

## Postprint: A Study on Content Production of Medical and Health Popular Science Short Videos on Bilibili

**Authors:** Yang Junyi

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### Abstract

The emergence of various epidemic infectious diseases has heightened public awareness that health constitutes a primary concern, rendering the need for enhanced health knowledge dissemination particularly critical. In this context, leveraging the currently most popular short-form videos for medical and health science communication plays a substantial role in elevating public knowledge of medical and health-related information and general health literacy. Bilibili, as a video platform exceptionally favored by contemporary youth with remarkably high usage rates, provides an ideal environment for investigating the content production of high-quality health science communicators on the platform. By proposing targeted recommendations for improving such videos, this approach can enable numerous health science bloggers to acquire increased traffic and attention while concurrently enhancing public awareness of health knowledge.

### Full Text

## A Study on Content Production of Health Science Short Videos on Bilibili

Beijing Institute of Graphic Communication, Beijing 102600

### Abstract

The COVID-19 pandemic has made the public acutely aware that health is a paramount concern, underscoring the critical importance of health knowledge popularization. In this context, leveraging the currently most popular medium of short videos for medical and health science communication significantly enhances public knowledge of health-related issues and general health literacy. As the most popular video platform among young people today, Bilibili boasts

extremely high user engagement. This study examines the content production strategies of high-quality health science creators on Bilibili and proposes recommendations for improvement, aiming to help health science bloggers gain more traffic and attention while simultaneously elevating public health knowledge and awareness.

**Keywords:** Health communication; short video; communication strategy

## 1. The Concept of Health Science Short Videos

### 1.1 The Development of Health Communication

International health communication research is widely considered to have begun with the Stanford Heart Disease Prevention Program (SHDP) in 1971, led by American cardiologist Farquhar and communication scholar Maccoby. The following year, the International Communication Association (ICA) established the Health Communication Division, which catalyzed research and development in the field. Since the 21st century, health communication research has continuously expanded to encompass medical care, public health, and other domains, evolving into an independent discipline.

Health communication research in China started later than in Western countries. Introduced from abroad in the 1970s, initial research remained underdeveloped, failing to effectively integrate health and communication. It was not until the 1980s, with the convening of the Health Education Theory Symposium, that health communication research formally began in China. The SARS outbreak dramatically increased attention to health communication, prompting Chinese academia to recognize its importance and spurring development in the field. Today, the COVID-19 pandemic continues to drive the advancement of health communication through popular science dissemination.

### 1.2 The Concept of Health Communication

The most widely accepted definition of health communication was proposed by American scholar Everett M. Rogers in 1994, who described it as a behavior aimed at translating medical research findings into accessible health knowledge for the public, and through changing attitudes and behaviors, reducing disease morbidity and mortality to effectively improve the quality of life and health standards of a community or nation [1]. Domestic scholar Xu Meiling offers a complementary interpretation, defining health communication as the process by which people seek, process, and share medical information. Her concern extends beyond individual information-seeking or doctor-patient communication to encompass the flow and processing of information within the entire healthcare system [2].

### 1.3 The Development of Health Science Short Videos

Health science short videos emerged alongside the development of short-form video content on social media platforms, representing a specific content format. This video form, which combines visual and auditory stimuli, is more easily disseminated than dry text. Currently, there is no precise academic definition for health science short videos; they can be simply summarized as videos no longer than five minutes that disseminate health knowledge.

The COVID-19 pandemic has significantly propelled the development of domestic health science short videos. During the pandemic, short video platforms were flooded with content about epidemic prevention, what to do if infected, and post-recovery care. However, current health science short videos extend far beyond COVID-19 to include common disease science, exercise and fitness, medical aesthetics, medical facilities, dietary health, postoperative recovery, and other topics.

## 2. Content Production Strategies for Health Science Short Videos on Bilibili

### 2.1 Content Categories of Highly Popular Health Science Short Videos on Bilibili

This study examines the top ten most-viewed short videos in the health category of Bilibili's Knowledge section for the years 2020, 2021, and 2022 .

