

Worker's health and morbimortality per covid-19 among health professionals in Brazil

RESUMO | OBJETIVO: Avaliar a interface saúde do trabalhador e a morbimortalidade por COVID-19 entre os Trabalhadores da Saúde no Brasil. MÉTODO: estudo epidemiológico descritivo com abordagem quantitativa realizado em julho de 2021. Utilizou-se dados on-line provenientes do Painel Interativo Impacto COVID-19 da Plataforma da Rede Nacional de Atenção Integral à Saúde do Trabalhador. Por meio do Painel Interativo Impacto Covid-19 evidenciou-se que é alto o risco de contágio de infecções e doenças entre os trabalhadores da saúde. RESULTADOS: Considera-se maior o risco quanto maior seja a proximidade física para realização de suas atividades laborais em um nível alto de contágio entre 70% a 100%. CONCLUSÃO: Os achados reforçam o quanto é importante a Saúde do Trabalhador e deve ser observada para fomentar discussão acerca dos fatores que implicam na saúde do trabalho dos profissionais da saúde e estratégias para dar o suporte necessário para que possam exercer seu trabalho com minimização dos riscos.

Descritores: Saúde do Trabalhador; Morbimortalidade; Covid-19.

ABSTRACT | OBJECTIVE: To assess the worker's health interface and COVID-19 morbidity and mortality among health workers in Brazil. METHOD: descriptive epidemiological study with a quantitative approach carried out in July 2021. Online data from the COVID-19 Impact Interactive Panel of the Platform of the National Network for Integral Attention to Workers' Health were used. Through the Covid-19 Impact Interactive Panel, it became clear that the risk of contagion of infections and diseases among health workers is high. RESULTS: The greater the risk the greater the physical proximity to carry out their work activities at a high level of contagion between 70% and 100%. CONCLUSION: The findings reinforce how important Worker's Health is and should be observed to encourage discussion about the factors that affect the health at work of health professionals and strategies to provide the necessary support so that they can perform their work with minimization of risks.

Keywords: Occupational Health; Morbidity and Mortality; Covid-19.

RESUMEN | OBJETIVO: Evaluar la interfaz de salud del trabajador y la morbilidad y mortalidad por COVID-19 entre los trabajadores de la salud en Brasil. MÉTODO: estudio epidemiológico descriptivo con enfoque cuantitativo realizado en julio de 2021. Se utilizaron datos en línea del Panel Interactivo de Impacto COVID-19 de la Plataforma de la Red Nacional para la Atención Integral a la Salud de los Trabajadores. A través del Panel Interactivo Impacto Covid-19, quedó claro que el riesgo de contagio de infecciones y enfermedades entre los trabajadores de la salud es alto. RESULTADOS: A mayor riesgo mayor proximidad física para realizar sus actividades laborales con un alto nivel de contagio entre 70% y 100%. CONCLUSIÓN: Los hallazgos refuerzan cuán importante es y debe ser observada la Salud del Trabajador para incentivar la discusión sobre los factores que afectan la salud en el trabajo de los profesionales de la salud y las estrategias para brindar el apoyo necesario para que puedan desempeñar su trabajo con minimización de riesgos.

Palabras claves: Salud Laboral; Morbimortalidad; Covid-19.

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INTRODUCTION

Attention to Workers' Health is a subject provided for by law, based on the Constitution/88 and the Organic Health Law/90. Within the scope of SUS since 2009, it has the National Network for Integral Attention to Workers' Health (RENAST). This Network is articulated with the Health Departments at the Federal, State and Municipal levels, in addition to other bodies that carry out actions related to Workers' Health. Among some functions, it integrates the SUS service network, aimed at promotion, assistance and surveillance, for

the development of Occupational Health actions.¹

On Worker's Health Surveillance, RENAST, in an integrated way with the Worker's Health Reference Centers (CERESTS), has developed actions that favor the integrality of workers' health actions and social control for monitoring and directing conducts to workers in the catastrophic situation of the occurrence of the COVID-19 Pandemic.²

The quality of occupational health depends on several aspects, it involves the work environment, possibilities for the professional to perform his duties. The quality of workers' health in Brazil, already weakened by the relevant losses of labor and social security rights, added to pre-existing social inequalities, has become even more critical and threatened in the face of the chaos arising from the COVID-19 pandemic.³ Thus, it is essential that there is com-

prehensive care and monitoring of the health situation of these professionals.

