



Open repository for transmedia storytelling on zoonoses: an effective method to share scientific knowledge with health practitioners and civil society stakeholders

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Abstract. The Micro Epidemic One Health project, aims to create an open repository of narratives concerning zoonoses; diseases transmitted from animals to humans and vice versa. These zoonoses tales, derive from the recording of interviews or free narrations of privileged witnesses (Veterinarians, Healthcare Professionals, Researchers) who really faced and experienced them in their professional activity. The narratives - case studies, are made freely available to readers through a Web hypertext accessible from the Internet and a Smartphone App. Texts, annotated through crowdsourcing, are linked to peer reviewed scientific literature by experts and documentalists. They represent valid teaching material for young doctors and veterinarians, as well as an informational instrument for the civilian population. So that way, the Micro Epidemic One Health Project will contribute to promote a greater sharing of scientific knowledge on zoonoses making it easier to detect them early and contrast them in the appropriate ways

Riassunto. Il progetto Micro Epidemic One Health è dedicato alla descrizione delle Zoonosi, malattie che si trasmettono dagli animali all'uomo e viceversa. Lo scopo dell'iniziativa è quello di raccogliere le esperienze di Operatori Sanitari nella Medicina umana e animale, Ricercatori ed equivalenti che hanno affrontato le zoonosi nel corso della loro attività professionale. Ciò al fine di creare un repository ad accesso libero di narrazioni che riguardano queste infezioni, le loro caratteristiche e gli eventi ad esse associati. I racconti di zoonosi presi in considerazione sono narrazioni libere o registrazione di interviste di testimoni privilegiati che le hanno realmente sperimentate nel corso della loro attività professionale. Grazie a Micro Epidemic One Health, le narrazioni - casi di studio, sono posti a disposizione dei lettori attraverso un Open E-Journal accessibile dalla Rete ed una App per Smartphone. I testi, annotati in crowdsourcing, sono collegati alla letteratura scientifica peer reviewed da esperti e documentalisti. Essi rappresentano un valido materiale di studio per giovani Medici e Veterinari, oltre che di informazione per la Popolazione civile. In questo modo il Progetto Micro Epidemic One Health contribuirà a promuovere una maggiore condivisione di conoscenze scientificamente valide sulle zoonosi, rendendo più facile rilevarle precocemente, e contrastarle nei modi appropriati

Introduction

The "Micro Epidemic One Health - ME.OH" Project (Italian Ministry of Health; Experimental Zooprophyllactic Institute of Umbria and Marche; Department of Veterinary Medicine - University of Perugia Italy) , is an experimental "community participatory project", devoted to propose a new editorial transmedia channel accessible from the Web on Zoonoses, diseases that are transmitted from animals to humans and vice versa.

At the center of the project is a collection of Stories of Zoonoses; storytelling in the form of first person narratives or interviews, concerning case studies on zoonotic diseases, occurred in a specific context or territory, witnessed by doctors who personally followed them.

This anthology always outlines a complex health system, whereby humans, animals and pathogens interact in a specific environment. By highlighting their relationships from a System perspective, Micro Epidemic's narrative approach qualifies to be referable to One Health in its various meanings and nuances. The experience, gained with the SARS-CoV 2 pandemic , made it clear to the Citizens itself, the importance of scientific document delivery services, accessible through low-cost widely available devices, such as: smartphone, tablet, laptop computer.

This Project proposes a new accessible, updated publishing initiative on zoonoses. It is based on texts organized for a "multilevel" communication that is usable by different types of readers, regardless of the experience they may have. So that way medical information, validated by the scientific community, will be available to guide both: health professionals engaged to contrast them, and common people in order to defend themselves against these pathologies.

Micro Epidemic One Health Vet Stories

This publishing initiative is based on a participatory activity of: (1) elaboration, (2) revision and (3) sharing of experiences and scientific information on zoonoses cases. The storytelling is directly generated by "privileged witnesses" working in the Healthcare System and willing to interact with Editors and their peers on topics that characterizes their profession. Since this narration directly concerns their work, professional obligations, moral and legal duties, it is really communicative and may involve a large number of co-authors and readers as well. It is an "uninterrupted storytelling", of an experiential nature and with practical value. Just for this it can have a wide diffusion, contributing to improve in general the public health, specifically food safety and the culture of prevention.

