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Adolescent Self-Consent for COVID-19 Vaccination: Views of Healthcare Workers and Their Adolescent Children on Vaccination Autonomy

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A B S T R A C T

Purpose: This study explored the perceptions of healthcare worker parents (physicians, nurses, and staff) and their adolescents (aged 12–17 years) on adolescent self-consent to COVID-19 vaccination by applying the concept of positive deviance of those already vaccinated against COVID-19.
Methods: We used a qualitative descriptive design to conduct individual, semi-structured interviews with COVID-19–vaccinated healthcare workers in Southern California and their vaccinated adolescent children. Separate interviews were conducted with parents and adolescents from November to December 2021 using digital phone conferencing software. All interviews were recorded and transcribed. Thematic and constant comparative analysis techniques were used to identify relevant themes and subthemes.
Results: Twenty one healthcare workers (9 nurses, one nurse practitioner, one technologist, and 10 physicians) and their adolescents (N = 17) participated. Three overarching themes were identified to describe participants' perspectives about adolescent self-consent for COVID-19 vaccination: (1) Family values and practices around adolescent vaccination; (2) Differences in parent and adolescent support for vaccine self-consent laws; and (3) Parent and adolescent uncertainty on readiness for vaccine self-consent laws. Adolescents largely supported self-consent while parents supported the policy if they would be able to have a discussion with their adolescent prior to the decision.

IMPLICATIONS AND CONTRIBUTION

This study describes the perspectives of vaccinated, healthcare worker parents and their adolescents on self-consent for adolescent COVID-19 vaccination. Both supported self-consent with adolescent-parent discussion. Familial discussion could build adolescents' autonomy to make decisions for adolescent health and potentially sway parent decisions on population health measures.

Conflicts of interest: The authors have no conflicts of interest to declare.

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Discussion: Parents and adolescents supported adolescent self-consent for COVID-19 vaccination, with the reservation that adolescents should discuss the decision alongside their parents to exercise their medical autonomy with supportive guidance. Greater adolescent involvement in making decisions and providing self-consent for healthcare, including vaccines, could prepare adolescents to have a greater sense of autonomy over their health and contribute to population health measures.

Adolescents have been burdened by family, community, and school changes due to the Coronavirus disease 2019 (COVID-19) pandemic, although their case fatality rate has remained low [1]. An estimated 93% of households with children transitioned to distance learning [2] and 14% of parents reported increases in mental and behavioral health episodes among their children [3]. Due to COVID-19–caused guardian illness, death, or unemployment, many adolescents have assumed financial and caregiver roles within their families [4–6]. A critical strategy to decrease COVID-19 spread and aid in the return to a prepandemic routine for adolescents is through vaccination against COVID-19. However, with a few exceptions as per state or local jurisdiction, parents must give consent for their child to receive a COVID-19 vaccination [7]. This requirement leaves adolescents unable to make the vaccination decision that could affect their wellbeing and can be a barrier in cases where an adolescent desires COVID-19 vaccination but the parent declines to consent [7,8]. Despite growing interest in adolescent self-consent for COVID-19 vaccination at a policy level, there is little scientific evidence on whether adolescents and parents would take part in adolescent self-consent for vaccination, if instituted.

Adolescent self-consent for vaccination allows for an adolescent to consent to the receipt of a vaccine without their parent or legal guardian's consent [9,10]. For COVID-19 vaccination, the age of consent is a patchwork of policy dependent on the location and types of medical services offered to adolescents independently. For example, since 2014, South Carolina has allowed adolescents aged 16 years and more to make their own healthcare decisions broadly; this provision now includes COVID-19 vaccination [11]. Five states (Alabama, Iowa, North Carolina, Oregon, and Tennessee) currently allow adolescents starting at some age between 12 and 15 years to consent for their own COVID-19 vaccination [12]. Locally, San Francisco [13] and Philadelphia [14] also allow adolescents to receive vaccinations within their cities without a guardian present. This varied approach to adolescent medical autonomy has already been seen in how some states allow healthcare visits related to "sensitive services," including sexually transmitted infections, substance use, and mental health, to remain confidential from parents [15]. Within these services, vaccination against the human papillomavirus (HPV) is allowed via self-consent in four states in the United States [16]. Torres et al [17] recently found an association between states that had self-consent laws for adolescents and higher rates of HPV vaccine initiation, suggesting a positive correlation between self-consent laws and vaccination rates.

