



Exploring Factors Influencing Oregon Dental Professionals' Engagement in HPV Vaccination

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Purpose

- In the United States, HPV contributes to 70–90% of newly diagnosed oropharyngeal cancers, with Oregon showing particularly high rates (Figure 1).
- HPV vaccination during adolescence is the most effective preventive strategy, yet it faces substantial parental hesitancy and refusal.
- Recognizing the critical role oral health care professionals can play in preventing oral and oropharyngeal cancer, this study aims to employ Theoretical Domains Framework (TDF) to identify barriers and facilitators influencing their engagement in HPV advocacy and administration.
- Understanding factors such as knowledge, skills, beliefs, motivation, and emotional and social influences will be instrumental in designing and assessing tailored intervention strategies for future implementation.

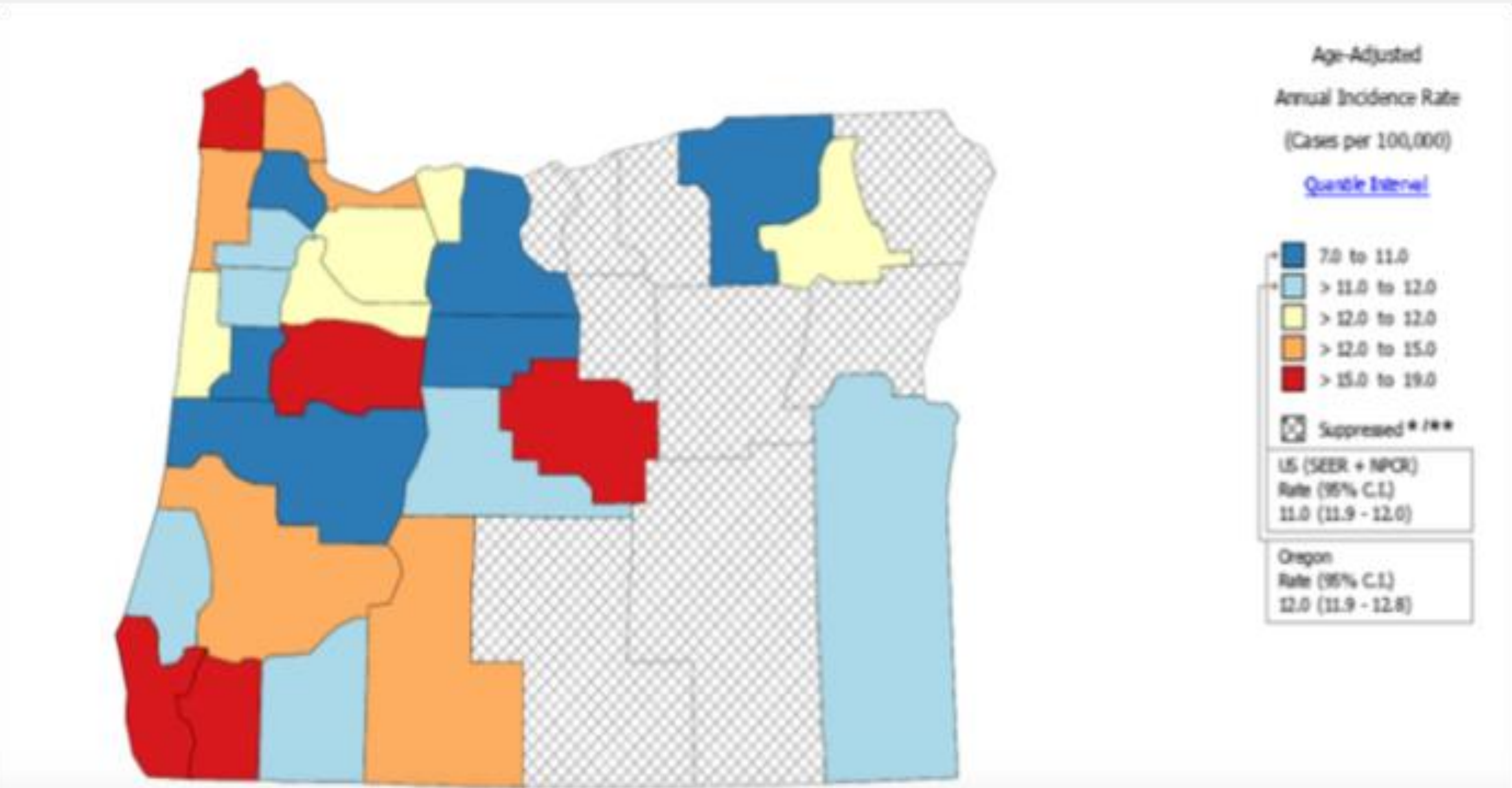


Figure 1. Oral and Oropharyngeal Cancer Incidence Rates in Oregon by County.

