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Culminating Experience Paper
April 2020

# Critical Care Challenges in the Global South: An Ethnographic Perspective from Argentina

## Abstract

**Objective:** Provide a qualitative study of the experiences and challenges of intensivists providing care in public ICUs in a Middle-Income country like Argentina.
**Methods:** Research was conducted during 15 months in two Intensive Care Units in two public hospitals in the periphery of Buenos Aires, Argentina. The data was collected through deep-immersion participant observation, semi-structured interviewing, literature review, and elicitation of professional diaries from physicians.
**Results:** Intensivists in the study report experiencing various challenges in their profession, including: stressful clinical scenarios; difficult management of the relationship with patient family members, engaging in bioethical and end-of-life discussions and decisions; infrastructural constraints such as lack of resources, budget cuts and austerity measures, low wages, and broader economic uncertainty.
**Discussion:** The importance of socio-cultural and political economic-context is often placed as a background in many studies that examine the ICU as a working environment. Qualitative and ethnography studies can shed light on how specific conditions affect the work of critical care professionals, thus adding nuance and depth to quantitative or survey studies on workplace satisfaction. During the COVID-19 pandemic, ICUs have been put under extreme strain all over the world, albeit differently. Qualitative perspectives are and will be especially important calls for more qualitative studies that examine both the importance of context and the experiences of intensive care professionals at this trying time.

## Introduction

During my research in Argentine Intensive Care Units (ICUs) in Buenos Aires, medical staff in public hospitals often joked that I could not have witnessed the kind of critical care work in a similar unit in the United States. As is often the case, much truth lied in that joke. While caring for patients on life-support and suffering from severe conditions, the intensivists I worked with had to often opt for alternative medications, make do with faulty technology, engage in

difficult ethical decisions, and even build their own medical devices. Conversely, and often as a result of these conditions, their diagnostic and problem-solving abilities were exceptional as was their commitment to public healthcare. The mix of these factors made for a very different practice of intensive care than that of highly technological units in the United States. Now that the COVID-19 pandemic has brought on unprecedented challenges even for "high-resource" contexts like the North America and Europe, understanding the functioning of critical care of "low-resource" health care systems and the experiences of their staff is even more important and *de facto* challenges some of the assumptions that draw rigid divisions between resource-rich and resource-poor contexts.

While the guidelines of critical care work might be comparable across locales, the context in which intensivists must follow such protocols and procedures is quite different. This context affects how that care is delivered and how critical care work is perceived by its practitioners. Worldwide, critical care is one of the most costly and complex specialties in a healthcare system, mostly due to the use of mechanical ventilation (1,2)[1]. Intensivists rely on expensive technology like ventilators, pharmaceuticals, and key infrastructural support to provide life-supporting treatment to patients in critical condition.

Argentina, the particular context that I examine here, is a "Middle-Income Country"[2] with free and universal healthcare, significant health disparities, and ever-shifting financial and economic conditions. In the Global South, many countries have public, yet understaffed and under-resourced healthcare systems (3). While these challenges are common, there are specific

[1] The amount of technology, equipment, and drugs The Society of Critical Reports estimated that that Intensive care unit (ICU) costs per day were around $4300 per day in 2010 in the United States (https://www.sccm.org/Communications/Critical-Care-Statistics).

[2] According to World Bank Classification, see World Health Organization page on Argentina: https://www.who.int/countries/arg/en/

insights that can be gained from focusing on the provision of critical care in a country like Argentina, which has universal, free healthcare but which also experiences inequality in resources and cyclical financial hardship. While facing these challenges, Argentina also produces significant medical and biological research, has a wide array of scientific journals, and has well-established and active professional societies like the *Sociedad Argentina de Terapia Intensiva* (SATI), the Argentine Society for Intensive Care.[3]

Being an intensivist is extremely demanding. The length of intensive care training, the challenging work-life balance, and the severity of patients make for an extremely stressful work environment. The goal of this paper is to understand the experiences of intensivists in Argentina as they describe them. Many studies of job satisfaction, quality of life, and burnout among Intensive Care physicians come from Europe or North America and often do not account for the complexities of context in Latin America. Taking this gap into account, this work therefore seeks to contribute to better understanding of the work environment of intensive care in Argentina from an ethnographic, qualitative perspective. To do so, I ask the following questions: First, what are the challenges of intensivists working in public hospital ICUs? Second, how might qualitative methods elucidate the barriers faced by intensivists and complement quantitative and/or survey studies? And finally, how might a perspective from a Middle-Income Country in the Global South like Argentina shed light on the needs and future of critical care, and especially during a global pandemic that is affecting ICUs worldwide?

This paper first provides a background on the history and characteristics of critical care,[4] before delving into the particularities of Argentina's healthcare system. I then outline my

[3] See www.sati.org.ar and http://revista.sati.org.ar

research questions, describe the methods of the study, and finally present my results based on over a year of participant observation in two ICU wards, along with semi-structured interviews with intensivists, and two diaries of two intensive care physicians. I conclude by providing some insights into what can be learned from intensivists by briefly reflecting on the role of intensive care during the current COVID-19 pandemic.