With the outbreak of the COVID-19 disease, which emerged in Wuhan-China in December 2019, the governments of the countries suddenly needed to outline strategies to deal with the explosion of COVID-19 cases, as it is a highly transmissible disease with high numbers of deaths worldwide. In this global context of millions of deaths, there were many people of working age who died. While another number of workers had to continue their work activities facing the virus in their environments and working hours.²

In a pandemic context, triggered by the speed of dissemination of cases, information systems play an essential role in compiling data with the speed required by the situation. It is relevant to analyze the Health Systems for the monitoring of epidemiology. Brazil has

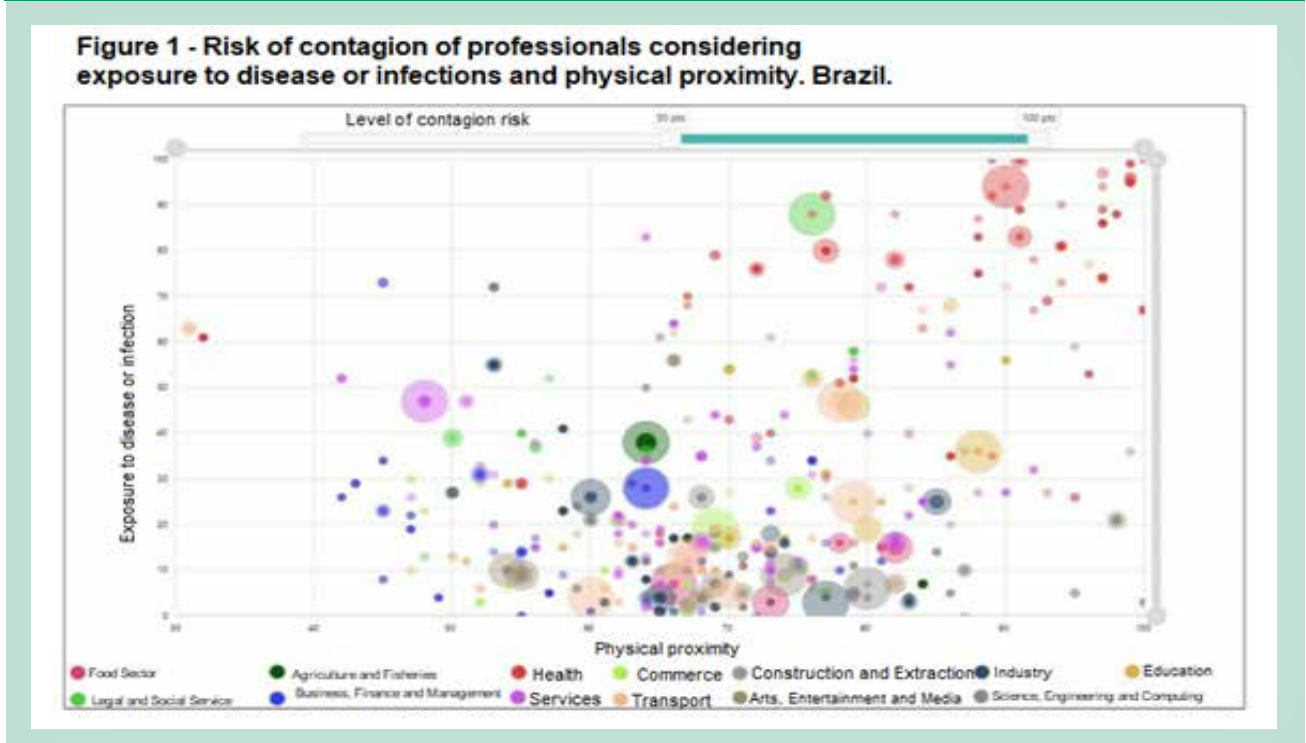
information systems that, regarding the COVID-19 pandemic, have played an important role since its inception in directing actions aimed at guaranteeing comprehensive health care for workers.

Thus, for a better understanding of how the epidemiology of the pandemic behaved among health professionals considered on the front lines of the fight against COVID-19, the objective was to evaluate the worker's health interface and morbidity and mortality from COVID-19 among Health Professionals in Brazil.