COVID-19 vaccination rates among adolescents stalled one-year after teen vaccination was authorized in May 2020 [18], and adolescent self-consent laws have the potential to help increase vaccination rates. However, parents' and adolescents' sentiments on whether the ability to self-consent for a COVID-19 vaccination should be given to adolescents are unknown. There are a small number of case studies or ethical commentaries that address adolescent vaccine self-consent and analyze who should be the decision-maker for adolescent vaccination against COVID-19. These articles focus on the ethical issues surrounding adolescent autonomy, maturity, and the potential gains for public health [7,16,19]. However, empirical evidence on the topic of adolescent vaccine self-consent is lacking, especially the perspectives of adolescents themselves. There is a gap in understanding how current decision-makers—parents—and their adolescent children view the potential of adolescent COVID-19 vaccine self-consent laws.

To address this gap in knowledge, this qualitative study aimed to explore the perceptions of healthcare worker parents and their vaccinated adolescents toward adolescent self-consent laws for the COVID-19 vaccine using positive deviance as a sensitizing concept [20]. We selected healthcare worker families who were vaccinated against COVID-19 for this study because they are more likely to support pediatric vaccination than the general population, are likely to have greater awareness of current adolescent self-consent policies around health, and are powerful policy partners who could play an important role in advocacy for new adolescent self-consent laws for healthcare decisions. Healthcare workers have repeatedly been reported to have a higher willingness to be vaccinated against COVID-19 than other groups [21,22], making their vaccination preference more deviated than average. Positive deviance will be applied as a sensitizing concept, which will build an understanding of the overall topics parents and adolescents have before comparing to those who have opposing viewpoints on vaccination. Under a positive deviance framework in healthcare research [23], it is important to investigate not only those who are exceptionally affected by problems and risk but also those who are exceptional in positive health behaviors or outcomes to understand drivers of "positive" deviance; in this study, the deviance is toward COVID-19 vaccination. This would oblige the study to initially understand this population's perspectives on adolescent self-consent from a viewpoint that regards COVID-19 vaccines as acceptable or favorable for adolescents. We seek to understand how parents and adolescents view self-consent from this amenable viewpoint as an important initial study on this topic.

Methods

Design

This was a qualitative descriptive study informed by a phenomenological approach to qualitative inquiry. We gathered qualitative data via individual, semi-structured interviews with healthcare workers and their adolescent children. The study was

approved by the Institutional Review Board at Kaiser Permanente Southern California. All participants gave informed consent to participate in the research. Parents provided informed permission for their adolescents to assent to participation.

Sample and setting

The sample was composed of healthcare workers practicing at an integrated health system in Southern California and their adolescent children (aged 12–17 years). Physicians and nurses were purposely recruited for interviews through a survey about COVID-19 vaccination in healthcare worker families [24]. Survey respondents had the option to designate interest in a follow-up qualitative interview if respondents met eligibility criteria by indicating in the survey that (1) they were themselves vaccinated and (2) they had an adolescent child who was vaccinated. We considered those who had received at least one dose of a COVID-19 vaccine as vaccinated. A total of 78 healthcare workers indicated interest in an interview and 77 met the study eligibility criteria. These individuals were contacted by e-mail or phone to schedule parent and adolescent interviews. Fifty six parents did not respond to outreach attempts or declined interviews upon contact. We attempted to interview parent-adolescent pairs whenever possible, but some parents did not consent for their child to be interviewed or notified the study team that their child was unavailable for an interview. From November to December 2021, a total of 38 interviews were completed (21 parents and 17 adolescents). Adolescent participants were offered a $30 gift card and parent participants received gifts (valued up to $50) as an incentive for study participation.

