Summer School

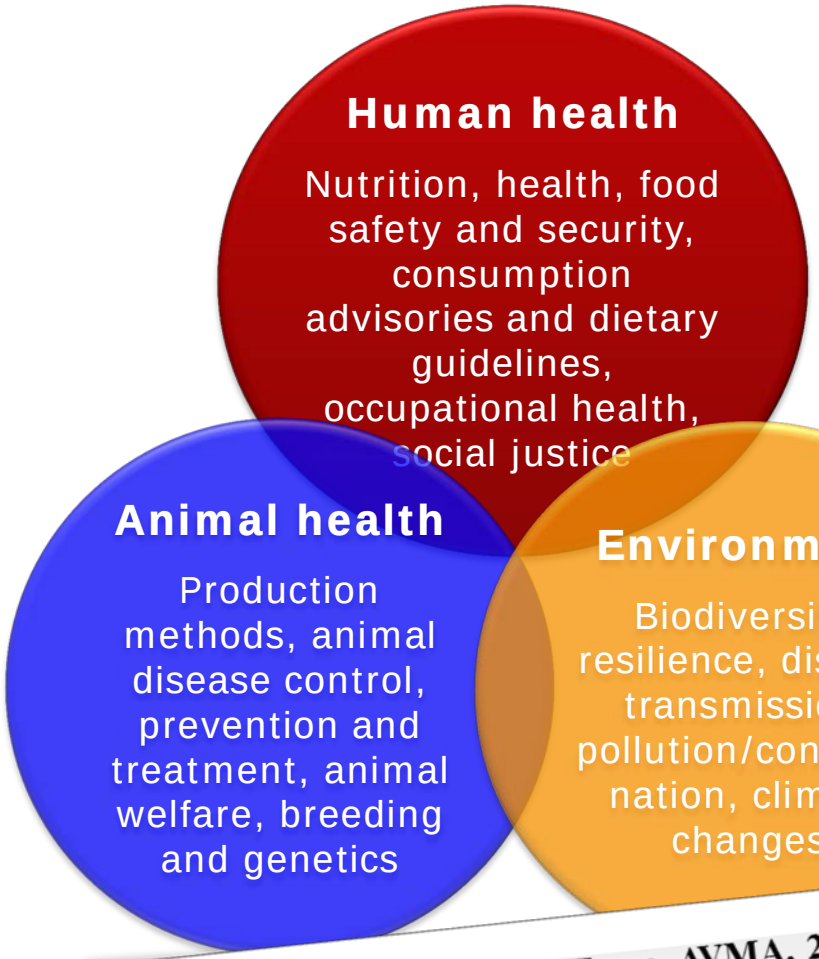
– using the LMS Blackboard to introduce students to theories and methodologies before on campus course

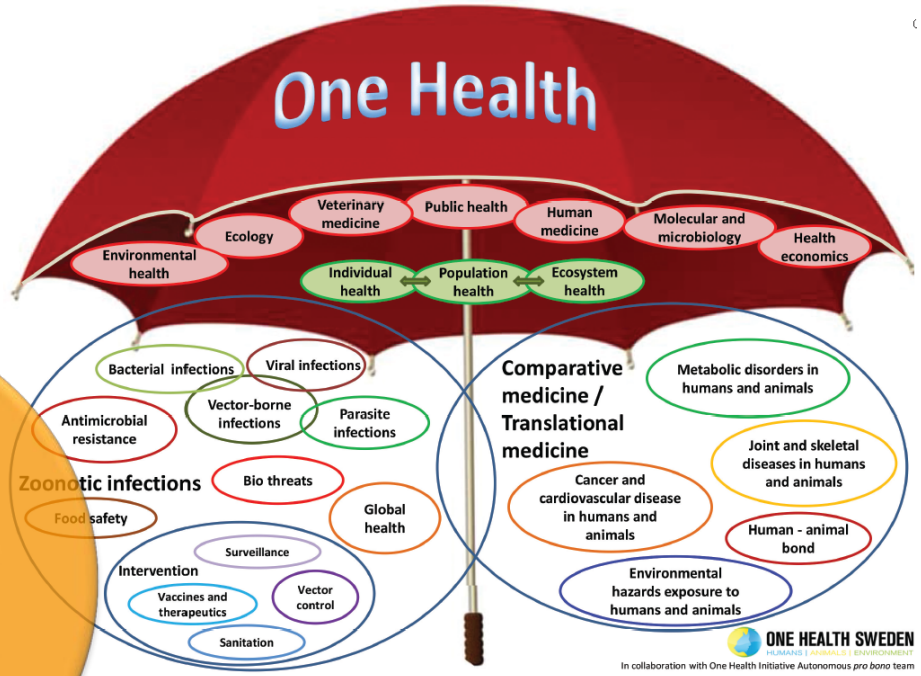
Tine Hald, DVM, PhD
Professor
tiha@food.dtu.dk