The collaboration with Citizen Scientists is another relevant aspect of the initiative, that dramatically facilitates the identification and sensibilization of practitioners to be interviewed, favoring the collection (and comment) of valid and engaging zoonosis stories. These will not only be linked to a specific pathology, but also to a peculiar territory, like in the typical One Health perspective, giving life to a real "literature". This is suitable for different readers such as: experts, students, civil society. This literature can communicate in scientifically appropriate way:

- recognition / treatment / control of zoonoses;
- behaviors and situations predisposing for these infectious diseases;
- risk factors analysis;
- related legal obligations.

The stories of zoonoses, for the characteristics of the narrations, act as "Zoonotic attractor" the place where gather environmental, human and animal occurrences, which define a specific zoonosis, or highlighting a direct connection with the One Health concept that characterizes the initiative.

This structured set of medical information is of help for adjournment and personal study as well. Various stakeholders from different disciplinary areas interested in health related subjects may benefit from this.

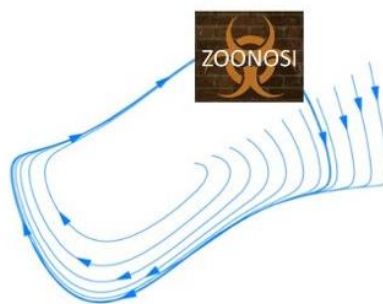


Figure 2. Zoonotic attractor. As in a limit cycle: the trajectories that start from different points get closer and closer to the periodic orbit of the narratives or stories regarding zoonoses

Multilevel enjoyment of "Stories of Zoonosis"

The organization of accessory elements (the paratext described below) in the Micro Epidemic stories of zoonosis, allow to activate a "multilevel usage" of the MEOH literature (Figure 3), so that way the project can satisfy specific informative necessities of different readers. We can here take into consideration a layer (0) of zoonosis stories. This is the "narrative level" of the primary tale flow; it represents the story that can be read just out of curiosity or entertainment.

The layer (1) is a journalistic or narrative description of a real world health case treatment, which is basically a medical "fact sheet". It is devoted to Physicians and Veterinarians, health system practitioners, scientific journalists, experts in the field of animal husbandry and food safety, researchers, students and university teachers. This layer contains a medical case study, with illustrations, legal annotations, links to the scientific cloud on the Internet, available for the reader through the scientific paratext. Switches and links placed on the screen interface provide immediate access to informational resources in high demand, such as:

micro-reviews and peer reviewed scientific literature, contextual comments / annotations by specialists and experts on specific points of the story. An internal search engine, scientific publications document delivery service is also available.