**2022 Knowledge/Informational Content:** - 【花小烙】What Happens If Air Bubbles Enter Blood Vessels During Infusion? - What If You Were Hit by an Atomic Bomb? - Where Do the Cotton Swabs Go After Nucleic Acid Testing? - How Do COVID Vaccines Protect Us? - If a Mosquito Flies Into Your Ear, What Happens?

*Practical Content:* - Doctors with COVID: Home Medication Explained All at Once - Open This Video Immediately, Infected or Not - Your Stomach May Be Stressed: Bloating and Stomach Pain - 【科普】Skincare Secrets Only Dermatologists Will Tell You - Try This Pressure Point for Sore Throat and Cough! - Several Breakfast Myths: How Many Have You Fallen For? - Warning Signs of Seborrheic Hair Loss! - Recurrent Gynecological Inflammation? You Absolutely Can't Ignore This! Open a New Way to Wash Underwear - Three Signs You've Been Masturbating Too Much

**2021 Knowledge/Informational Content:** - The Benefits of Staying Up Late: You Knew Too Late - What If You Were Buried Alive? 【又见阿诺德】- A Tomato's Advice to Young Girls! - Medical Doctor: Is the Novel Coronavirus Scary? What's the Difference from SARS? How to Effectively Prevent It? - Medical Doctor: Is Sleeping Late and Waking Late Okay? Is It Staying Up Late? Did You Sleep on Time Tonight? - Why Does Your Calf Suddenly Twitch While Sleeping? Feeling Like You're Falling? - Zhong Nanshan: Definitely Human-to-

Human Transmission of COVID-19, Virus Likely from Wild Game - 【科普】 Will You Still Have Dandruff If You Shave Your Head Bald? - Can a Stretched Anus Return to Normal?

*Practical Content:* - One Movement to Quickly Unclog Your Nose! With Simple and Effective Runny Nose Relief - 20 Seconds to Clear Your Nose - Dental Calculus Is Truly Terrifying! It Doesn't Destroy One Tooth, But Your Whole Mouth. Still Hesitating Over a Few Hundred Yuan for Teeth Cleaning? - Promised Surgery: To Be Done, Abridged Version - Old Steed in the Stable! Zhong Nanshan Talks Health Secrets! 84-Year-Old Academician's Muscles Put Young People to Shame!

**2020 Knowledge/Informational Content:** - 【超详细】 Everything You Want to Know About Anti-Virus Masks - COVID-19 Prevention Measures Science Popularization

*Practical Content:* - (Additional titles were not clearly identifiable due to formatting issues in the source data)

As shown above, Bilibili's most-viewed health science short videos over the past three years fall into two categories: knowledge/informational content and practical content.

Knowledge/informational content primarily consists of popular science and explanations of medical knowledge, life phenomena, or hot topics of public concern. After watching such videos, users understand the medical principles behind certain phenomena, but these videos do not include practical technique introductions or professional medical guidance, serving purely as knowledge popularization. For example, "What If You Were Hit by an Atomic Bomb?" from the table above addresses public curiosity and concern, explaining from a medical perspective how the human body would react to an atomic bomb blast without offering self-defense techniques for impact or blast injuries, thus lacking practicality. Similar videos include "Where Do the Cotton Swabs Go After Nucleic Acid Testing?", "What If You Were Buried Alive?", "Why Does Your Calf Suddenly Twitch While Sleeping? Feeling Like You're Falling?", and others.

Practical content, as the name suggests, provides health science popularization on health issues related to daily life, including practical guidance on healthy behaviors. These videos focus on specific health problems, explain the associated medical knowledge, and aim to prevent health hazards, offering viewers tangible benefits. According to national pandemic prevention policies, China is gradually reopening, which will lead to increased positive cases. In this environment, health science short videos related to the pandemic have proliferated, covering scientific prevention, medication use, and symptom relief. Videos like "Doctors with COVID: Home Medication Explained All at Once", "Open This Video Immediately, Infected or Not", and "Try This Pressure Point for Sore Throat and Cough!" use the health impact of COVID-19 as their theme, popularizing how to prevent, treat, and alleviate symptoms.