Procedures

Two members of the investigative team (M.M. and K.C.) received training from a qualitative research expert (C.M.) on conducting semi-structured interviews with children. Both interviewers were female and had prior experience with qualitative research, including conducting interviews with minors. All interviews were individual and confidential. Parents and adolescents were scheduled for separate interviews and asked questions individually, not as a dyad. The interviews lasted approximately 20–30 minutes and took place on Microsoft Teams, a secure phone/video conference platform. We used voice recording only and not video to protect participant privacy. To start the interviews, we first asked, “What are the biggest ways the COVID-19 pandemic has affected your life in the past year, good or bad?” Participants were then asked questions about COVID-19 and their family, COVID-19 vaccination experiences, perceptions of COVID-19 vaccine self-consent laws, and reasons for supporting or not supporting such laws. All semi-structured interview questions were open-ended with suggested probes to elicit follow-up information from study participants. At the end of the interview, participants were given a final open-ended opportunity to voice any opinions, perspectives, or experience related to COVID-19 that had not been specifically addressed in interview questions. Interviews were determined to be complete when participants indicated that they did not have any further information to share on this topic signaling the amount of data collected from this participant were sufficient [25,26]. All interviews were recorded and transcribed.

Data analysis

Thematic analysis was used to organize interview text into themes and subthemes. We first reviewed interview transcripts and coded the data inductively, using gerund coding as a first step to center the action of participants [27]. Gerund coding is a type of qualitative data coding that uses gerunds (–ing verbs) to start each code so that researchers prioritize the actions and agency of study participants in ascribing meaning to their words [28]. Transcripts of parents and adolescents were coded separately. Following initial gerund coding, codes were then organized into themes of similar findings that were named such that they remained reflective of the action of participants. We used an iterative, inductive process to group similar codes into themes with a constant comparative process [29]. We compared codes against one another to group similar codes into themes, comparing each new code against existing categories to determine the best fit and refining or adding categories as needed.

The initial coding was performed by one author with a Ph.D. and training in qualitative research methods (K.C.); it was then reviewed and validated with the rest of the authorship team in two coding meetings. Authors reviewed codes, themes, and subthemes followed by discussion on whether theme names were appropriately reflective of the data, if any themes or subthemes were missed, and if any codes were miscategorized. Based on the team code review and validation, codes were added, modified, or reclassified until all authors agreed that codes and themes adequately represented the data and thematic saturation was achieved. In total, there were 131 initial gerund codes for parents and 78 initial gerund codes for adolescents, which were reflective of 26 parent subthemes and 23 adolescent subthemes. Overall, there were three themes with five subthemes related to adolescent vaccine self-consent to be reported.

Results

Sample

Table 1 outlines the makeup of the healthcare worker parents and their adolescents enrolled in this study. Of all 21 parent interviews, one was with a father and 20 were with mothers. Ten were physicians, nine were nurses, one was a nurse practitioner, and one was a radiologic technologist. The adolescents included 10 boys and seven girls. There were three themes and five subthemes that represented the contents of interviews: family

Table 1
Parent and adolescent participant characteristics

Parent characteristics	N = 21 (100%)
Healthcare Provider Type	
Physician	10 (47.6%)
Nurse	9 (42.9%)
NP[a]	1 (4.8%)
Radiologic Technologist	1 (4.8%)
Gender	
Male	1 (4.8%)
Female	20 (95.2%)
Adolescent Characteristics	N = 17 (100%)
Gender	
Male	10 (58.8%)
Female	7 (41.2%)

[a] Nurse Practitioner.

values and practices around adolescent vaccination; differences in parent and adolescent support for vaccine self-consent laws; and parent and adolescent uncertainty on readiness for vaccine self-consent laws (Table 2).

Family values and practices around adolescent vaccination

Parent-driven approach to vaccination decisions with limited adolescent engagement. When considering family practices around vaccination, many healthcare providers viewed vaccine decisions as their own and had limited discussion with their adolescents about the decision. One nurse said, "It was a nonissue; it was a nonquestion. When they approved Pfizer for 16 and more that included our son, I do not even know if there was much conversation around it as much as my son was just like, 'OK'." A physician said, "I just told them 'You have to get the vaccine.' So that was not a point of discussion," as did another nurse (Table 2) with similar sentiments. Parents rationalized this decision-making by talking about the seriousness of COVID-19 and their adolescents' explicit or implicit agreement. One physician noted that her daughter, "…did not put up much of a resistance," while another said of her teenage children, "They are generally not very argumentative. Whatever I say, they tend to listen." A physician father explained of his children, "Both are apprehensive for needles. If we did not initiate, they would not be pushing for it." A physician rationalized her decision to vaccinate her teen by saying, "Especially in that age group, they are just very social. They think they are invincible. I was not sure how careful the kids would be, so I just wanted to get them protected." Adolescents, too, primarily saw the decision as driven by their parents even if they wanted the vaccines for themselves. One teen male with a physician parent said, "They were gonna make me do it anyway, but I agreed that I should get it." A teen female with a physician mother said, "We all have the same idea about the vaccine and COVID. I think they made the decision for me but I was totally on board with that decision."