DTU Food
National Food Institute

What is One Health?





One Health Initiative Task Force, AVMA, 2008:

The collaborative efforts of multiple disciplines working together locally, nationally and globally to attain optimal health for people, animals and our environment

What promote One Health problems?

Increase in human population

Extensive global trade and tourism

Speed of transportation

Climate changes

New food and feed processing

Intensified animal production

Disruption of ecosystems => Exposure to new pathogens

Increase in epidemics (>70% are zoonotic)

One Health in education

- One Health education can be divided into education of
  - those already working in the relevant professional disciplines
  - students seeking professional qualifications to enter one of these disciplines

- Denmark has a long tradition of using the principles of One Health and is among the world leading in pursuing good solutions to several of these challenges e.g. *Salmonella*, antimicrobial resistance

- Therefore, the University of Copenhagen (UCPH) and the Technical University of Denmark (DTU) in 2014 joined forces to offer a One Health Summer School, running for the third time in 2016

- The objective of the summer school was to
  - provide insight into and a critical overview of the methods used in One Health
  - bringing people with different background together for discussion of One Health solutions

Challenges

- One Health methods are widely cross-disciplinary and solving One Health problems requires cross-sectorial collaboration

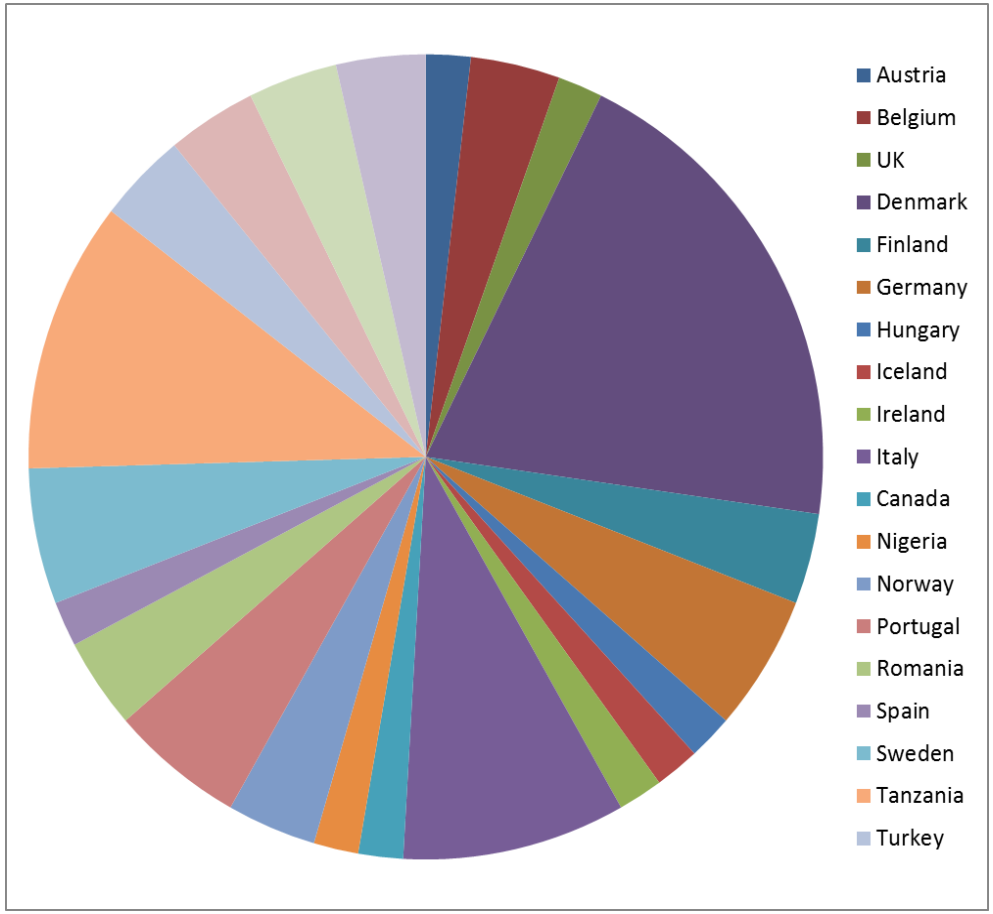
- We aimed to attract participants coming from many different countries and disciplines including students, researchers and risk managers trained and possibly working in the public health, food, veterinary and/or environmental sectors