As demonstrated above, practical content accounted for a higher proportion in 2022 due to domestic pandemic conditions, while knowledge/informational content dominated in 2021 and 2020. This indicates that health science short videos continuously adapt to global health issues, with content reflecting current health situations and maintaining popular science relevance.

## 2.2 Textual Expression in Highly Popular Health Science Short Videos on Bilibili

**2.2.1 Title Expression** Based on Table 1, thirteen titles are interrogative sentences, known as question-style titles. This format expresses viewpoints through questions without directly telling users the content, thereby sparking curiosity. Titles like “Several Breakfast Myths: How Many Have You Fallen For?”, “Medical Doctor: Is the Novel Coronavirus Scary? What’s the Difference from SARS? How to Effectively Prevent It?”, “【科普】Will You Still Have Dandruff If You Shave Your Head Bald?”, “Why Does Your Calf Suddenly Twitch While Sleeping? Feeling Like You’re Falling?”, and “Can a Stretched Anus Return to Normal?” all use questions. These address health phenomena that people care about in daily life, such as breakfast, dandruff, and sleep. Combining such popular science content with interrogative titles strengthens expression while resolving doubts, making it a widely adopted format in health science short videos.

Reverse-talk titles use opposite meanings to highlight the importance of health behaviors. The title “The Benefits of Staying Up Late: You Knew Too Late” frames the commonly discussed behavior of staying up late as “beneficial to health,” arousing curiosity among groups concerned about sleep habits and those unclear about its dangers, leading them to watch the video and discover that the harms of staying up late far outweigh any perceived benefits.

Emphasis titles use brackets to highlight words like “popular science,” visually accentuating key points. Examples include “【科普】Will You Still Have Dandruff If You Shave Your Head Bald?” and “【科普】Skincare Secrets Only Dermatologists Will Tell You, I Know,” which highlight video categories in titles to attract viewers with corresponding needs.

**2.2.2 Video Content Text** Health science short videos rely on professional medical knowledge, so their content text involves medical principles. However, given the limited understanding of general audiences, these principles are often expressed through accessible language. The video “The Benefits of Staying Up Late: You Knew Too Late” does not explain the physiological mechanisms of sleep deprivation from a professional perspective but instead uses everyday terms like weight gain, dull skin, wrinkles, hair loss, and memory decline to highlight the damage caused by staying up late, making medical principles tangible and relatable.

In addition to professionalism, health science short video text frequently employs

internet slang to dissolve the distance created by medical terminology. The video “Old Steed in the Stable! Zhong Nanshan Talks Health Secrets! 84-Year-Old Academician’s Muscles Put Young People to Shame!” uses terms like “秒杀” (instantly kill/put to shame) and “小年轻” (youngsters) in its title to connect with youth audiences.

Logical structure is the most crucial element of professional health science short video content. These videos feature strong logical reasoning, including both cause-to-effect and effect-to-cause approaches. Cause-to-effect reasoning begins with the origin of a health problem and gradually builds to a conclusion. Effect-to-cause reasoning starts from an existing health condition and works backward to identify possible sources. Both logical approaches make health science short video content more organized and persuasive.

The emergence of health communication has effectively promoted the dissemination of health knowledge and improved public health awareness. Short, convenient, and content-rich short videos align with the public’s fragmented reading habits, making them an effective medium for health communication.

However, China’s health science short videos remain in a developmental stage with many shortcomings, including insufficient content professionalism, serious content homogenization, and lack of standards and regulation. Future development must continue to prioritize content quality, avoiding superficial pseudo-science.

*Note: Figure translations are in progress. See original paper for figures.*

*Source: ChinaXiv — Machine translation. Verify with original.*