METHOD

Descriptive epidemiological study with a quantitative approach. Descriptive studies aim to "determine the distribution of diseases or conditions related to health, according to time, place and/or the characteristics of individu-

Figure 1. Risk of contagion of professionals considering exposure to disease or infections and physical proximity. Brazil.



Adapted from the Information Panel "Risk of Contagion by Occupation in Brazil": LIMA, Y. O., COSTA, D. M., SOUZA, J. M. Risk of Contagion by Occupation in Brazil. COVID-19 Impact, Rio de Janeiro, March 26, 2020. Available at: <https://impactocovid.com.br>. Accessed on: July 10, 2021

als” so that it is possible to investigate “when, where and who gets sick” using secondary data in important national and state databases.

The present study was carried out in two stages: In the first one, the RENAST Platform website was explored. In the second, the findings were compiled and the data organized into figures and tables for further discussion of the results with the relevant literature.

On the RENAST Platform, productions and records of epidemiological data referring to health professionals were sought. We adopted as inclusion criteria sources on morbidity and mortality correlating them with COVID-19. Data and records from other populations, referring to other diseases or Acute Respiratory Syndromes and bulletins prior to the pandemic were excluded. Although the platform itself does not have a panel or bulletin with

current data on Brazilian workers, it has compiled several links, sites and hot sites with the most diverse topics related to worker health with data that were collected by organizations, institutions and related research.

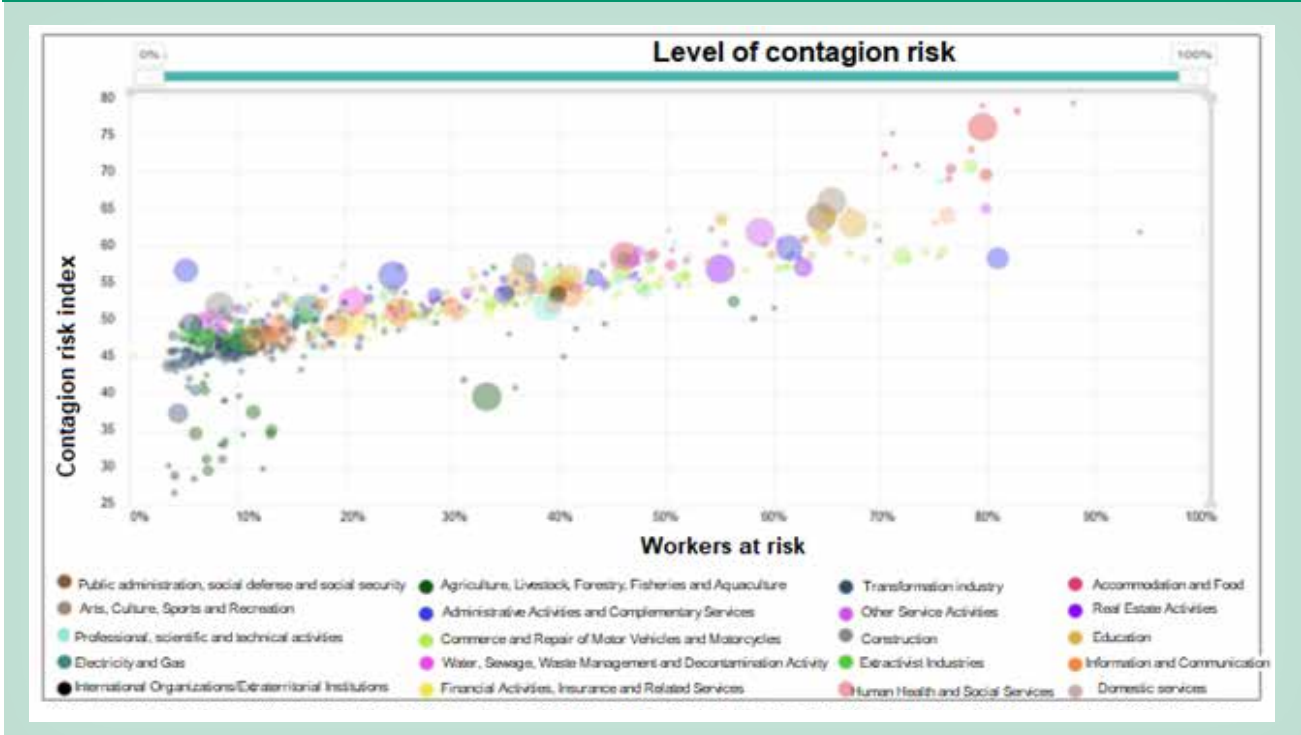
Thus, in the “Risk and harm to workers' health, COVID -19” section of the RENAST Platform, a panel created by researchers from Rio de Janeiro was chosen. The Covid-19 Impact Interactive Panel was created to assess the Risk of Contagion by Occupation in Brazil. They use as a source: “The Workers Who Face the Greatest Coronavirus Risk”, the list of economic activities from the National Classification of Economic Activities (CNAE - Classificação Nacional de Atividades Econômicas) prepared by IBGE, the Annual Social Information List (RAIS - Relação Anual de Informações Sociais) and the Brazilian Classification of Occupations