## Background

### *Brief History of Critical Care*

Units primarily dedicated to critically ill patients are relatively new in the history of medicine. Critical care medicine is traditionally traced back to Florence Nightingale, who, during the Crimean war of 1853-1856 , decided to dedicate an area specifically to the most critically injured British soldiers (4–8). However, while attempts had been made to separate critical patients in dedicated units, it was not until the Copenhagen Polio epidemic of 1952 that the concept of "intensive care" arose (4). Even while several patients died of respiratory failure during the epidemic, a large number required artificial ventilation and were placed by Dr. Bjorn Ibsen in a dedicated ward, called, for the first time, "Intensive Care Unit" (2-5). In the early 1950s in Los Angeles, the father of modern critical care, Dr. Max Harry Weil, established the first "shock ward" at the University of Southern California. Here, life-endangered and critically injured patients could be monitored continuously. Staff found that chances of survival increased by measuring in real-time vital signs, hemodynamic and respiratory parameters, and measurements on blood and body fluids. Dr. Weil and his team had successfully shifted the

As I describe in the next section, in this paper I use both "critical care" and "intensive care," as they are interchangeably used. "Critical Care" is used in North American literature while "Intensive Care" is more often present in Europe scholarship.

critical care field from a *location* within the hospital to a clinical *service* and eventually to its own clinical *specialty* (5,6). Since the 1960s, the birth and evolution of Critical Care in the United States, and Intensive Care in Europe, were made possible thanks to the advancement of life-supporting technologies like mechanical ventilators, pharmaceuticals, and hospital reorganization that played and still play a fundamental role in this specialty (8,9).

While it is difficult to find a univocal definition of "intensive care," an Intensive Care Unit can be described as "an organized system for the provision of care to critically ill patients that provides intensive and specialized medical and nursing care, an enhanced capacity for monitoring, and multiple modalities of physiologic organ support to sustain life during a period of life-threatening organ system insufficiency" (10). The most innovative and defining aspect of critical care is the "ability to support temporarily and, in some cases, replace the function of multiple-organ systems" when such systems are compromised by disease or injury (4). Because any intervention implies risk, this powerful ability also means that intensive care is very invasive, the patients extremely fragile, and the unit highly susceptible to hospital infections (11). Today, Intensive Care Units are essential within hospital systems to provide life-support treatment and care for patients in critical condition, something which has come especially to the fore during the COVID-19 outbreak.

*Critical Care in the "Global South"*

While the main principles of intensive care medicine are continuously discussed through research and global guidelines are established via critical care societies and world federations (12), those working in Intensive Care units in so-called "Low and Middle Income Countries" (LMIC) like Argentina have faced and continue to face additional challenges compared to their

"High-Income" country colleagues (12,13). Because the functioning of critical care units relies on highly trained and specialized staff, expensive technologies, and streamlined health systems, ICUs in the Global South often find themselves with limited resources, personnel, and equipment (14–17).[5]

Epidemiological data suggests that these challenges are exacerbated by other patterns in the Global South. Demand for intensive and critical care is likely to increase, given rates of rapid urbanization, an increasingly population, and other global events, like pandemics, while economic crises will most likely decrease the ability to pay for high-cost services like the ones offered by critical care. Other challenges of care provision are the high cost of hospital stay, the relatively low cost-effectiveness of ICU treatment in critical care delivery, and high mortality in LMIC ICUs (12,22–24). According to the Review of the Intensive Care Over Nation report, there is a "relation between the risk of death and the global national income" (25), suggesting that countries that patients in a country with a lower GDP have higher risk of dying after being admitted to an intensive care unit.

In developing countries, natural disasters, conflicts, infrastructural challenges, issues in training and retention of intensivist personnel, fragmentation of healthcare systems, and inadequate primary care have made critical care indispensable and yet very challenging to provide (12,25). While some have noted that "critical care delivery, education, and research require a global perspective based on epidemiological considerations" (8), other perspectives challenge a globalist approach to care, given the diversity of contexts in which it critical care is delivered (26–28). It is therefore evident that an in-depth understanding of the challenges that

[5] It is important to note that these difficulties are also present in the Global North, especially during periods of austerity. Greece provides a poignant and sobering example of how severe budget cuts affect patient care and work for health professionals (18–21).

intensive care units and their professionals face within their own political-economic and socio-cultural context is needed.

*Critical Care in Latin America and Argentina*

It is important to contextualize critical care in Argentina in the broader Argentine healthcare system (3,29), which offers free and universal care to all, even as budget cuts and financial cyclic crises affect the Argentine economy, the more recent being in 2019-2019 (30). The system is divided in three main categories: private insurance that allows for care in private hospitals; social security insurance through employment/trade unions that allows to access care in both private and public institutions; and publicly funded, universal care provided through public hospitals and clinics to anyone – residents of Argentina and not.

In Argentina, doctors who work in Intensive Care are intensivists (*intensivistas* or *terapistas*)[6] and specialize in caring for critical patients in *Unidades de Terapias Intensivas*, intensive care units. Working as an *intensivista* requires a long medical training and intense residency program, usually in a public hospital. Following the completion of the specialty, some physicians opt for working in the private sector, while others remain employed in public hospitals. Most often than not, however, physicians rotate between the private and public sectors, often going from shift to shift, given the low pay – yet high prestige – of public hospitals.