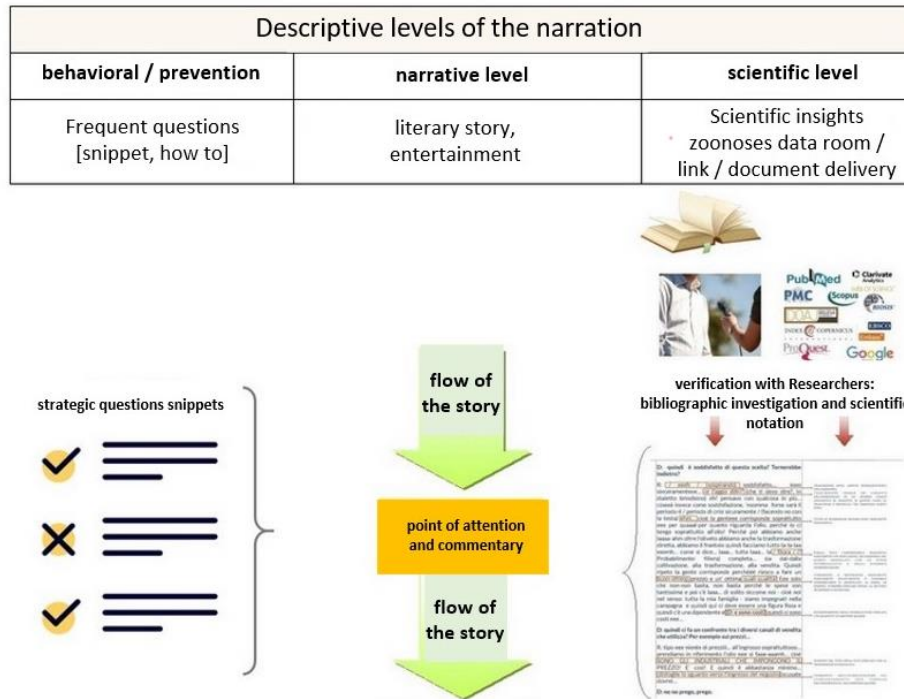


Figure 3. Multilevel usage of the literature issued in the MEOH Project.
Specific informative demands, for different readers, are satisfied.
(from "Sanità Pubblica Veterinaria", n. 124, February 2021)

The simple presentation of vet - stories as such, characterizes the layer (3). This layer is designed for non-specialist stakeholders belonging to civil society such as: political decision-makers, students and teachers of high schools, citizens interested in the defense of their health. This "behavioral / prevention" layer represents the description of case studies that can be helpful to significantly adapt their lifestyle in order to reduce the exposure to emerging zoonoses. Readers will also find "snippets", throughout the text, that explain biomedical details and terminology, helpful in order to better understand the article.

BOX. 1



THE MICRO EPIDEMIC ONE HEALTH REPOSITORY AT A GLANCE

The project

The Micro Epidemic One Health is an Italian Ministry of Health project with the goal to set up and populate an Open repository of transmedia narrations on zoonoses. The project brings together a team of Health System Operators, Medical Practitioners, Veterinarians, Biologists, Researchers and Journalists, with different stakeholders concerned on zoonoses diseases and related topics. Micro Epidemic One Health Is an Open Internet resource to disseminate validated scientific information on this topic to the Society.

Collect and write down zoonoses stories

Case studies on zoonoses, which occurred in a specific context or territory, constitute a basic medical literature of great value for the surveillance and prevention of these diseases. This is especially effective if they are witnessed by the Practitioners who actually treated them.

Usage of the stories of zoonoses

The storytelling reviewed by the Micro Epidemic One Health Project will be of value to get three objectives:

- Create an Open repository on zoonoses narrative, linked to the territories from which they come, in order to convey accessible, qualified and controlled biomedical information useful for Veterinarians operating in the field.
- Making a literature readily available that can be used for sharing of experiences for the management of health events related to these diseases.
- Make available a sound documentation on zoonoses covered by Copyleft Licenses (Creative Commons, Apache), so that it can be used for subsequent processing in the scientific - editorial, journalistic, didactic, recreational fields. How to participate in the initiative? We solicit Health System Operators, Biomedical Researchers, Citizen Scientists and Computer Scientists to:
- share with the Scientific Board of the Micro Epidemic project the stories of zoonoses, such as narratives or interviews, on the page: <http://195.231.3.150/crowdsourcing/submission> or using the Electronic Form: <https://forms.gle/VboomYUjKdDggr2s8> ;
- report acquaintances (Veterinarians, Medical Practitioners, Health Operators) who have a story to share, or accept to be interviewed on a zoonotic event they participated in;
- add notes/comments/technical detail, based on their own experience, to already issued zoonoses stories in the MEOH anthology;
- participate in the development of the Micro Epidemic Software application Platform, at the page: <http://spvet.it/microepidemic/app.html>.

All the documentation will be validated by the Micro Epidemic One Health Editorial Scientific Board. Accepted stories will be published in the name (authorship) of whoever provided them and made the zoonoses cases collected, available free of charge to readers and people interested in updating them.

Zoonoses Stories: a closer look to the narrative basic core [April 26, 2022]

Aside from the Web interface design, the most relevant activity of Micro Epidemic One Health Project was the survey and take-over of zoonosis cases from privileged witnesses. The collection of narratives has proved to be rather complex from the beginning due to: organizational problems, identification of privileged witnesses, communication with interested parties, copyright management and permissions relating to privacy (Information for recording interviews, processing of personal data in accordance with articles 13 and 14 of EU Reg. 2016/679 - General Data Protection Regulation).