(CBO - Classificação Brasileira de Ocupações). Data from RAIS and CBO refer to the registration of all professionals registered in the most recent update dating from 2018.

In the Covid-19 Impact Panel, among other data, there is data on Contagion Risk by Occupation, Risk of Contagion by Activity and Risk of Contagion by Occupation in Brazil in bubble chart format with the possibility of choosing visualization by professional category and regulation of the level of contagion risk. In the present study, the data of interest were extracted and transported to the Microsoft PowerPoint 2016® software, later organized and converted into images.

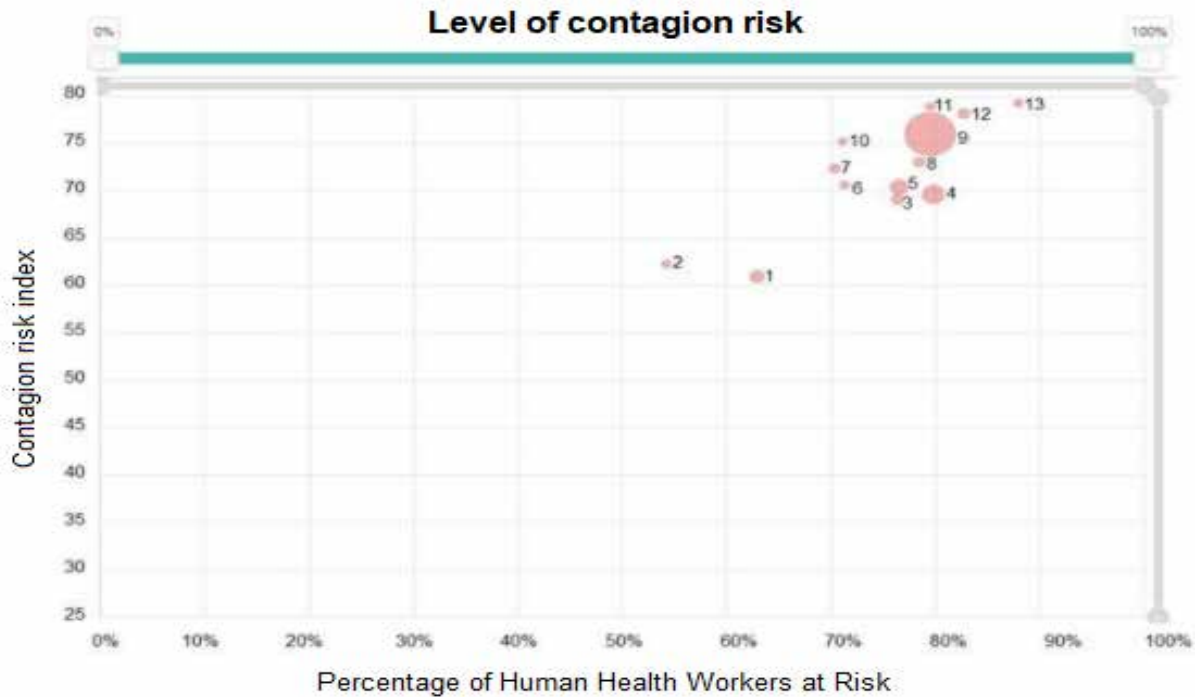
The present study does not have an ethics committee number because it was carried out with secondary and aggregated data, but it complies with research ethics guidelines.

