Title

Misrecognition and Critical Consciousness — An 18-Month-Old Boy with Pneumonia and Chronic Malnutrition

Journal

New England Journal of Medicine, 380(25)

ISSN

0028-4793

Authors

Carrasco, Héctor
Messac, Luke
Holmes, Seth M

Publication Date

2019-06-20

DOI

10.1056/nejmp1902028

Peer reviewed

The NEW ENGLAND JOURNAL of MEDICINE

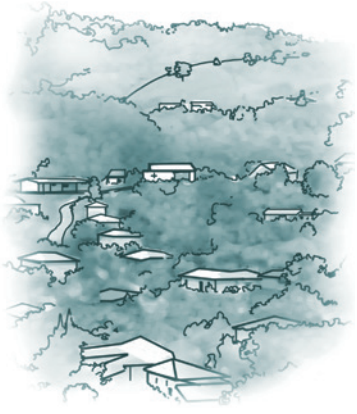
Perspective

JUNE 20, 2019

CASE STUDIES IN SOCIAL MEDICINE

Misrecognition and Critical Consciousness — An 18-Month-Old Boy with Pneumonia and Chronic Malnutrition

Héctor Carrasco, M.D., M.P.H., Luke Messac, M.D., Ph.D., and Seth M. Holmes, M.D., Ph.D.

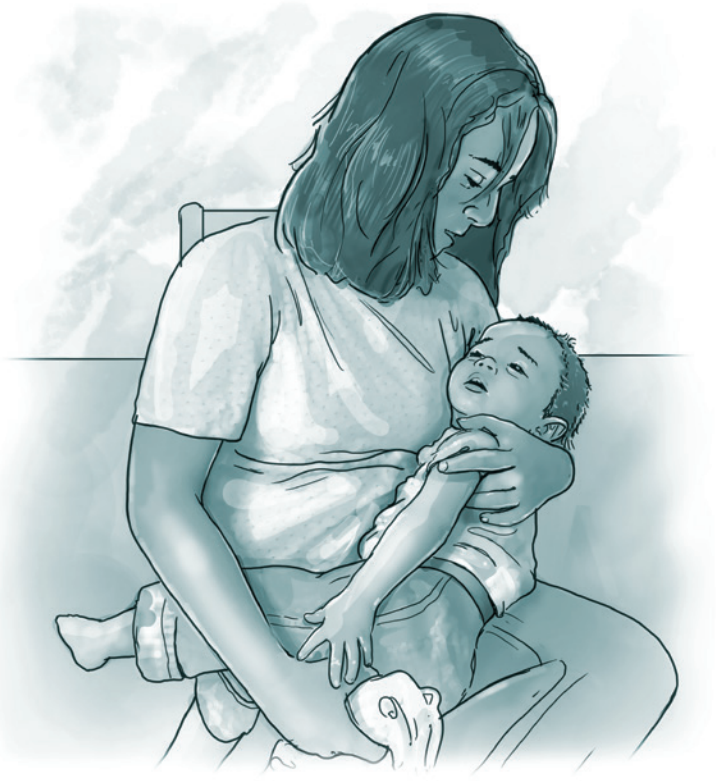


Shortly after midnight in the mountainous town of La Soledad, home to an indigenous community in the poorest state of Chiapas, Mexico, a mother woke Dr. R. to see her 18-month-old son. The patient was well known to the clinic staff as one of many local children with chronic malnutrition. On this night, he presented with dyspnea that he'd had for 6 hours.

In the "SOAP" note, Dr. R. wrote, "Subjective: 1.5 y/o chronically malnourished boy. Parents state poor appetite, cough, and felt warm. Objective: Fever, tachycardia, dyspnea, and crackles left upper anterior lobe. Assessment: Community-acquired pneumonia, likely Strep. pneumoniae. Plan: First dose ceftriaxone now and referral to nearest hospital."

The next afternoon, Dr. R. received a message that the boy's condition had worsened, but he had not yet been taken to the hospital. Dr. R. immediately left the clinic and went to the patient's home, where he found the toddler lethargic and cyanotic. With the help of community members — one person offered a car, another paid for gasoline, a third took care of the family's other children — the mother accompanied the patient to the nearest hospital, 1 hour away. There, he was intubated and given intravenous levofloxacin.