Table 2
Themes and subthemes on adolescent self-consent for COVID-19 vaccination among parents and adolescents

Theme: Family values and practices around adolescent vaccination	
Subtheme	Relevant Quote
Parent-driven approach to vaccination decisions with limited adolescent engagement	"I'm the adult so I'm the one that said, 'You're gonna get this' and she agreed with it" (Nurse Parent)
Encouraging adolescent medical autonomy around health decisions including vaccines	"I always stress it's important for you to know what you're doing and why you're doing it… Like I can't force you in normal life because I don't want to be forced to do something that I don't want either" (Nurse Parent)
Psychosocial environment and peer group influences on vaccination values	"Whenever any of my friends are meeting up anytime the first question is always is everyone going to be vaccinated?" (Teen of Physician)
Theme: Differences in parent and adolescent support for vaccine self-consent laws	
Subtheme	Relevant Quote
Adolescent support for vaccine self-consent	"They should be allowed to make decisions on their own and their parents can't be controlling their lives completely forever. And also the vaccine is meant to help people" (Teen of Physician)
Parent support for vaccine self-consent	"The kids have to have agency. They have to have that ability to decide what happens with their bodies" (Nurse Parent)
Theme: Parent and adolescent uncertainty on readiness for vaccine self-consent laws	
Subtheme	Relevant Quote
-	"[I have] mixed feelings, because there are still young and they might be misinformed" (Nurse Parent)
-	"Some teens that I know are irresponsible and I feel like the parents know best" (Teen of Physician)

Encouraging adolescent medical autonomy around health decisions including vaccines. A small number of nurses described wanting their adolescents to make their own health decisions, including decisions about COVID-19 vaccines. This view was not expressed by any physicians. A nurse said of the COVID-19 vaccine, "I let my kids decide what they wanted to do, because they are near adulthood. That was up to them. That was not something I mandated on them. I do not believe in forcing anybody to do something that is not how they wish. I believe in medical autonomy for sure, because that is the ethics that we run by." Likewise, a nurse said of her teenage son, "He made the decision to get it. He did some research on his own and we talked about all the stupid conspiracy theories like it changes your DNA and… you might grow a third horn or whatever, or turn purple." The teen of one of these parents experienced this level of autonomy as somewhat disconcerting, reflecting, "I had to go by myself because my mom was like 'Oh no, you have to go by yourself.' It was a little stressful because I did not know what to do with my first time going to the hospital by myself."

Psychosocial environment and peer group influences on vaccination values. Both parents and adolescents described how their broader psychosocial or school environment influenced their perceptions of COVID-19 vaccines. As a nurse considered COVID-19 vaccination for her teen, she said, "I was kind of waiting and seeing what our community was doing and how our community was responding to it before I decided to do it with my kids." Later, she said, "I think really what happened was all her friends started getting the vaccine. So she was just kind of like 'When do I get mine?' They were all getting it so again I kind of felt pressure like, well, we are just doing this." A teen male with a physician parent had an experience where "All my friends were talking about the vaccine because they all were wondering if they should get it." One teen remembered discussing the vaccine in school, recalling, "I first heard about it in my science class last year. We were just kind of talking about how we all wanted to go back to in person school and then the teacher said that the vaccine was soon going to be available for adults and eventually teens and preteens my age." Parents also expressed frustration with unvaccinated individuals in their psychosocial environment or jobs. A nurse said, "I think of all those people who are being dumb…gosh, like a scarlet letter…over this, this decision whether or not they want the vaccine or not." One physician wondered, "We have had several coworkers who have quit because they did not want to

get the vaccine. They are great workers so I just do not understand why." Likewise, a teen male whose mother was a physician said, "It is annoying that there are still some people out there who do not believe in the vaccine or believe in masks."

Overall, family values were influenced by the environment of the adolescent or the parent and their decision-making practices depended on their desire for discussion or observation, respectively.

Differences in parent and adolescent support for vaccine self-consent laws

Many parents and adolescents supported the idea of adolescent vaccine self-consent laws. Adolescents reflected on friends who wanted the vaccine but whose parents would not consent, while parents compared vaccine self-consent to existing forms of medical autonomy.