- BUT… such a diverse group of participants challenges the teaching methods, as it must be expected that some will be more familiar with some areas than others – and vice versa

- We introduce a 5-week long e-learning part preceding the 1-week on campus course with **the objective to place students at the same level before the on Campus course**

Materials and methods

- In 2016: 55 students from 22 countries



- Background
  - DVM/veterinary science (21)
  - Public health and population medicine (11)
  - MD/physician
  - Nurse
  - Human nutrition
  - Medical anthropology
  - Food technology
  - Food safety
  - Microbiology
  - Biotechnology
  - Biochemistry
  - Civil engineering
  - Environmentalists
  - Policy/management

Materials and methods cont'd

- The e-learning material is a mixture of video lectures, weekly quizzes, assignments (youtube videos, exercises, scientific papers and reports), and discussion forum

- The purpose was to present and explain the basic concepts and definitions within each area and introduce the available methods

https://dtu.blackboard.com/webapps/blackboard/content/listContentEditable.jsp?content_id=_741_1&course_id=_65_1&mode=reset

Apps Bookmarks Velkommen til Faceb Microsoft Exchange - Vis køretøj - dmr All AirDroid ForældreIntra Mobildebat.dk | Forur 124forum.dk - 201for Other bookmarks

Technical University of Denmark

Tine Hald

My Courses System Admin

Video Lectures

Edit Mode is: ON

One Health International Summer Course

Home

Course Info

Syllabus

Learning Materials

Assignments

Video Lectures

Quizzes

Forums

Cases

Daily Material On-Campus

Course Evaluation

Help

2015 Daily Materials On-Campus

Post course evaluation 2015

COURSE MANAGEMENT

Control Panel

Content Collection

Course Tools

Video Lectures

Build Content Assessments Tools Partner Content

Week 1: Introduction to One Health and global challenges related to One Health

Week 2: Impact of global changes on the spread of One Health

Week 3: Source attribution and risk analysis

Week 4: Surveillance, intervention and control

Week 5: Risk perceptions, management and communication

Introduction to case studies for the on-campus part of the course

2.7 Societal and economic burden of zoonoses by Tine Hald (20:00)

pdf of Societal and economic burden of zoonoses slides

https://dtu.blackboard.com/webapps/blackboard/content/listContentEditable.jsp?content_id=_741_1&course_id=_65_1&mode=reset#

https://dtu.blackboard.com/webapps/blackboard/content/listContentEditable.jsp?content_id=_742_1&course_id=_65_1&mode=reset