Methods

- This qualitative study includes one focus group consisting of 6 pediatric and orthodontic dental residents.
- Participants were recruited using purposeful sampling from OHSU School of Dentistry's Advanced Education Programs in Pediatric Dentistry and Orthodontics.
- Semi-structured questions based on TDF guided discussions were constructed.
- Socio-demographic data were collected to contextualize findings.
- Focus groups were audio-recorded, transcribed, and analyzed using NVivo software through directed qualitative content analysis.
- Key themes related to barriers and facilitators were identified with predefined codes based on TDF domains.
- Data not aligning with existing TDF domains will be categorized into new or subcategories of existing codes.

Acknowledgments

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Results

Table 1. Facilitators to engagement in HPV vaccine advocacy and administration		
Domain	Facilitator	Sample quote
Knowledge	Basic knowledge of HPV and HPV vaccine	"HPV...leading cause of oral cancer", "Strains 16 and 18 that are common for oral cancer", "We understand why we get them (vaccines) and the science behind it"
Role and identity	Role as part of preventive care team	"Part of the team with pediatrician and other care providers along with teachers, to help talk with parents", "Primary oral health care providers...our role is pretty vast....whether we decide to administer them or just educating families"
Environment context and resources	Supportive state legislation	"In Oregon, we are able to even administer vaccines"
Belief about capabilities	Belief in potential opportunities	"We provide a lot of anticipatory guidance, vaccination schedules", "Pediatric residency or orthodontic residency ... seeing those younger patients", "A lot of behavior guidance skills "
Belief about consequences	Belief in vaccine benefits	"Preventable if vaccinated on time", "How much money is being spent on HPV related cancers versus how much it could cost to fabricate/deliver vaccines"
Reinforcement	Incentives	"Insurance reimbursement", "Make HPV...required CE...like opioids or emergency"
Intentions	Intent to engage if prompted	"More motivated ... to talk about it if it comes up"
Behavioral regulation	Workflow integration	"Integrate HPV with an oral cancer screening", "Have pamphlets...in a packet for new patients"
Goals	Goal to optimize patient outcomes	"Our end goal is to help patients as much as we can"