Antibiotic treatment cured the pneumonia, but Dr. R. remained concerned. Such cases were far too common in La Soledad. Recognizing that his patient had been predisposed to pneumonia by mal-



nutrition, Dr. R. began conversations with community members seeking ways to improve the nutritional status of the region's children. As a newly minted physician from a middle-class family who had been educated at an elite medical school, Dr. R. had no training in social medicine. But he had become aware that more than 80% of families in Chiapas suffered from food insecurity.

Motivated to address the dire situation in La Soledad, Dr. R. convened a team of like-minded community members and other health professionals to start a nutrition education program. Led by a nutritionist and a nurse from the community, the program aimed to enroll all mothers of malnourished children. Over the course of 2 months of workshops on the food groups and balanced diets, however, attendance fell from 50 women to 5. An elderly woman explained to Dr. R.: "Doctorcito, the problem isn't lack of education; the problem is lack of food."

Appreciating this wisdom, the team tried new tactics. A community health worker created an egg-incubation project. But the eggs didn't hatch, probably because the heat lamps shut off during the region's frequent power outages. Next, the collective created a demonstration home garden, but after 3 months of tending the poor soil, it produced only four carrots and one lettuce plant. The team then obtained support from Heifer International for an animal husbandry program. After much deliberation, the families decided they wanted chickens rather than the pigs or rabbits that Heifer had proposed. Dr. R. felt gratified as he wrote prescriptions for "15 hens and a rooster" for each of the 68 families with at least one child with chronic malnutrition. Unfortunately, 30% of the hens died in the first week from an unknown illness, and the new hens introduced a virus that killed off 20% of the local chicken population.

Social Analysis Concepts: Misrecognition and Critical Consciousness

Dr. R. initially thought that malnutrition could be solved with medicine, education, and donations. He was trained to treat pneumonia with antibiotics. When he recognized that curing the infection was insufficient, he worked with a collective to go beyond the most proximal cause of disease. But their attempts to address root causes began with behavioral and technological interventions.

"Misrecognition" refers to the process by which political, economic, and social-structural causes of health problems are interpreted instead in biologic, behavioral, and technological terms (see box).[1] As sociologist Pierre Bourdieu has elaborated, the culturally constructed categories we use to describe the social order, our implicit assumptions about social roles, and our unconscious habit of characterizing others by their place in a social hierarchy appear inevitable. Inequity has thus become as unquestioned as the air we breathe. Bourdieu often pointed to the widespread acceptance of pervasive sexism as one example of misrecognition: though the result of historical, social, and cultural processes, gender inequality is often understood as natural because we see gender as primarily

"Misrecognition," a social theory term from Bourdieu, refers to an inaccurate or incomplete appraisal of the causes of a social problem because of assumptions learned through everyday social interactions. Misrecognition often causes us to see aspects of the social world as natural or normal and to take them for granted.[1]

"Critical consciousness," a concept from Freire, refers to a capacity that can be developed by community members, including those who are marginalized, to perceive, analyze, and respond to the social forces affecting their day-to-day lives.[2]

biologic and are accustomed to gender differences in familial and social roles, labor positions, and even physical mannerisms.

In the case of the boy in La Soledad, much of the initial analysis and intervention, from the structure of the clinical note, to the ideas underlying "behavior-change education," to the character of charitable interventions, assumed that his pneumonia resulted from a biologic or behavioral deficiency in him or his community.

The choices that community members and Dr. R. made in attempting to address malnutrition demonstrate the unintended consequences of misrecognition. Though Dr. R. knew that acute episodes of childhood infectious disease would recur until chronic malnutrition was addressed, his first response involved health education, a common approach that focuses on patients' choices as the primary cause of illness. Community members corrected Dr. R.'s assumptions, clarifying that their main problem was a lack not of knowledge, but of food.

The collective attempted to solve malnutrition by incubating eggs and gardening. Though such technological or skill-based approaches often have salutary effects, they rarely address fundamental causes of illness and frequently have unintended consequences. In this case, the eggs could not be incubated because of power outages, the garden would not grow in poor soil without fertilizer, and the donated hens spread disease.