One important characteristic of Argentina is its economy instability (31–34). During the 2015-2019 period, the right-wing government implemented harsh austerity measures, which affected public health and social services, and even downgraded the Health Ministry to a Secretary (35). During my time conducting research in the ICUs in public hospitals between

[6] Different specialties work in ICUs and there is not uniformity across countries on the residencies professionals must complete to do work in critical care.

2018 and 2019, the most common refrain among staff was "*no hay,"* which in Spanish means "there is none." Several times a week, head physicians and residents complained of lack of medication and equipment: among resources that were often missing were midazolam (a powerful sedative), vancomycin (an antibiotic that helps prevent nosocomial infections) and central venous catheters to administer fluids and measure venous pressure. In addition to coping with this lack of resources, physicians also have to perform many other different kinds of labor due to lack of personnel. At times, physicians must wear the hat of lab technicians, pharmacists, social workers, and hospital administrators and continuously multi-task. Many ICU doctors in Buenos Aires described intensive care as a craft (35) that becomes especially craft-like under difficult conditions. Argentine physicians are accustomed to building makeshift devices and compensate for lack of resources, something that I often witnessed in the units. This common practice of tinkering in Argentina has also led to important inventions and procedures, like coronary artery bypass surgery pioneered by Argentine cardiac surgeon René Favaloro (36), and, more recently, a prototype for a low-tech ventilator (37).

A recent 2018 survey of Latin American intensivists conducted by the Latin American Intensive Care Network is helpful in sketching a picture for the practice of intensive care in Argentina (38). Physicians surveyed were from Brazil, Argentina, Chile, Uruguay, Ecuador, Mexico, Colombia, Bolivia, Peru, Guatemala, and Paraguay. The majority of the workforce was found to be young, formally trained, and, generally, operating under very high workloads and resource constraints. The survey also found that infrastructural conditions – especially during night shifts (private staff restroom and bedrooms for rest and sleep) were reported as inadequate by 62% of the respondents, especially by female intensivists. Physicians also reported intentions or thoughts to leave the profession as connected to high rate of night shifts, an association that

has been observed as an indicator of burn out (39). Another important finding concerned the bioethical conversations with families: younger intensivists admitted to having lower confidence than their older colleagues in addressing such issues and commented on lack of training. In general, while certainly not applicable to all ICUs in the Latin American region or Argentina, the survey provides context for how Argentine intensivists, including the ones I spent months with, provide care for their patients.

Medical anthropologists have long written about how shortage, scarcity, and dysfunction are common refrains in "peripheral," "low-resource" contexts where medicine is practiced amidst structural barriers (40–43). In her work in Botswana, public health historian Julie Livingston has examined how medicine is often improvised, in places where "challenges of practice become more burdensome, spawning both political critique and individual creativity" (42). Medical anthropologist Alice Street has written about how, especially in contexts that are considered "resource-scarce," medical professionals "must strive to make biomedicine work in conditions of institutional instability and medical uncertainty" (40). Both of these perspectives have rung true in my fieldwork in Buenos Aires, where improvisation, instability, and creativity are part of daily life inside and outside the hospital. These circumstances not only inform the context for critical care practice, but are also of paramount importance when examining the overall experiences of intensive care staff.

**Research Questions and Public Health Relevance: Challenges Experienced by Intensivists**

The Intensive Care Unit is an extremely demanding work environment. ICU professionals, nurses and physicians alike, face a variety of challenges that have been amply documented in the literature. Among others, several can be identified: resource scarcity and

resource dosing/allocation (9, 25–29); bioethical challenges (49–53), moral distress (54), and futility treatment (55); burnout and psychological stress (39,56,56–58,58–63); gender bias and gender imbalance (56,57); and finally, barriers to job satisfaction (66). Notably, few studies mention labor contract uncertainty or financial stress as an added burden to these stressors, a factor that is an important contributor to overall burnout and that is of particular relevance for Argentina and other contexts in which state healthcare budgets have suffered. I here take into account four aspects: 1) resource scarcity, resource dosing, and fair allocation; 2) ethical challenges, family communication, and moral distress; 3) susceptibility to compassion Fatigue and burnout; 4) gender bias and gender imbalance in critical care. I review this particular literature to provide a context for the data I collected during my time in Buenos Aires in two Intensive Care Units and that I present further in this paper.

1) Resource Scarcity, Resource Dosing, and Fair Allocation

Working in underfunded systems, in contexts that face repeated budget cuts, or in hospitals that face particular moments of crisis and patient saturation, practices of dosing, rationing, and dealing with allocating scarce resources is an element that is part of intensive care life (47,67,68). Rationing has become increasingly at the center of intensive care, even in resource-rich setting. As critical care expert, Dr. Levy explains in the introduction of an issue of *Critical Care Medicine* on the topic: "rationing occurs simply because resources are finite and someone must decide who gets the next bed, gets the next test, or is seen next on rounds. The reality is that rationing occurs all the time in critical care" (69). Having to work and make clinical and ethical decisions in conditions where demands overwhelm the supply has been studied as adding stress for physicians and nurses alike (70). The difficulty of rationing of critical

care beds (46,67) is one of the most common dilemmas faced by professionals in units. These decisions play out differently across contexts, be it in the "Intensive Care Industrial Complex" of American managed care (71), in "resource-poor" systems like South Africa (72), in "strained" units in Canada (73,74), or, as I personally witnessed, in Buenos Aires.