Figure 2. Level of contagion risk considering the contagion risk index by the percentage of workers at risk, Brazil.



Adapted from the Information Panel “Risk of Contagion by Occupation in Brazil”: LIMA, Y. O., COSTA, D. M., SOUZA, J. M. Risk of Contagion by Occupation in Brazil. COVID-19 Impact, Rio de Janeiro, March 26, 2020. Available at: <https://impactocovid.com.br>. Accessed on: July 10, 2021

Figure 3. Level of contagion risk considering the contagion risk index by the percentage of Human Health workers at risk, Brazil.



Activities	Workers	Workers at risk	Risk
1 - Social assistance services without accommodation	149.599	94.023 (62,85%)	61,02%
2 - Social assistance activities provided in collective and private residences	26.152	14.164 (54,16%)	62,34%
3 - Activities of health professionals, except doctors and dentists	80.348	61.296 (76,29%)	69,17%
4 - Outpatient care activities performed by doctors and dentists	367.478	293.027 (79,74%)	69,71%
5 - Activities of diagnostic and therapeutic complementation services	257.762	197.130 (76,48%)	70,48%
6 - Psychosocial and health assistance activities for people with psychic disorders, mental disabilities and chemical dependence	16.704	11.899 (71,23%)	70,71%
7 - Assistance activities for the elderly, disabled, immunocompromised and convalescent provided in collective and private residences	63.315	44.510 (70,30%)	72,47%
8 - Other Human Health Care Activities	83.211	65.211 (78,37%)	73,11%
9 - Hospital care activities	1.207.068	958.721 (79,43%)	76,11%
10 - Patient removal services, except mobile emergency services	2.178	1.547 (71,03%)	75,31%
11 - Mobile emergency services	10.218	8.115 (79,42%)	79,00%
12 - Activities to support health management	92.267	76.255 (82,65%)	78,27%
13 - Activities to provide support infrastructure for patient care at home	16.630	14.614 (87,88%)	79,36%

Adapted from the Information Panel "Risk of Contagion by Occupation in Brazil": LIMA, Y. O., COSTA, D. M., SOUZA, J. M. Risk of Contagion by Occupation in Brazil. COVID-19 Impact, Rio de Janeiro, March 26, 2020. Available at: <https://impactocovid.com.br>. Accessed on: July 10, 2021

RESULTS

Through the Covid-19 Impact Interactive Panel to assess the Risk of Contagion by Occupation in Brazil, it was possible to verify that health professionals are among those who most need physical proximity to carry out their work activities, who are more exposed to diseases and infections and, because of this, most are at a level between 70% and 100%, which implies a high level of contagion risk shown in Figure 1.

The value shown on the vertical axis is calculated using the Contagion Risk Index formula. On the horizontal axis, the value presented is the number of workers at risk in economic activities (in percentage). This risk can range from 0 to 100, with 0 representing no risk of contagion and 100 representing a very high risk of contagion. Workers at risk are those whose risk of contagion is equal to or greater than 60 points..

Figure 3 represents the selection solely of the Contagion Risk Index by Occupation of Human Health Workers at risk of being contaminated during their work activities. It serves as a basis for understanding the dimension of risk they are subject to compared to others.

The findings reveal that the professional categories most active in health facilities were the ones that had the highest number of confirmed cases, which can be related to the issue of proximity and increased risk of contagion.

DISCUSSION

The findings of the present study indicate that health professionals, because they perform their care functions with the need to be close to their target audience, are at greater risk of being contaminated with SARS-Cov-2.

For a given infection to occur depends on the epidemiological triad of the biological characteristics of the pathogen, the environment and the characteristics of the population. Health care workers have this increased risk

due to the greater likelihood of transmission in environments where infection risks are combined and multiple transmission networks intersect. Authors claim that some factors facilitate a higher risk of infection because of compound risks, often driven by network dynamics (frequent contact, proximity and prolonged contact) and structural-level determinants (such as poverty, occupation and size of the environment in which people need to be). 6

At the beginning of the pandemic with the spread of COVID-19, health services were overloaded and professionals began to face even greater stressors daily, in addition to the intensified increase in risks to their own health. As hospitals reached their maximum capacity, supplies, the PPE essential for protection and indispensable to avoid contagion, became more scarce. These and many other challenges faced favored the increase of potential biological risks.