Eventually, shared reflection on these flawed interventions led the team toward what education theorist Paulo Freire called "critical consciousness" (see box)[2] — a collective process of questioning the historical and sociologic bases of social inequity and acting to change them. Bringing this consciousness to bear on upstream factors, the group recognized that the root causes of malnutrition in La Soledad lay in a history of exploitation in which native people were forced to work for wealthy landowners and were denied access to arable land of their own. When land reforms swept across Mexico during the early 20th century, landowners used violence to maintain political power in Chiapas.

This history of discrimination and dispossession was an important fundamental cause of chronic childhood malnutrition in Chiapas, which, according to the 2012 National Health and Nutrition Examination Survey, affected 44% of children in rural areas — four times the national average. The history became more relevant to the collective over time, as they realized that teaching mothers about nutrition would accomplish little. Without arable land and fertilizer, they could not grow viable crops. Without power, they could not incubate eggs. Without savings to fall back on, unanticipated problems like the spread of a disease among hens could spell disaster. These experiences and related discussions led to consideration of more creative and critical alternatives.

Clinical Implications

Physicians inevitably encounter complex health problems, which we are taught to interpret in biologic or behavioral terms. Yet these problems are often intertwined with and significantly influenced by historical, social, political, and economic forces.[3] In medicine and public health, practitioners are trained to implement biologic, behavioral, or technical interventions, which have led to some remarkable population-level successes; vaccines and antibiotics, for example, have increased human life expectancy and averted suffering. However, such approaches can sometimes function as blinders, obscuring fundamental causes of health problems and diverting well-intentioned efforts away from necessary social, political, and economic actions. In the United States, where health care spending continues to increase, life expectancy has fallen in recent years, apparently largely because of burgeoning rates of "deaths of despair" from drug overdose and suicide. How can we recognize and address the deeper causes of illness and death?

1. Health professionals can become more vigilant regarding potential misrecognition. Acknowledging misrecognition forces us to question how the lenses through which we perceive the world might lead us to recommend ineffective interventions.[3] The well-intentioned actions of Dr. R. and his team did not address the fundamental causes of malnutrition in La Soledad. Misrecognition of structural problems as biologic, behavioral, or technical may maintain the pretense that health is apolitical, yet deep analyses of many illnesses raise political, economic, and social questions. We see an urgent need for medical and other health professional curricula to focus on identifying and addressing structural causes of disease and to foster the capacity to learn from our patients and their communities.

2. Health professionals can facilitate the development — in themselves, their patients, and their communities — of critical consciousness for elucidating the roots of health problems. In teaching literacy to workers in Latin America, Paulo Freire sought to impart both the ability to read and the capacity to challenge deeply ingrained social categories and assumptions. He used a collaborative process dependent on the knowledge, experiences, and participation of community members in order to inculcate the confidence that they could effect change, and to translate this conviction into effective action.

Critical consciousness has led to many important social transformations.[2] Physicians working alongside — and learning from — their patients have helped to improve unsafe working conditions, reduce prices for lifesaving drugs, advocate for just resolutions to civil conflict, and even place limits on nuclear weapons.[4] Countless health-related issues can benefit from similar engagement. In the United States, these include, for instance, rampant gun violence, food deserts, homelessness, and opioid abuse.

Case Follow-up

In the months following his pneumonia treatment, Dr. R.'s patient continued to be chronically malnourished. But the malnutrition-program participants remained dedicated to improving children's lives, though they have, to date, achieved only minor improvements in nutritional outcomes.

An audio interview with Dr. Carrasco is available at NEJM.org

Dr. R. became a community program coordinator for a nongovernmental organization focused on collaborative health work with Chiapas communities. He convened ongoing conversations aimed at developing critical consciousness and reducing the burden of noncommunicable chronic diseases. These discussions — in which participants were asked to share their knowledge of the region's history, problems, and needs — led to the creation of the *acompañantes* program, in which health workers from local communities are paid to help guide and care for patients, visit them at home, join them on clinic visits, and bridge the gap between medical expertise and patients' lived experiences. This program has already begun to improve health outcomes.[5]

The editors of the Case Studies in Social Medicine are Scott D. Stonington, M.D., Ph.D., Seth M. Holmes, Ph.D., M.D., Helena Hansen, M.D., Ph.D., Jeremy A. Greene, M.D., Ph.D., Keith A. Wailoo, Ph.D., Debra Malina, Ph.D., Stephen Morrissey, Ph.D., Paul E. Farmer, M.D., Ph.D., and Michael G. Marmot, M.B., B.S., Ph.D.