"Scarcity" and "strain" are, obviously, relative concepts. Some qualitative studies have added nuance and depth to the issue of rationing, cost-effectiveness, and decision making. One ethnographic study in Iran explored how intensive care nurses managed resources, finding that nursing staff were charged with taking note of scarce supply in a context of constant uncertainty (75). A follow-up study examined nurses' ideas of health economics related to rationing, shedding light on the importance of their role as the first line when it comes to awareness of scarcity of resources (76). Interestingly, a study in the United States highlighted that nurse managers have a larger role in managing ICU costs than physicians, but that both professional categories rarely perceived rationing as an explicit practice and instead were more concerned about "excess of care," especially for those patients that were at the end of their life (77). In light of the current strain under which intensive care units are being placed, it will be important to see how resource allocation and scarcity are perceived by physicians, nurses, and hospital staff who have been at the forefront of the COVID response.

2) Ethical Challenges, Family Communication, and Moral Distress

Closely tied to the issue of rationing or dosing resource are the ethical challenges that come along with the management of scarce resources when patients are critically ill. Given the nature of the patients who are cared for in the ICU – patients who are either in serious and life-threatening condition– matters of life and death are a daily occurrence. Healthcare providers,

especially those trained to deliver care in high-intensity environments like Emergency Rooms and Intensive Care Units, are used to making difficult clinical and ethical decisions regarding patient care. The medical literature refers to some of these conundrums as “moral distress”, i.e. , which denotes “ a psychological disequilibrium that occurs when the ethically right course of action is known but cannot be acted upon” (78). While some healthcare providers are more accustomed to such circumstances working in publicly funded healthcare with tight budgets as the physicians working in Argentina, their colleagues in other contexts are not accustomed to making these decisions.

Most recently, the COVID-19 pandemic has amplified these dynamics and made them more visible. The absence of adequate personal protective equipment, ventilators, and staff, along with the uncertainty of how to provide treatment against the novel virus, has forced medical staff to confront resource allocation and dosing. Articles like the recent the “Fair Allocation of Scarce Medical Resources in the Time of Covid-19” in the New England Journal of Medicine (79), speak to this ethical, clinical, and administrative knot. Qualitative methods and in-depth interviewing can capture aspects that instruments like the Moral Distress Scale (80,81) or surveys about “ethical allocation” cannot.

Dialoguing with families is another integral aspect of ICU care and is often a point of contention. Surrogate decision making (when families provide decisions for their loved ones in the absence of specific wishes) and end-of-life care are stressful and psychologically scarring experiences for families. Increased family-doctor communication is a key factor in making informed decisions (82) and limit prolongation of dying or the application of futility treatments (83). Several studies, however, also have identified many “missed opportunities” on the part of staff in explaining procedures and therapeutic options to families, and displaying a variety of

responses, few of which are “empathetic” (83,84). These communicative issues can at times be attributed to what is known as “compassion fatigue” or burn-out (85) (see next section).

Susceptibility to Compassion Fatigue and Burnout

Critical care staff, both physicians and nurses, across regions, experience high levels of “compassion fatigue” and burn out (4,61,66,85,86). Excessive workloads, the fast-paced nature of critical care work, high-stake decision making, and ethical challenges are only several of the many factors leading to this psychological outcome (49,50,87). Nurses, as professionals who work the most closely with patients and families in the ICU, have been described as affected by both compassion fatigue and burnout (49,55,56,88). “Compassion fatigue” is defined as “a state of exhaustion and dysfunction biologically, psychologically, and socially as a result of prolonged exposure to compassion stress and all it invokes” (89). The concept of “burn-out syndrome” emerged in the 1970s and has been used since to describe, especially in the caring professions, a combination of “emotional exhaustion, depersonalization, and reduced personal accomplishment” and the “Maslach Burnout Inventory” is the most validated tool to assess burnout (90).

Many of the burnout and compassion fatigue studies are US and Europe based, failing to often capture the different dimensions – and question the applicability - of these concepts in other contexts. A study in Argentina reported that 84.4% of Intensive care nurses surveyed showed moderate or high levels of burnout syndrome, which was related to a high nurse per patient ratio (1:3 or higher) (91). Another Argentina-based study found extreme levels of burnout among pediatric intensivists that affected motivation to maintain a career in Intensive Medicine (39).

Gender bias and Gender Imbalance in Critical Care

As any other realm of social life, gender, race, and class are important factors that affect the intensive care unit as a working environment (92). Women are underrepresented in critical care as a specialty, are especially lacking gender parity in higher positions in research publications and at administrative and managerial levels (70). A Canadian-based qualitative study reported that participants identified critical care as a male-dominated specialty, and several women reported to have been professional and personally affected by such gender inequity, aided by institutional structures (96). Similar studies examined and confirmed this gender imbalance in health workforce in contexts like Kenya (97), Cambodia (98), and the United Kingdom (99) alike. While slow progress has been made toward recalibrating this unbalance (100–102), gender imbalance still remains and also manifests itself as salary inequality (103). One study from Argentina found confirmation of the persistence of a gender pay gap and absence of women in leadership positions in the country (64), an aspect which by was confirmed and commented on by the women physicians that I worked with (see results).