Apps Bookmarks Velkommen til Facebo Microsoft Exchange - Vis køretøj - dmr All AirDroid Forældreintra Mobildebat.dk | Forun 124forum.dk - 201for Other bookmarks

Technical University of Denmark

Tine Hald

My Courses System Admin

Quizzes

Edit Mode is: ON

One Health International Summer Course

Home

Course Info

Syllabus

Learning Materials

Assignments

Video Lectures

Quizzes

Forums

Cases

Daily Material On-Campus

Course Evaluation

Help

2015 Daily Materials On-Campus

Post course evaluation 2015

COURSE MANAGEMENT

Control Panel

Content Collection

Course Tools

Evaluation

Quizzes

Build Content Assessments Tools Partner Content

Week 1 Quiz

Week 2 Quiz

Week 3 Quiz

Week 4 Quiz

Week 5 Quiz

Your case topic preference - survey. Deadline August 1st

Enabled: Statistics Tracking

Preview Test: Week 2 Quiz

Test Information

Description

Instructions

Multiple Attempts This test allows multiple attempts.

Force Completion This test can be saved and resumed later.

Question Completion Status:

Save All Answers Save and Submit

QUESTION 1

10 points Save Answer

A zoonotic virus (tick those that apply)

- Always give diseases in reservoirs
- Can always be confined
- Bats are regarded as virus reservoir for many zoonotic viruses
- Can jump from animals to humans

ard.com/webapps/discussionboard/do/message?action=list_messages&forum_id=_65_1&nav=discussion_board_entry&conf_id=_69_1&c
Microsoft Exchange - Vis køretøj - dmr All AirDroid ForældreIntra Mobildebat.dk | Forun 124forum.dk - 201for Other bookmarks

Tine Hald 5 months ago

RE: The Beef War discussion thread (Week 3)

Thanks for all the good input so far - hoping for more to come.

This conflict has become relevant again and far broader in scope with the recent Transatlantic Trade and Investment Partnership (TTIP) negotiations. In this news article, there is a paragraph on food and environmental safety, which you might find interesting. There is also this video on youtube explaining TTIP. Both sources are taking a very negative attitude towards TTIP - I wonder what the benefits are??

Keskin Ipek 5 months ago

RE: The Beef War discussion thread (Week 3)

Jacopo Milazzo 5 months ago

RE: The Beef War discussion thread (Week 3)

Heljanko Viivi Eveliina 5 months ago

RE: The Beef War discussion thread (Week 3)

Michael Mihayo 5 months ago

RE: The Beef War discussion thread (Week 3)

US -EU conflict, this is endless conflict. The US with other countries e.g Canada, Brazil etc have confidence based on scientific evidence of risk,no side effect to consume meat from animal treated with growth promoting. hormones.However,Scientists from EU linked the outbreak of Mad Cow Disease and hormonal irregularities with BSE and DES.

The risk assessors for EU

i.Scientific Committee on Veterinary Public Health (SCVPH).This committee is responsible for scientific advice on all issues concerning with food safety.