Disclosure forms provided by the authors are available at NEJM.org.

From the Harvard T.H. Chan School of Public Health, Boston (H.C.); the Department of Emergency Medicine, Warren Alpert Medical School, Brown University, Providence, RI (L.M.); and the Division of Society and Environment and the Joint Program in Medical Anthropology, University of California Berkeley, Berkeley (S.M.H.).

1. Bourdieu P, Wacquant L. Invitation to a reflexive sociology. Cambridge, United Kingdom: Polity Press, 1992.
2. Freire P. Pedagogy of the oppressed. Myra Bergman Ramos, trans. London: Continuum, 1970.
3. Link BG, Phelan J. Social conditions as fundamental causes of disease. J Health Soc Behav 1995;Spec No:80-94.
4. Birn A-E, Brown T, eds. Comrades in health: US health internationalists abroad and at home. New Brunswick, NJ: Rutgers University Press, 2013.
5. Newman PM, Franke MF, Arrieta J, et al. Community health workers improve disease control and medication adherence among patients with diabetes and/or hypertension in Chiapas, Mexico: an observational stepped-wedge study. BMJ Glob Health 2018;3(1):e000566.
DOI: 10.1056/NEJMp1902028

Collateral Benefits of Preventive Chemotherapy — Expanding the War on Neglected Tropical Diseases

Peter J. Hotez, M.D., Ph.D., Alan Fenwick, Ph.D., and David H. Molyneux, D.Sc.

The collateral and extended effects of preventive chemotherapy, many of which were unanticipated, have reduced disease burdens and saved lives on a scale that appears to have exceeded the intended impact on seven neglected tropical diseases (NTDs) — the three major soil-transmitted helminth infections (ascariasis, trichuriasis, and hookworm infection), schistosomiasis, lymphatic filariasis, onchocerciasis, and trachoma.

The concept of integrated programs of mass drug administration (also referred to as preventive chemotherapy) was first proposed in the early 2000s, and such interventions now reach more than 1 billion people per year in low- and middle-income countries of Africa, Asia, and Latin America.[1] Implementation of the World Health Organization (WHO) preventive chemotherapy strategy has resulted in substantial reductions in the disease burden and disability-adjusted life years (DALYs, or lost years of healthy life) — as much as a 46% decrease in DALYs — attributable to the seven NTDs, allowing some countries to achieve their elimination targets for trachoma, lymphatic filariasis, and onchocerciasis. Moreover, it has led to cost savings for the world's poorest people, by reducing catastrophic health expenditures.[1]

Scientists and public health experts realized at the outset of this program that the primary drugs used for preventive chemotherapy, including albendazole or mebendazole, ivermectin, praziquantel, and azithromycin, might affect conditions beyond their originally intended targets. Now, nearly 15 years after mass drug administration for NTDs was first proposed, the existence of such collateral benefits can be verified (see table).

In an Australian aboriginal community, a single dose of ivermectin (200 μg per kilogram of body weight) delivered in two community mass drug administrations 12 months apart not only prevented ascariasis, trichuriasis, and hookworm infections, but also significantly reduced the prevalence of strongyloidiasis. A similar effect on strongyloidiasis was achieved in Cambodia with a single mass ivermectin administration. Ivermectin also reduces the prevalence of loiasis (human *Loa loa* infection) in places where both onchocerciasis and loiasis are endemic. A recently published clinical trial suggests that ivermectin could help reduce the prevalence of mansonelliasis in the Amazon, although it's less clear whether this effect could be replicated in Africa. In addition, mass administration of albendazole appears to have reduced the prevalence of oesophagostomiasis (*Oesophagostomum bifurcum* infection) in hu-

Extended Targets of Medications Used for Preventive Chemotherapy against NTDs.

Drug	Original Targets	Extended Targets
Albendazole or mebendazole	Ascariasis Trichuriasis Hookworm infection	Oesophagostomiasis Strongyloidiasis
Ivermectin	Lymphatic filariasis Onchocerciasis	Scabies Strongyloidiasis Loiasis Mansonelliasis Malaria transmission
Praziquantel	Schistosomiasis	Foodborne trematodiases Taeniasis
Azithromycin	Trachoma	Yaws Child mortality