In a study including 30 articles in a systematic review and 28 in a meta-analysis aiming to describe clinical outcomes and risk factors for SARS-CoV-2 infection in healthcare professionals. They found among the studies evaluated that the overall increased risk of infection was seen in frontline healthcare workers across all healthcare settings compared to the wider community, with a higher risk in healthcare professionals working in inpatient settings and nursing homes. But the correct use of face masks proved to be protective, and having worn one at all times lowered the risk of infection. 8

The authors also point out that evaluating the variable exposure in the care environment alone, there was no association between risk of infection and exposure time or distance with positive patients. Consider that more data is needed to track ongoing risks in healthcare workers as the pandemic evolves and healthcare systems adapt, and that more data is needed to conti-

nue to understand the evolving implications of this pandemic on health and well-being of healthcare professionals internationally.

In a cross-sectional study of 24,749 healthcare professionals from the United States to investigate what were the risk factors associated with seropositivity for SARS-CoV-2 among healthcare professionals inside and outside the workplace. They found that contact with an individual with exposure to COVID-19 outside the workplace was the strongest risk factor associated with seropositivity, along with residing at an address situated in a location with a higher incidence of COVID-19. 9

The authors stated that none of the work factors evaluated were associated with seropositivity. This implies that exposures outside the workplace, rather than exposures to COVID-19 patients, may be the primary drivers of SARS-CoV-2 infection among professionals in the United States. They further emphasized that these findings suggest that current infection control measures are effective in preventing transmission of SARS-CoV-2 when working with patients, and healthcare worker infection risk may be driven by occupational exposures from community care and not from patients.

In Brazil, work surveillance institutions have presented recommendations on conditions for carrying out work activities aimed at reducing the risk of infection and deaths from the SARS-CoV-2 virus. The recommendations addressed ways to minimize contagion: 1 – Carrying out only essential activities following the conditions obeyed. 2 – Follow the official command of the municipal and state health authorities that establish guidelines for measures to restrict the movement of people. 3 – Follow the conditions of the workplaces, through the establishment and guidance of all workers in the plan and protocols of preventive measures. 4 – E Protection for risk groups. 1

Many of the data collection protocols refer to the beginning of the pandemic in Brazil, due to the urgency of collecting information about the new disease, the sectors, secretariats, representative bodies rushed to produce guidance materials and guidance for professional performance, adaptations in work processes. It is possible that it does not represent the current scenario because, despite the relatively short time, many changes have taken place in a significant way. The better distribution of PPE, greater knowledge of the disease, treatment, epidemiology and the advancement of the vaccine are fundamental factors to generate changes in the perspective that previously haunted the scenario of worker health, as happened a year ago.

It is expected that with the two years of the pandemic, the population is already more adapted to the protocols, standards, technical guidelines and the precautionary and prevention measures of COVID-19. However, it is important to consider what some studies warn about the risk of contamination. Because

it can occur when the professional is relaxed from the safety attitudes that are usually required in the work environment. Outside these environments, when professionals fail to follow safety practices, they expose themselves to risk. It is important that health and work surveillance bodies address safety measures in the work environment, but launch awareness campaigns for professionals so that they remain vigilant and continue with protective measures inside and outside the work environments.

Bandyopadhyay, Baticulon and Kadhum (2020)¹¹ concluded that the risk of COVID-19 infections and deaths among healthcare workers follows those of the general population worldwide. Related to the risk of contagion, they state that although professionals in certain specialties may be considered at high risk due to exposure to oronasal secretions, for example, the risk for other specialties should not be underestimated. Therefore, it is necessary to reflect on the working conditions of nursing professionals in the face of

COVID-19 and to rethink public actions and policies on surveillance and worker health.

CONCLUSION

The findings of the studies reinforce how important it is for Occupational Health Surveillance to maintain continuous and systematic action over time, with the purpose of planning, executing and evaluating interventions on technological, social, organizational and epidemiological aspects involving the health of the worker. In view of the current epidemiological scenario and facing the new coronavirus pandemic, it is essential that their knowledge provides an understanding of the panorama of professionals who are working in health care directly or indirectly, in Brazil.

The data found demonstrate the need for protective actions that allow comprehensive health care for health professionals, with the implementation of protocols that can reduce the risks of contamination during work activity.

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