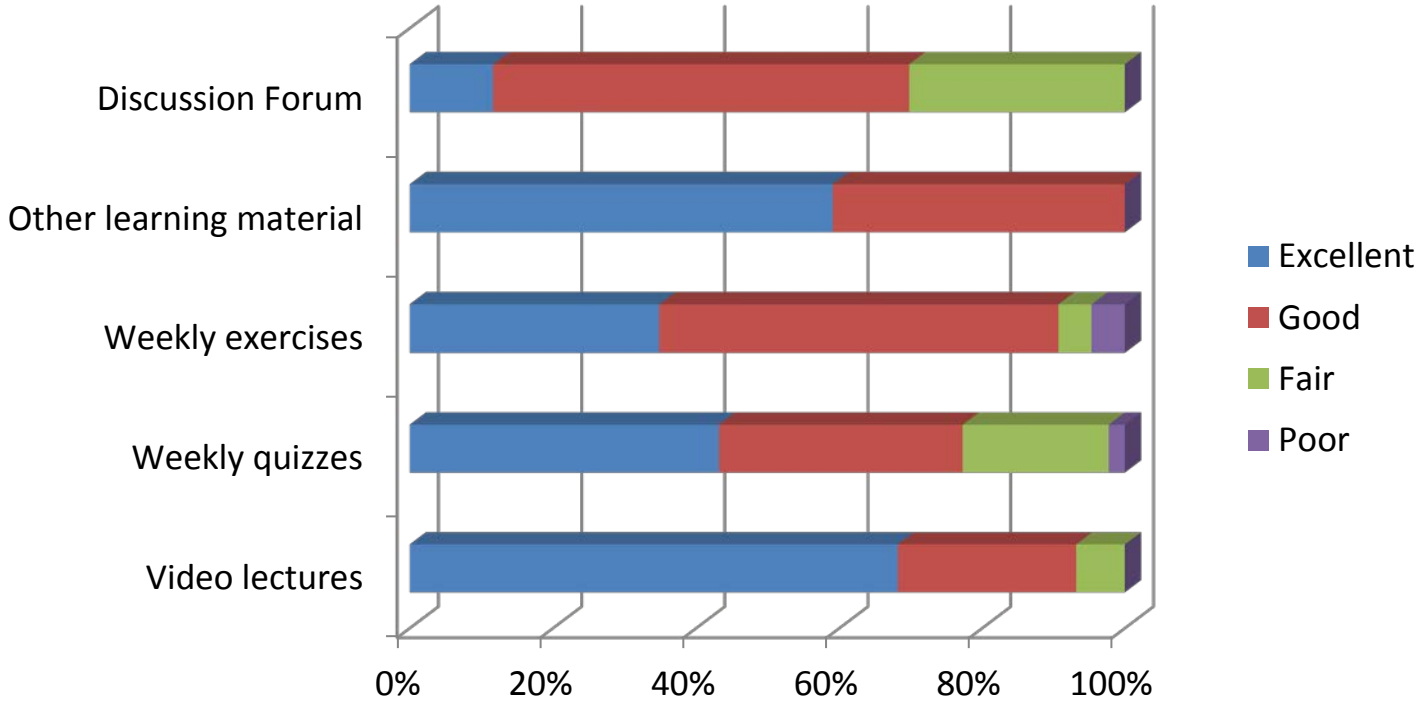
ii. Panel on Contaminants in the Food Chain (CONTAM).Provides scientific advice on the contaminants in the food chain

The risk managers for EU

i. European Food Safety Authority (EFSA).This authority is responsible for protection and

Discussions and lessons learned

- Overall, the strategy of using e-learning to place the students at the same level before the on Campus course worked well
  - Feedback from the students
- The evaluation revealed that for 44 students 55% stated they “learned a lot” and 40% stated they “learned some”



Based on 44 students

Evaluation of e-learning part

How much time did you on average spend on the e-learning part per week?					
	1-2 hours	4			
	3-4 hours	10			
	5-7 hours	**12**			
	8-10 hours	12			
	11-15 hours	6			
Do you think the e-learning was a useful way of preparing for the on Campus part?					
	Extremely useful	16			
	Very useful	23			
	Fairly useful	13			
	Not useful	1			
How did you find the duration of the e-learning part (5 weeks)?					
	A little too long	7			
	Appropropriate	30			
	Too short	7			
Would you say that the e-learning part could be a stand alone course i.e. that students could gain One Health skills from only participating in the e-learning part?					
	No	30			
	Yes	12			
	I don't know	2			

Participant statements - examples

Tim Corrigan, Economic Affairs Officer at the World Trade Organization in Geneva, Switzerland:

"Most of my work revolves around measures that governments take in the name of food safety, animal health and plant health. I took this course to get a better understanding of how other regions and countries are using a One Health approach in these areas and also to explore how trade can contribute to addressing One Health problems globally. I very much enjoyed the course and look forward to applying the concepts we discussed in my work."