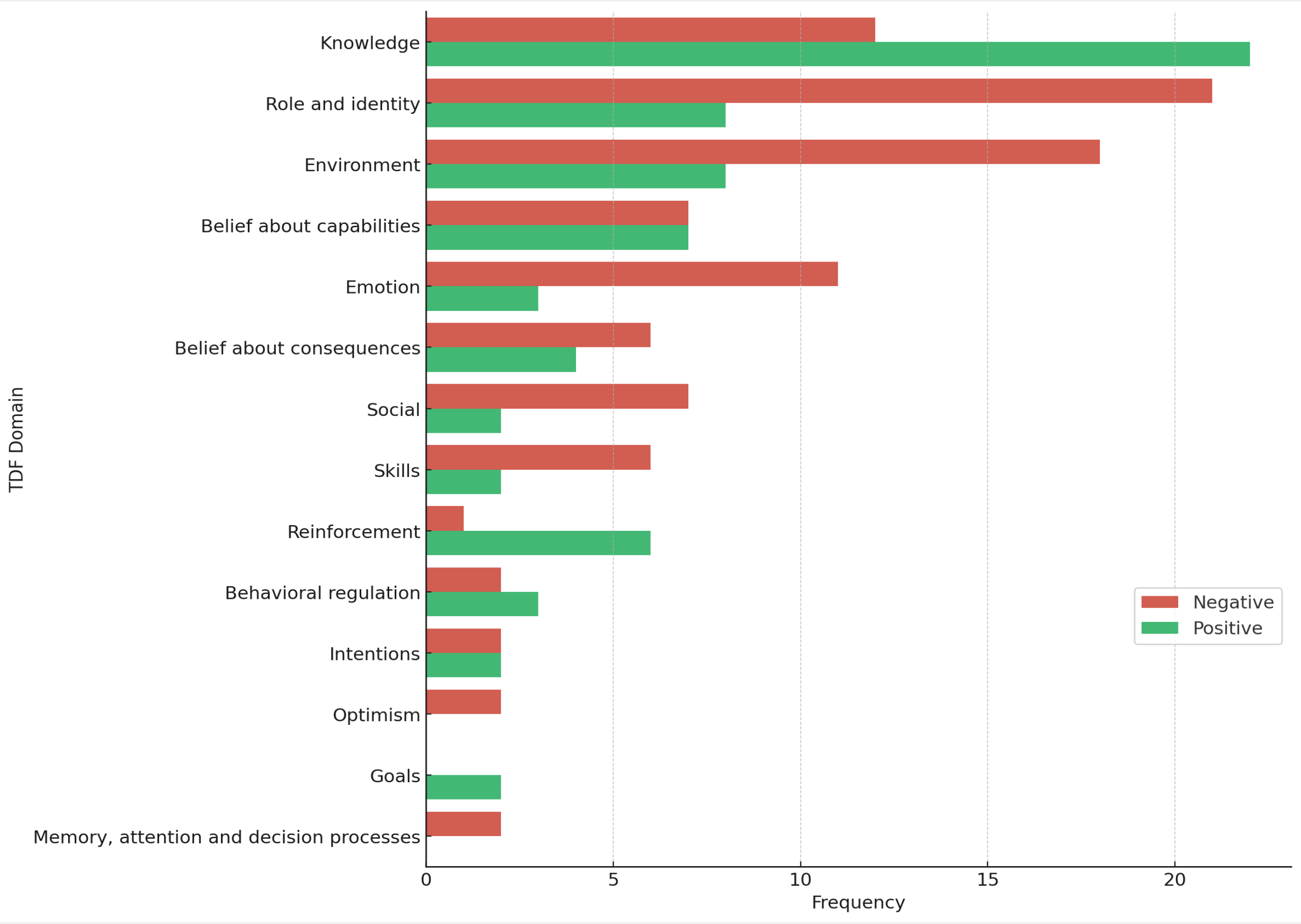


Figure 2. Frequency of coding into TDF domains

Table 2. Barriers to engagement in HPV vaccine advocacy and administration		
Domain	Barrier	Sample quote
Knowledge	Knowledge gaps among providers and parents	"In my dental (school) training, we did not have any kind of education regarding vaccine schedules or the dentist's role in administering vaccines", "Parents...lack of education regarding what effects this vaccine might have and might not"
Role and identity	Limited role in HPV vaccination	"I don't see myself eager to give a vaccine in my clinic, happy to recommend them to go to their primary care physician", "Until there's more integration between the medical system and the dental system, it could be challenging", "Already trying so hard to fight the most chronic childhood disease (dental caries)...trying to advocate for other things seems like a big challenge"
Environment context and resources	Lack of infrastructure	"Challenging conversation to have in an open bay", "All their vaccination record in the pediatrician's office", "Wonder how (vaccine administration) would work for malpractice insurance (for dentists)", "I don't know what entails the storage of HPV vaccine", "Remodeling of the office...suitable to administer vaccines...is really challenging"
Belief about capabilities	Belief in limited capabilities	"Not necessarily advocacy level, but more of an educational level", "Could not see myself having a whole conversation about it outside of just distributing the information"
Emotion	Negative emotions toward vaccine conversations	"A potentially awkward conversation", "A feeling of frustration...there's no way to have a successful conversation"
Social influences	Social stigma and skepticism	"Hesitancy about getting the vaccine because it's like a stigma associated with an STD", "Parents in Portland and how they are against fluoride, same with vaccinations"
Belief about consequences	Belief in negative consequences	"Our success depends on Google reviews...fear of losing business", "Malpractice lawsuits", "Afraid patients... already administering local anesthetic in the mouth...don't want another shot from us"
Skills	Lack of skills	"Did not have training...to have conversations", "Not taught about the actual application...in dental school", "Uncomfortable...managing side effects"
Intentions	Low intention to engage	"Community advocacy...not ready to hop on board"
Behavioral regulation	Breaking habit	"Doesn't really fit in with the workflow"
Optimism	Lack of optimism	"Hard to narrow down to optimism regarding HPV education or vaccine specifically"
Memory, attention, and decision processes	Limited bandwidth	"Dental providers are so busy"

Conclusion

The study identified a range of facilitators and barriers influencing dental providers' engagement in HPV vaccine advocacy and administration. Dental residents demonstrated foundational knowledge yet reported limited training and confidence in vaccine administration and related patient conversations. While they acknowledged their role in preventive care, many still viewed medical providers as primarily responsible for vaccine delivery. Additional barriers included logistical constraints within dental clinic settings and concerns about negative consequences. Despite legislation in Oregon allowing dentists to administer vaccines, residents expressed concern about the social stigma and hesitancy surrounding HPV vaccine notably in the region. Targeted interventions addressing multiple TDF domains—particularly knowledge, professional role, environmental context, and social influences—may strengthen dental providers' capacity to engage meaningfully in HPV vaccine advocacy and delivery.