Adolescent support for vaccine self-consent. Adolescents who supported the idea of vaccine self-consent laws often thought of their unvaccinated friends whose parents would not consent for a vaccine and who could benefit from such laws. A teen male whose mother was a nurse said, "I think absolutely, I know a few of my friends who really want to get vaccinated, but their parents are like totally antivax or like do not believe in science." Likewise, a teen female with a nurse parent said, "I wish that we could have this because one of my closest friends, her mom would not let her get it. But she wants it. Also, next year, if she still does not have the vaccine, she is gonna have to move schools. That really sucks. Just because her mom would not let her get the vaccine." Another daughter of a nurse said, "Parents are antivax from what I have seen. It is generally like parents and like older people who tend to be more antivax or more skeptical about those things. So because of that some people may not otherwise be able to get it."

Parent support for vaccine self-consent. Parents also supported adolescent vaccine self-consent and justified their position with existing medical autonomy laws or scientific evidence. Nurses were more supportive of these laws than physicians but both provider types agreed with adolescent self-consent to some extent. A female physician said, "I think given in our state that after age 12 years they have the ability to come to me as a pediatrician about any of their mental health concerns, their reproductive health concerns, or their substance abuse concerns, I do not see where that is any different than saying they could have vaccination concerns." Similarly, a nurse said, "I fully support them. Once you are a teenager, I know like their brains are not fully like mature, but they are deciding a lot about what goes into their body, whether they are at a high school party drinking or…smoking or doing edibles or whatever. Like these kids are already experimenting and putting things in their body." Another physician agreed with adolescent self-consent, "…if it is a Centers for Disease Control and Prevention, Food and Drug Administration, and American Academy of Pediatrics supported vaccination." Several nurses also stated, "…they should be able to make their own decision"; "…it is about what they want for their body"; and "…they should have the right".

Some parents agreed with adolescent self-consent but only for older teens. One physician father said, "I am in favor of them [adolescent self-consent for vaccines], but I do not know that I am in favor of them for a 12-year-old." A nurse also worried about self-consent for younger adolescents, stating, "13 year-olds have no idea. They do not even know like how they feel on a daily basis, right? Most of them have not even got their periods. That is too young. But I say like 16. I think that is a good age for them to be able to make better decisions." A second nurse said, "I think that around 16, 17 when they are old enough to understand what they want for their bodies."

Comparable to adolescents seeking discussion on COVID-19 vaccination with their peers, adolescents first thought of the effect self-consent could have on peer relationships. Parents drew on more varied influences when imagining outcomes from adolescent COVID-19 vaccination self-consent. Although generally, these outcomes focused on the harm it could bring and how to mitigate its effects by increasing the self-consent age or allowing parental over-ride of the adolescent decision.

Parent and adolescent uncertainty on readiness for vaccine self-consent laws

Several physician parents felt strongly that parents have a clear-cut "right" to make health decisions for minors aged less than 18 years. One nurse worried about the missed opportunity to engage with parents, stating, "I do not think they are not capable of making these kinds of decisions. I think it would always be ideal to have the parents on board, and I think there would need to be a discussion between the physician and the parents and the child as to why they are not getting the vaccine for the kid…to see what the underlying issue is." A physician also agreed with, "…codecision-making with parents for teenagers when it comes to their health." Several parents worried that adolescents lacked the maturity and knowledge to make decisions about vaccines. In the words of one nurse, "Not everyone is a great 13-year-old. I do not support it." There was also a nurse who worried more about provider preparedness for such laws than adolescents. She stated,

> "I do not worry about their [adolescents] thought process. I worry about the providers thought process because I do not know if providers are necessarily taking the time to explain like the HPV shot, right? Like providers need to take that time to develop that relationship with that teen and say, 'It is highly recommended and this is what it is, and this is what it is about, and this is how it protects you.' I think as long as we are diligent and really educating them, not just like 'This is good for you.' Or 'Would you rather die or get this?'"

A small number of adolescents also disagreed with adolescent vaccine self-consent. One adolescent's comment on how irresponsible adolescents can be is in Table 2. Another female teen whose mother was a nurse said, "I believe that we should have rights but at the same time we do not do the research our parents do. I feel like it should be our parents' decision because they personally know more and they are wiser than us." One teen male with a physician mother said, "It might not be safe because we do not know everything."