**Research Questions**

Using this literature as both a point of departure and background, this paper has the objective of examining how these challenges manifest themselves and are experienced in two "low resource" ICUs in urban Argentina. To do so, I tackle three main questions:

1. What are the experiences of intensivists working in public hospital ICUs?
2. How might qualitative methods elucidate the barriers faced by intensivists and complement quantitative and/or survey studies?

3. Finally, how might a perspective from a Middle-Income Country in the Global South like Argentina shed light on the needs and future of critical care, and especially during a global pandemic?

To answer such questions, I use data collected during field research in Buenos Aires between 2018 and 2019 in the form of semi-structured interviews, fieldwork notes, and first-person accounts from ICU physicians.

***Methods***

This project incorporated participant observation, semi-structured interviews, review of case studies, and archival and media research. This mixed-method study was able to capture the dimensions of life and work of intensivists working in public hospitals in Argentina by understanding the challenges that the health professional face within the specific socio-cultural and political-economic contest of Argentina's healthcare system.

*Participant Observation*

Participant observation is considered the hallmark of ethnographic research. It can be defined as a method by which "the researcher takes part in the daily activities, rituals, interactions, and events of a group of people as one of the means of learning both the explicit and tacit aspects of their life routines and culture" (104). A method proper of the social sciences, participant observation has been now widely adopted by health researchers (105) and increasingly used in hospital settings (106,107).

From January 2018 to March 2019, for a total of 15 months, I conducted participant observation in two intensive care units in public hospitals in the periphery of Buenos Aires, the capital of Argentina. This involved participating in the daily life of the intensive care units,

following physicians in their rounds, witnessing their meetings with families, observing bed-side care, and spending time reviewing cases in the break room. This immersion in the life of the ICU allowed me to talk to intensivists about their professional training, their career goals and obstacles, and the difficulties in providing compassionate and adequate care for critical patients.

*Semi-structured Interviews*

In addition to participant observation, I conducted semi-structured interviews with a total of ten intensivists ranging from one to two hours. The topics addressed in the interview were the following: professional training and career level; the choice of selecting intensive care as a specialty; the characteristics and responsibilities of ICU work; challenges to providing care; resources - both available and lacking - for care provision. The semi-structured interviews complemented the many informal conversations with ICU staff during the 15-month period. Interviews were subsequently transcribed in Spanish and coded thematically with the qualitative analysis software MAXQDA 2020.

*Diaries/Fieldnotes of Intensive Care Physicians*

During my participant observation in the ICU, two research participants, both intensivists, began writing their own reflections on their work in the unit. We thus began a collaborative project that involved sharing our fieldnotes about the particularities of critical care work as they were experiencing them. While this data does represent a limited perspective by two participants and a small sample size, the depth and richness of these reflections allows for a more nuanced understanding of the work of the intensivist in context. Importantly, they shed light on the ethical dilemmas such professionals experience while providing critical care that involves decisions about life and death, decisions for which intensivists receive no formal training. While an ICU-Diary is common for families of patients to keep as a journal of the

intense experience of the ICU (108–110), this small experiment suggests that this method can be also helpful for ICU staff to mitigate stress, reflect on complex cases, and assess the ethical challenges that life-support work entails. In several op-eds written by medical staff at the forefront of the COVID-19 outbreak (111) or in their relating of their experiences in "video diaries" (112), the diary form can convey a sense of what professionals are witnessing in daily ICU work and provide the general public with a closer look into critical care wards (and as is the case during this time, reinforcing public health guidelines about staying home and practicing social distancing).

## Results

By combining the fifteen months of deep immersion in ICU life, the interview data, and the literature review, it is clear that individual, institutional, and societal factors contribute to how intensivists perceive their profession and their work environment. Importantly, in many of the studies that assess the working dynamics within ICUs, sociocultural context is often placed in the background, instead of constituting the central axis around which these studies are organized. I review the results of the data collection, which include excerpts from interviews, diary, and other systematic observations during 15 months of research. This particular paper focuses on intensive care physicians, even though I also conducted interviews and participant observation with nurses and other workers of the ICU.

### The Professional and Clinical Demands of Critical Care Work

The intensivists that participated in my research all had personal motivations for being attracted to intensive medicine, and particular views on what the work of the critical care was

fundamentally about. Several physicians expressed their fascination with the specialty as one in which many different skills were required – deductive and inductive reasoning, rapid evaluation, deep knowledge of physiology, and practical abilities. Participants often described intensive care medicine as "something artisanal," a craft (113) that can be only learned by doing. One doctor remarked that it was exactly the unpredictable nature of critical care that allowed him to never "be bored," while a resident commented that the intensivist is one of the few specialties where there is a focus on the entirety of the patient' physiology.