Michael Gabriel Mihayo, Medical Clinician and Researcher from Ifakara Health Institute, Tanzania:

"I am very much enjoying the course on One Health from Denmark. So after this course I am going to implement the methods we learned over this last week. We are developing a proposal on zoonotic diseases, especially leptospirosis, which is becoming a new alternative disease diagnosis in the Malaria control programme in Tanzania. We have to engage different disciplines from human beings, wildlife and from the environment. And I look forward in my career development at the PhD level in the One Health context."

Cristina Romanelli from the Secretariat for the Convention on Biological Diversity at WHO, and United Nations University International Institute for Global Health:

"I was particularly drawn by this course, because integrative approaches are really integral to the work that we do in terms of implementation and policy analysis and subsequent implementation by parties. So I joined the course to really gain an understanding of how we can more effectively mobilize different levels of governance from the local to the global level to engage in integrative approaches such as the One Health approach. So it has been extremely useful to engage with peers in this context. And I am looking forward to carrying it one step further to actually seeing how we can put theory into practice bridging that gab."

Discussions and lessons learned

- In conclusion, we believe e-learning part of the course served its purpose well and we intend to continue with the same strategy next year, with a few modifications to address the criticism raised in the evaluation
  - Think about how to make the discussion forum work better
  - Some video lectures too long
  - Tutors to provide better feedback on quizzes and exercises

Experience with Blackboard

- In general quite functional, but
  - Extracting survey or quiz data in a nice format is a hasle
  - Difficult (impossible?) to change layout in the different sections
- Hard not to compare with Coursera
  - Still think, Coursera has some advantages

Please, list three good things about the e-learning part of the course:	
1	1. it was an eye opening for those of us whose our background is not in Vet or public heath (I got the overview and understanding for one health issues
2	Broad range of subjects you can fo it according to your availability interesting resources, especially the <s
3	- Video lectures are very useful - I believe that having a discussion forum to discuss topics and exercises is very helpful <span style="fo
4	- Short videos were great to be able to spend time when you could - Great range of lecturers
5	1. The provision of extra reading materials and provision of hard copy version of the video lectures. 2. The discussion forums where I could inte
6	1) Always available (24/24 hours, everywhere); 2) Useful tool for study and revise topics; 3) Eco-friendly.
7	Great Ted talks + papers Good for preparing Lecture length appropriate
8	<Unanswered>
Please, list three things that did not work so well in the elearning and that need to be improved:	
1	<Unanswered>
2	The questions with several boxes to tick, where more than one andwer is right, are quite confusing. videos shoul
3	- I think it would be useful to divide the weekly material in two weeks in order to have more time to work on each theme - Missing social scien
4	- happened a long time before the on-campus portion, not so much continuity
5	1. Internet was a challenge in some of our African settings and so it was frustrating to complete the lectures.
6	1) Sometimes videos do not work very well; 2) From some terminals, depend, there is not possibility to open the contents. So the only way is t
7	The DALY calculations were confusing. Instructions and how to calculate it needs to be clarified (in the correct answer). Even with the answer in hand, lo
8	Difficult to check answers to quizzes To many participants made the discussion forums to chaotic Some technical difficulties (threads ir

Column Statistics

*Users who are unavailable are not included in column statistics. To include them, select the check box and click **Refi**
column, select the column name and click **Go** or click the next or previous arrows to navigate sequentially.*

Blackboard

Column: -Select- Go Show Statistics For: Available Users only Refresh

Column **Week 1 Quiz (Test)**

COLUMN DETAILS

Column	Week 1 Quiz (Test)
Points Possible	180
Description	

STATISTICS

Count	48
Minimum Value	100.00
Maximum Value	180.00
Range	80.00
Average	153.12
Median	155.42
Standard Deviation	21.32
Variance	454.71