Complete opposition to adolescent self-consent was not a common sentiment in this study. Parents or adolescents instead discussed ways parents could assist adolescents when making a medical decision by remaining part of the process, whether in their healthcare clinic or while doing their own research.

Discussion

In seeking to understand perspectives on adolescent self-consent laws for COVID-19 vaccination, this study gathered qualitative data from healthcare worker parents and their adolescent children. Findings suggested that parents and adolescents generally supported adolescent self-consent for COVID-19 vaccines but also had reservations on a healthcare decision being made without parent and adolescent discussion. Parents saw some potential risks to allowing adolescents to make vaccine decisions independently, such as insufficient knowledge about vaccines, lack of developmental maturity for younger adolescents, inaccurate perceptions of risk, and missed opportunity to understand why parents are not consenting for adolescent vaccines. Using a sensitizing concept toward positive deviance, we were able to gain an insight into prospective strategies parents can use to support their adolescents in making health-related decisions for themselves.

Several healthcare worker parents consented for adolescent vaccination and presumed adolescent agreement with their decision without actually having discussions with their adolescents. Parental presumed agreement between their own opinion and their adolescent's opinion for vaccination has been studied previously, finding that a majority of parents either believed their adolescent agreed with their own opinion or did not know their adolescents' opinion on COVID-19 vaccination likely due to a lack of discussion with the adolescent [30]. The tendency to presume adolescent agreement could have led to differences between the physician and nurse parent approach to considering, or not considering, teen medical autonomy in the adolescent COVID-19 vaccination decision. Parents who took control of decision-making were mostly physicians. Adolescents of these parents even expressed acute awareness that although they had an opinion on vaccination, their parents would decide regardless. On the contrary, a group of nurses did not presume adolescent agreement and emphasized that the adolescents' opinion drove the vaccination decision. This difference in family dynamic could be reflective of differences in professional physician and nursing roles and training. In practice, physician culture and education are centered on population-based concepts of medical science alongside a directive role in making recommendations for patient care, whereas nurses typically tailor care to individual patients and strongly advocate for patients to express their choices and desired health outcomes [31]. Parents who tended to take a directive role could be encouraged to involve adolescents in future healthcare decisions. This approach could allow parents to continue emphasizing the importance of the healthcare decision while emboldening their adolescents to consider what they want for their own health and bodies alongside parental guidance.

Psychosocial environment and peer context played a role in adolescent and parent perceptions of COVID-19 vaccines and adolescents' autonomous sense of wanting a vaccine irrespective of the preferences of their parents. Adolescents were influenced to form a positive vaccination preference when discussions about COVID-19 vaccines were initiated by their peers or teachers. Meanwhile, some parents were influenced to vaccinate their adolescent children after observing the vaccination actions of other parent associates. Overall, these results display that family member values and practices may differ. Adolescents appeared to respond well to open discussion on vaccination while parents seemed to rely on internal contemplation to assess their vaccination preference for their adolescent. These different approaches to vaccination decision-making between adolescents and parents underscore that adolescents do desire to be involved in healthcare discussions if parents prompt them to share their opinion.

Both adolescents and their healthcare worker parents recognized the benefits of adolescent self-consent laws. As was seen when inquiring on adolescent influences on their vaccination decision, adolescents focused on how their peer relationships would change based on self-consent laws. They expressed an overall desire to enhance those relationships, which were likely strained during COVID-19 restrictions, via self-consent. For adolescents, self-consent was viewed as an opportunity rather than a risk. Parents who considered adolescent self-consent focused on this risk. Physician and nurse parents alike drew upon their professional knowledge on health policy and medical autonomy to support self-consent, although with personal caveats. Parents cited that there are often distinctions between individual preteen and teenage readiness to make these decisions without oversight and would want parental privilege included in policy.

Ultimately, even when parents and adolescents agreed on self-consent, how they envisioned the policy affecting their lives differed. Adolescents who supported self-consent laws described the negative potential outcomes that could occur in the absence of the right to self-consent, whereas parents highlighted the negative potential outcomes if adolescents were given this right; Adolescents and parents either tended to focus on the benefits or risks, respectively, of COVID-19 vaccination self-consent. Yet together, parent and adolescent discussion could lead to a counterbalanced conversation that addresses most dimensions of concerns regarding vaccination and self-consent.