One thing that mostly all intensivists interviewed agreed upon is that "the ICU doesn't cure, the ICU gives you time to act," as one attending put it. Choosing how to use the extra time – time that exists thanks to life-supporting machines – is the task of the intensivist. Even though assessing costs and benefits in a very small time is integral to the profession, several doctors commented on the difficulty of this task.:

> *"Intensive Care is adding everything in the beginning and slowly taking away, making decisions along the way"*
>
> *"You can do a lot of damage, every procedure might have an adverse effect, or a complication, and might do even more damage to the patient. […] But you can't go over and think about too much, you'll be paralyzed. The cost is just always very high in the ICU, always."*

Medical errors – whether making miscalculations, suggesting a particular treatment that did not have the desired outcome, or a wrong diagnosis – are frequent, and at times inevitable, in the ICU. This responsibility weighed in different ways on physicians:

> *"The worst thing is, to accept that a patient doesn't do well for something you did. And a colleague can tell you "yes but the patient needed that in that moment." Sure, but you always have a bitterness left [even if you know you did the right thing]"*
>
> *"I did what I thought was good in that moment and if I made a mistake, it's ok, I will have to learn the lesson next time, but I can't torture myself for this."*
>
> *"We are very reluctant about admitting our mistakes, even amongst ourselves*

> *Sometimes saying to the family that "there was a complication" or "this is a frequent side effect" is a way of saying that mistakes were made. [Sometimes] you do that to cover a colleague"*

The memory of salient cases was often connected to an error or a mismanagement that provided a critical learning experience. The role of peers and superiors in validating or correcting these mistakes also seem to play an important role in how physicians incorporated these experiences in their own professional narrative as an intensivist.

Relationship with Families

Physicians often disliked the moment of the doctor-family conferences, which were allowed once a day. Most of the Intensive Care Units in public hospitals in Argentina are closed units, meaning that access is restricted to all non-personnel, except for one to two hours a day during family visiting hours. Because of these restrictions, the encounter between physicians and families were always brief, with families often confused about the information that was being delivered, and understandably anxious and distressed. Each physician had their own approach to the encounter, but all recognized that it was a very delicate moment and that it was not the part of the job they enjoyed the most. "If I had wanted to talk to people, I would have been a psychiatrist!" joked one participant. In both hospitals where I conducted research, there was no dedicated room for this encounter, which everyone admitted was detrimental to the delivery of often tragic news. At times, communication breakdown in the form of some misunderstandings, frustration with the conditions of the hospitals, paired with the death of a loved one, resulted in episodes of physical aggression towards physicians. One pediatric intensivist described the encounter in the following way:

> *"For example, the relationship with families. We have an hour for twenty families [to update them during visiting hours]. So, we start saying "bed 1", all depersonalized […] we come, say what we need to say and that's it. There is no time for questions. [In this way], you can never contain the families' anxiety. And this results sometimes in physical violence and violent reactions against doctors because of poor communication."*

The relationship with families outside the ward was also an important moment for the discussion of therapeutic actions, interruption of treatment, organ donation, and following up of the patient's "do not resuscitate" wishes:

> *"It's very important to talk to the family because they tell us what to think, especially how far they want to go, sometimes they want to go until the end. We try to respect their wishes, but we don't always succeed."*

Physicians also remarked on the complexity of bioethical decisions that patients might have made earlier in life and that now the family was faced with following through with. Especially stressful were "do not resuscitate wishes" and other end of life decisions. One physician remarked on how dealing with these conversations was both an opportunity for growth, but also generator of anxiety:

> *"What you think is black today, tomorrow is grey and the next day is white. Sometimes the decision that you made 10 years ago is not the one you would make today […] So when I see "don't resuscitate," it's a complex situation. […] That gives me a lot of anxiety." [Dealing with these situations] made me grow because I was more rigid when I was younger and now talking to family you realize […] that there are many greys in the ICU."*

<u>Structural and Infrastructural Constraints</u>

Clinical decisions for patient care and the relationship with families was always affected by structural constraints that took different forms: lack of equipment, conflicts with hospital administrators trying to implement budget cuts, small spaces:

*"I can't do 500 patients in 24 hours. Give me staff, equipment…When we are backed by an institution that has enough supplies, we can work faster […] But when we have nothing to work with, you have to work double"*

*"You see this ICU, we are working in awful conditions. You get used to working, eating, and living in a very small space, with a lot of people. There is no other way to say it. We get used to what they give us… cold in the winter, hot in the summer, sometimes messy, dirty."*

*"We're all sharing the same space, not like other specialties. It's like the trenches."*

The lack of adequate equipment was especially burdensome for physicians when it directly or indirectly resulted in poor outcomes for patients. One physician commented how this often concealed and yet silently understood by all parties: "You can't say to the family, "your loved one died because we didn't have this or that." In many cases, family members offer to procure the missing equipment or medication, without doctors asking:

*"Families often buy devices because we don't have them. At times we are talking about basic services. The doctor doesn't even say: "you need to procure it because the state isn't providing it," [people] already have this internalized."*

One doctor angrily denounced this problem attributing to a specific "Latin American management," highlighting context as an especially important factor:

*"[Lack of resources ] is a problem for the family, it's a problem for the patient, and it's a problem for the physician. […] Sometimes you see things that you cannot cover up, you simply cannot. Perhaps it comes from the fact that we manage misery, from a Latin-American ethos that is just different."*