STATUS DISTRIBUTION

Null	9
In Progress	3
Needs Grading	0
Exempt	0

GRADE DISTRIBUTION

Greater than 100	0
90 - 100	17
80 - 89	18
70 - 79	6
60 - 69	5
50 - 59	2
40 - 49	0
30 - 39	0
20 - 29	0
10 - 19	0

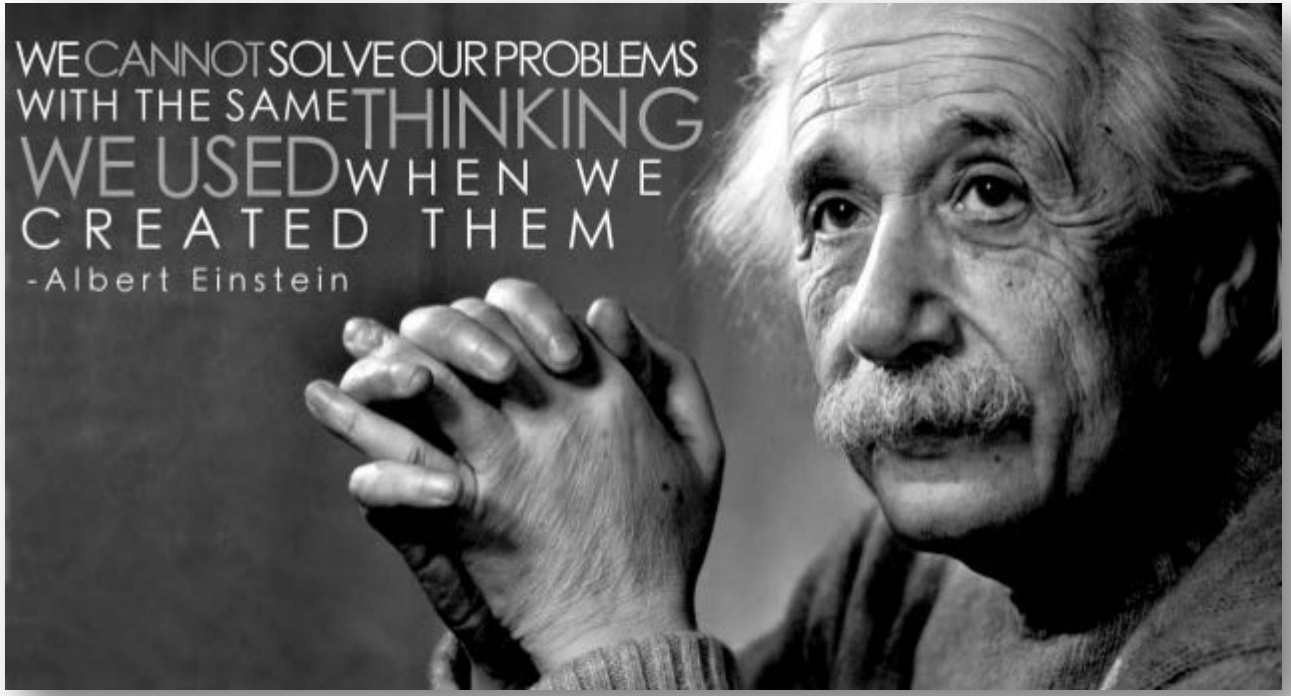
Coursera

31 Which of the following human pathogens are naturally occurring in water?

RADIO BUTTON

Option description	First attempt frequency	Last attempt frequency
Vibrio cholerae	63%	63%
Shigella dysenteriae	19%	19%
Cryptosporidium hominis	11%	11%
Salmonella Typhi	7%	7%

Thank you



Acknowledgement

Maria Vang Johansen
University of Copenhagen

Liza Rosenbaum Nielsen
University of Copenhagen

Anders Dalsgaard
University of Copenhagen

Tine Hald
Technical University of Denmark (DTU)

Lars Erik Larsen
Technical University of Denmark (DTU)

Max Hansen
Technical University of Denmark (DTU)