Still, a group of parents in our study questioned adolescent readiness to take part in, or make, healthcare decisions. Previous studies have argued that adolescents may already possess the capacity and competency to make their own decisions to better public health [10,32,33], yet simply have not been sought to do so. When directly asked, adolescents themselves expressed a willingness to participate in decision-making for vaccinations against infectious illnesses including COVID-19 [34–36]. The culmination of these studies could demonstrate that adolescents have accepted the responsibility of making these decisions and can be trusted to do so.

A benefit of adolescent participation also extends to their own health and wellbeing. Exercising medical autonomy can contribute to the emotional, social, and developmental health needs adolescents require to gain confidence in their strengths as an individual and develop the cognitive autonomy to adopt more adult responsibilities [37]. Moreover, all patients should be guaranteed medical autonomy by their healthcare provider and adolescents should not be excluded from this right. To support adolescent development and acknowledge their individualism, healthcare providers who care for adolescents can also consider initiating healthcare discussions with their patients individually and alongside their guardians [38].

Other studies that interviewed healthcare providers from a professional perspective similarly found that providers generally endorsed adolescent vaccine autonomy in cases where vaccines have been approved by a governing, scientific body (e.g., Food and Drug Administration, Centers for Disease Control and Prevention, American Academy of Pediatrics). The providers viewed vaccination as a low-risk medical decision that adolescents should be developmentally able to make [7,9]. An argument

against self-consent, and a minority study perspective, is that the authority of the parent may be compromised. However, self-consent is not meant to remove the parent from the decision process entirely. Rather, it is to add the adolescent to the discussion and empower them to make their own healthcare decisions with the support of their family and healthcare provider [32]. Parents can avoid feeling removed from the process by being the one to begin these discussions with their adolescent.

There are strengths and limitations to this study that should be considered in interpreting its findings. We conducted individual interviews with both healthcare worker parents and their adolescent children. Conducting individual rather than dyadic interviews allowed us to understand adolescent perspectives on vaccine self-consent. In addition, the qualitative study design and interviews allowed for context-rich, in-depth exploratory information to be collected as opposed to close-ended survey data. We sampled both physicians and nurses and had a varied adolescent sample in terms of gender and age. By sampling parents and adolescents who were each vaccinated, we were able to understand the nuanced positive drivers toward vaccination and the perspectives on adolescent vaccine self-consent laws by a group favorable to COVID-19 vaccines.

Limitations of the study were the over-representation of parents who were mothers, lack of data collected on individual adolescent age, the use of a single recruitment site, and selective interviewing of healthcare workers whose opinions may not be generalizable to all parents. However, study results may be transferable to other professions that require advanced levels of education and parents who have increased awareness or opinions on adolescent health, public health, and health policy. This study collected no data on family racial or ethnic demographics, making us unable to understand cultural or familial influences on parent-child dynamics and decision-making. We additionally limited this study to exclude the perspectives of parents and adolescents who had discordant opinions on COVID-19 vaccination or were in accordance to their opposition to vaccination. Similarly, we did not compare this positively deviated group to those who were negatively deviated against COVID-19 vaccination. Future studies could collect the narratives of those expected to deviate negatively to COVID-19 vaccination. A future assessment of their sentiments on adolescent self-consent could discern if the values our study found are exclusive to positive deviators or not. Finally, although we asked adolescents to participate in the interview in a private room, we could not be certain that their interviews were fully private or confidential from their parents due to the online nature of the interviews.

Conclusion

This study elicited perspectives on how healthcare worker families view adolescent medical autonomy for COVID-19 vaccination by having parents and adolescents recount the vaccination process, from contemplation to completion of vaccination, and how self-consent could or should not be part of that process. Greater adolescent involvement in making decisions and providing consent for health-related interventions, including vaccines, could prepare adolescents to have a greater sense of confidence and responsibility over their health. Moreover, adolescent vaccine self-consent laws may be one mechanism to support increased population levels of adolescent COVID-19 vaccination rates. Until self-consent is legalized, for families with unvaccinated adolescents, both parents and adolescents can benefit from exploring their adolescents' opinion on their own healthcare. Gaining their perspective could lead to discussions that change individual family decisions, give adolescents a greater sense of bodily autonomy, and potentially improve adolescent COVID-19 vaccination rates in the United States.

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