Another intensivist found the dimension of clinical uncertainty and political and economic uncertainty of the hospital - and of and the country more generally - to be especially aggravating, remarking that many ICU guidelines coming from the Global North were not always helpful in guiding practice for wards like hers:

*"It's the uncertainty of it all, you always have to make do. On one hand, it's the uncertainty and on the other, it's that you always have to make do for the absence of something. You can replace some things, or be creative, but sometimes you just need the specific device or reagent, and we just don't have it. […] You read the guidelines, like the American guidelines, and they have no sense of cost of things."*

It is important to note that both hospitals where I conducted research were facing severe budget cuts, increased surveillance from hospital management, and some employees were being threatened to have their contracts interrupted. In addition to observing these dynamics and participating in meetings were these topics were discussed, this theme emerged in several interviews:

*"We're not going to harm anyone, we are just protesting [for our contracts] but these things[the surveillance] scare you. The people who have the power let you know they have it." The hospital is the reflection of the country […] all these protests are happening everywhere."*

*"Argentina's macro dynamics of corruption… you see them here in the micro level"*

Seeing public hospitals as a reflection of larger dynamics of the country was common among many participants. Some physicians even reflected critically about their own role in - inadvertently or not – reproducing societal discrimination and social inequalities:

*"In the ICU, you reproduce the mechanism of segregation of society, of segregation and discrimination. For example, intoxicated patients are mostly not treated well. These are things that we have naturalized a lot."*

*"Sometimes I see a lot of institutional violence, violence that comes from the street [outside] and that is perpetuated inside the hospital, but [as doctors] we have a professional obligation to break this cycle."*

Many of these self-reflective insights on professional and personal biases were also vividly described in the ICU diaries. In addition to recognizing structural and infrastructural constraints, some physicians displayed awareness that these structural conditions had also affected the way they viewed their own medical practices and institutions.

Psychological stress, compassion fatigue, and "defense mechanisms"

The high-levels of burnout, psychological stress, and "compassion fatigue" documented in research among intensivists seemed to be also experienced within the ICUs of this research. Some physicians commented on "defense mechanisms" that intensivists resort to in order to cope with the professional, personal, and administrative demands of critical care work. These demands, they remarked, at times affected their ability – or willingness – to display empathy:

> " *When a person is asked to keep going, it costs them a lot, it affects them a lot that the only way they can keep going is to put on an armor. So they become impenetrable, no empathy is possible. This is a complex issue, because you need time and you need better working conditions [to allow space for empathy] … It's a way of protecting yourself.*

This mode of self-protection especially emerged in direct contact with families. Explaining worse case scenarios to the family was perceived as especially stressful and burdensome, but both necessary and inevitable:

> *"Saying "your loved one can die" and preparing the family for the worst is a way of protection"*
>
> *"The system forces you to act this way […] and in the ICU, the situation [of patients] is more critical than any other part of the hospital. For me, [explaining the worst case scenarios to families] is part of my protection .*

Another common strategy of self-protection was humor, which often was dark and could be considered extremely inappropriate if taken out of context, as participants themselves admitted:

> *Sometimes you have a mix of different feelings, you make fun of your patients. […]*
>
> *Why does this dark humor come out? You are in the middle of resuscitation […] and you make a joke. If you take it out of context, you'd think we're all crazy, how did we get to this point! [but I do it so] I don't take it home to my wife and kids and transmit them all this bitterness. So that's why sometimes we take about how the game went, and make*

*dark jokes with an extremely critical patient next to you. How can we be next to someone who's about to die and just chat like we're having a coffee?*

*"It's a defense mechanism that I have so I don't take them home. But I take many of it home…Sometimes there is no other way to free yourself from the anxiety, sometimes you are angry, sometimes you laugh."*

As it emerges from these quotes, dark humor and a seeming "dehumanization" of patients was perceived as necessary as a form of emotional management to "not bring work home." A tendency towards "dehumanization" and naturalization of the conditions of the ICU emerged frequently as connected to the theme of "defense mechanisms:"

*Sometimes we look at the numbers [of monitors] and we don't see the patient. Sometimes we don't realize that these values correspond to a person"*

*We have the ability to naturalize everything. It comes to a point where there are things you do not even notice anymore, little things. Someone comes in during visiting hours and you realize that the patient has not been covered. I would not like that, if I were a patient and people coming and going in the ward, without being able to cover my breasts. But you stop noticing these things.*

However, in other moments, mostly all physicians admitted to being psychologically affected by cases of patients, whether because of the profile of the particular patient or because they reminding them of a loved one. In these cases, trying to maintain composure was especially hard:

*"The worst is when you have a patient that had something unexpected happen […] One of the last cases that happened was a young woman, a mother of 22 years old […] she came in the ward conscious and we had to tell her that we were going to sedate her and intubate her to put her on a ventilator. I knew it was her last breath and I had to tell the mother that she was going to die. You just have a knot in your throat and sometimes you just want to cry and hug the family […] I never do it, I try to be as composed as possible. Actually, the more critical the situation, the colder, stronger I act"*

*"It's hard to talk about these things. […] In front of critical situation, I try to be cold because you take it home and then your family asks about it and then you end up talking about the patient and then you cry. [so that's why] I never cry in front of the family, sometimes I go back in the ward and do… It's happened to everyone."*

As emerges from the variety of quotes, a wide variety of emotions and forms of distress accompany the career of an intensivist. While some of these are part and parcel of the job, other forms of psychological reactions are intensified by the structural conditions that physicians work in, which are always context-dependent and specific.