Stories collected in the first core of the MEOH project, mainly concerned case studies relating to large animals and includes: Brucellosis; Bovine Spongiform Encephalopathy; Leptospirosis; Listeriosis; Lyssavirus; Salmonellosis; Tinea; Tuberculosis. Thanks to this basic collection, first of all it was possible to calibrate the layout and the literary organization of case studies to give some homogeneity to the Anthology, so as to allow a coherent reading from one story to another.

The MEOH "digital paratext"

In the MEOH Web platform, one of the significant features of the zoonosis stories available, that characterizes this project, is the "digital paratext". Thanks to it, the "nodal / relevant" points of the narration convey a wealth of informational resources (articles, video, podcasts or dataset) to the reader.

So each story or interview is provided with additional contents, the reader can activate. Those resources are selected mainly from peer reviewed Open Access scientific resources and gray literature on zoonotic diseases. The paratext is the "rooting system" connecting any given zoonoses story to the specific scientific, normative and technical docuverse.

The MEOH digital paratext interface provides:

- a) Links to relevant scientific publications, positioned along the text,
- b) Footnotes that constitute additions / comments on paragraphs or particular periods of the narration, written by readers experts,
- c) Pages dedicated to micro-reviews on the specific story, accessible through the Zotero Web cloud,

- d) Links to online training resources on the use of Micro Epidemic OH interface,
- e) Colophon box with information relating to the publication: typographical notes, date, printer, editorial contacts and copyright, particularly, the use of Creative Commons licenses (mainly CC BY / CC BY SA) ,
- f) Notes in the form of pop-ups ("snippets") on technical terms related to biomedical jargon to readers without medical skills,
- g) Sitography, links to the Websites directly activable from the MEOH interface,
- h) Images (still / animated / video clip) provided by storytellers. Subject to validation, images, videos and podcasts can be provided by readers (eg Veterinarians and Citizen scientists) who have acquired this documentation during their activity,
- i) Link to Open Dataset (Zover; Zoonotic Disease Data and Reports).

The adopted Transmedia approach stimulates a direct participation of readers in the development of the story (points B, H). In this way the narration using different media is continuously updated, adapting the text to the different types of readers. The primary text presents a redundancy of sources and references that stimulate a process of deepening, similar to the expansions of fandom (websites, fanzines, collaborative videos) that fill the narrative gaps.

All the annexes described are published on the Micro Epidemic One Health Web platform - Version 1.0. and available in electronic format as attachments to the E-Journal Veterinary Public Health - SPVet.it (<http://spvet.it/microepidemic.html>).

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"Ever growing" MEOH Scientific Editorial Board

The Micro Epidemic editorial board is made up of: Documentalists, Computer Scientists, Researchers, Journalists, Veterinarians. It takes care of a primary elaboration of "rough

narratives and interview", before placing them in the online repository. Thanks to the board, the stories are carefully reviewed, annotated with the help of other experts, in order to add in the text, additional considerations, useful insights, and excerpts from scientific literature.

This Project is characterized by an editorial board considered as a true dynamic body. It grows over time, becoming more and more numerous due to the participation of different subjects joining the project.

It ensures a real connection to the health reality, conveying operational data and concepts, more effectively on the communicative level. Those annotations can grow over time, until they produce a more advanced (and complete) version of the anthology of zoonoses published. A subset of the Scientific Board has the specific task of promoting special versions of stories that can be used in schools (serious games) and for self training of non-expert readers.

Conclusion

A literature on zoonoses, described in this work, built entirely on the basis of "personal" experiences, it can be very effective and represent a "bridge" between generations of healthcare practitioners.

The Vet stories, collected in an anthology, for their lightness, communicative speed, accuracy, visibility of meanings, multiplicity of sharing on the Internet and consistency with the scientific knowledge available, represent an important "place of primary aggregation" for doctors and researchers. On a scientific journalism background, it will be possible to create an editorial series with the mission of disseminating the narrative on the main zoonoses in different formats (books, audiobooks, videos, smart posters, serious games).

It is an advanced self - information library for anyone interested in zoonotic diseases. Besides, this literature, available through smartphones and tablets, with different levels of detail for civil society, is increasingly strategic for implementing effective prevention policies.

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