Gender Balance/Gender Issues

In line with the literature, several of the participants in this research were women, from residents to attendings. Many of them had families and children of young age and juggled their personal and professional requirements. One intensivist reflected on the role of gender in her work environment and in the specialty of intensive care more generally:

> "*I see the bias, I see who is most recognized in our field and see how hard it is for a woman to get the same professional acknowledgment or the same amount of publications… I remember that the first time we spoke, you asked me if I perceived a gender issue in the specialty and I said, no, I notice more of a class difference than a gender thing… I thought that with many resources you can accomplish anything. And it's true, in part, but for a woman to get to the same level, it's really hard […] like anything in society, these differences are intensified and reflected in the hospital (gender, class, etc).*

Motivation for work in the public hospital

Finally, several questions revolved around the motivation and commitment towards the public hospital and public healthcare. While some physicians solely worked in one hospital, many alternated their days between different hospitals, bothprivate and public. Even with the difficulties experienced in state funded care, mostly all intensivists expressed deep commitment to working and caring for patients in public institutions:

> *I want to keep working here, we chose to work here [in the public hospital] in all its ups and downs*.

*The majority of people who work in the public hospital, it's because they want to be here […] It's clearly not a financial choice, anyone working here in this ICU would find a job in a private hospital in no time earning much more than here. So if we keep working here, if we stay, it's because we are staying for something than is not money*

*In the public hospital, you have respect, it's a more respected figure and patients are more grateful. In the private hospitals, you are just an employee.*

These observations highlight the difference between private and public hospitals when it comes to dedication and motivation of being an intensivist. Again, the importance of context re-emerges as a determining factor in how critical care workers perceive and carry out their own work.

**Discussion**

Intensive Care is an especially demanding specialty. As reviewed through the literature and the presentation of qualitative data from Argentina, intensivists experience various stressors due to their professional engagements in the ward. What is particular to the context of public hospitals in Argentina, as well as other "resource-scarce" settings, is the need to provide critical care while "dosing" or managing scarce resources, the bureaucratic pressures of hospital administration and the tightening of healthcare budgets, the complex relations with family members, and the ethical decision making processes that are intensified by the constraints of their working environment.

By participating closely in Intensive Care life and spending hours with physicians, I have been able to understand with more nuance how "stressors" and challenges actually manifest themselves in the daily life of intensivists. To this end, Interviews are not only important to listen the perspective of physicians, but also to allow time for professionals to reflect on aspects of their work, aspects which they often notice but have naturalized over time. This process of

"denaturalizing" is of the reasons how qualitative methods and in-depth interviewing can capture complexities that sole quantitative methods or short surveys cannot.

Another important result emerging from this research is also how the labels of "burnout" or "compassion fatigue" often cannot encompass the mix of personal, social, and structural stressors that intensivists face, and especially for those who are working in the Global South. Future studies focusing on critical care should highlight how ICU work varies across context how it is this very context that informs not only the care that patients receive, but also how professionals perceive their own working practices.

**By Way of Conclusion: A Note on ICUs in the Current COVID-19 Pandemic**

The work of intensivists has recently been under media scrutiny as we all navigate a pandemic of global proportions. Due to its serious respiratory symptomatology and resulting complications, the coronavirus put ICU staff under particular stress worldwide, exposing structural differences and similarities across nations. The United States has found itself unprepared and struggling with lack of resources, despite being a "resource-rich" context with high investment in healthcare. Especially in times of crisis, where resource dosing and questions of fair allocation come to the fore, a more nuanced cross-cultural, transnational look at the practices and life of intensive care units challenges the clear-cut distinctions between "low" and "high resource" contexts (102).

Several articles warn against the danger of "burn out" among health care workers in Intensive Care Units in the COVID pandemic. All medical staff are facing trying conditions that are and will affect their mental health well beyond the outbreak (115–118). However, as one recent article in STAT observes, what healthcare workers are experiencing is more than burnout:

it is “moral injury,” akin to moral distress: the difficulty of making decisions that are ethically acceptable and that are supported, and possible, by institutions and medical systems (119). This distress is not inherent to the profession, but is instead very much contextually dependent.

Finally, those working in Intensive Care Units and in the medical profession at the forefront of the COVID pandemic have been praised as heroes by the press, politicians, and the public. However, in the United States as in other countries, many healthcare workers have strongly refused this characterization (120–122) and rightly so. Calling medical professionals “heroes” normalizes their work as a sacrificial and renders acceptable labor conditions, despite the lack of PPE, lack of coordination of a national response, and failures of testing, at least in the U.S. (123). As one of my participants from Argentina said, “There are no heroes. Heroes don’t exist. It’s a wrong idea of medicine.” I believe this is an important reminder as we recognize medical professionals not as heroes, but as highly-skilled professionals with complex emotions, internal conflicts, and clinical, ethical, political, and personal commitments.

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