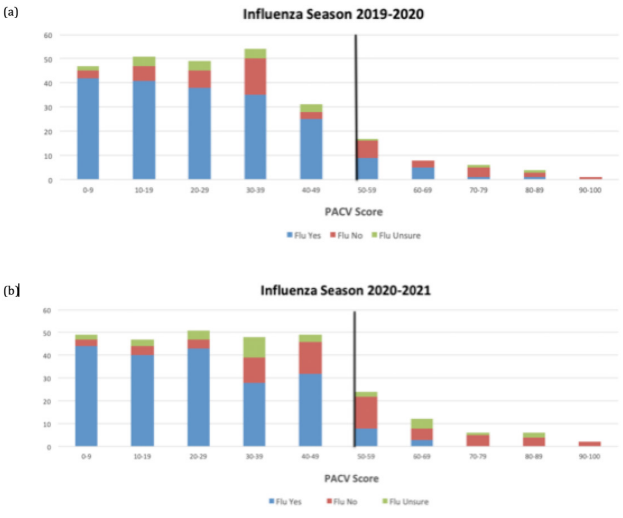
94% of children in 2019-2020 and 91% in 2020-2021 were up-to-date with routine childhood vaccines (p=0.13). Specific to influenza vaccine, 73% and 68% of children received or planned to receive influenza vaccine in 2019-2020 and 2020-2021, respectively (p=0.13). Based on PACV score, 13% of parents were VH in 2019-2020 compared with 17% in 2020-2021 (p=0.24; Figure 1).

Caregivers who had not/did not intend to vaccinate their children had a higher family income (71% vs. 57% >$30,000, p< 0.01) and were less likely to be Hispanic/Latino (35% vs. 47%, p=0.02). 77% of caregivers were satisfied with information about influenza vaccine received from healthcare providers. Overall, 36% believed "you can get the flu from the flu shot." In 2020-2021, caregivers were less likely to believe that "flu can be a dangerous infection in children," to be "scared of my child getting the flu" and to agree that "all children over 6 months of age should receive the flu shot every year" (Table 1).

Table 1. Caregiver knowledge and attitudes about seasonal influenza vaccine, 2019-20 versus 2020-21

Survey item	Parent response	2019-2020 Response (%) N=269	2020-2021 Response (%) N=295	p-value
The flu can be a dangerous infection in children	Strongly agree	144 (53.5)	93 (31.5)	**<0.001**
	Agree	82 (30.5)	116 (39.3)	
	I do not agree nor disagree	28 (10.4)	65 (22.0)	
	Disagree	10 (3.7)	9 (3.1)	
	Strongly disagree	5 (1.9)	12 (4.1)	
The flu is usually a mild illness in children	Strongly agree	8 (3.0)	15 (5.1)	**<0.001**
	Agree	50 (18.6)	81 (27.5)	
	I do not agree nor disagree	50 (18.6)	94 (31.9)	
	Disagree	116 (43.1)	81 (27.5)	
	Strongly disagree	45 (16.7)	24 (8.1)	
Children who are otherwise healthy can die from the flu	Strongly agree	72 (26.8)	47 (15.9)	**<0.001**
	Agree	109 (40.5)	92 (31.2)	
	I do not agree nor disagree	65 (24.2)	106 (35.9)	
	Disagree	17 (6.3)	42 (14.2)	
	Strongly disagree	6 (2.2)	8 (2.7)	
I am scared of my child getting the flu	Strongly agree	106 (39.4)	51 (17.3)	**<0.001**
	Agree	86 (32.0)	107 (36.3)	
	I do not agree nor disagree	38 (14.1)	71 (24.1)	
	Disagree	35 (13.0)	44 (14.9)	
	Strongly disagree	4 (1.5)	22 (7.5)	
I am scared of my child getting the flu shot	Strongly agree	14 (5.2)	16 (5.4)	0.726
	Agree	35 (13.0)	38 (12.9)	
	I do not agree nor disagree	43 (16.0)	60 (20.3)	
	Disagree	114 (42.4)	120 (40.7)	
	Strongly disagree	63 (23.4)	61 (20.7)	
The flu shot is safe	Strongly agree	50 (18.6)	56 (19.0)	0.746
	Agree	114 (42.4)	119 (40.3)	
	I do not agree nor disagree	78 (29)	94 (31.9)	
	Disagree	17 (6.3)	20 (6.8)	
	Strongly disagree	10 (3.7)	6 (2.0)	
You can get the flu from the flu shot	Strongly agree	31 (11.5)	28 (9.5)	0.785
	Agree	65 (24.2)	78 (26.4)	
	I do not agree nor disagree	87 (32.3)	100 (33.9)	
	Disagree	54 (20.1)	61 (20.7)	
	Strongly disagree	32 (11.9)	28 (9.5)	
The flu shot does not work	Strongly agree	13 (4.8)	10 (3.4)	0.936
	Agree	20 (7.4)	21 (7.1)	
	I do not agree nor disagree	98 (36.4)	112 (38.0)	
	Disagree	104 (38.7)	115 (39.0)	
	Strongly disagree	34 (12.6)	37 (12.5)	
The flu shot prevents the flu	Strongly agree	29 (10.8)	27 (9.2)	0.145
	Agree	102 (37.9)	101 (34.2)	
	I do not agree nor disagree	90 (33.5)	96 (32.5)	
	Disagree	33 (12.3)	59 (20.0)	
	Strongly disagree	15 (5.6)	12 (4.1)	
The flu shot prevents complications from the flu	Strongly agree	40 (14.9)	32 (10.8)	0.127
	Agree	115 (42.8)	113 (38.3)	
	I do not agree nor disagree	78 (29)	107 (36.3)	
	Disagree	26 (9.7)	37 (12.5)	
	Strongly disagree	10 (3.7)	6 (2.0)	
The flu shot prevents children from being hospitalized for the flu	Strongly agree	32 (11.9)	26 (8.8)	0.444
	Agree	79 (29.4)	99 (33.6)	
	I do not agree nor disagree	100 (37.2)	102 (34.6)	
	Disagree	43 (16.0)	56 (19.0)	
	Strongly disagree	15 (5.6)	12 (4.1)	
The flu shot prevents children from dying from the flu	Strongly agree	35 (13.0)	28 (9.5)	0.483
	Agree	77 (28.6)	95 (32.2)	
	I do not agree nor disagree	99 (36.8)	108 (36.6)	
	Disagree	41 (15.2)	51 (17.3)	
	Strongly disagree	17 (6.3)	13 (4.4)	
All children over 6 months of age should receive the flu shot every year	Strongly agree	65 (24.2)	42 (14.2)	**0.002**
	Agree	102 (37.9)	97 (32.9)	
	I do not agree nor disagree	70 (26.0)	95 (32.2)	
	Disagree	20 (7.4)	40 (13.6)	
	Strongly disagree	12 (4.5)	21 (7.1)	
My child will benefit from getting the flu shot this year	Strongly agree	63 (23.4)	58 (19.7)	0.182
	Agree	108 (40.2)	113 (38.3)	
	I do not agree nor disagree	65 (24.2)	78 (26.4)	
	Disagree	19 (7.1)	36 (12.2)	
	Strongly disagree	14 (5.2)	10 (3.4)	
I trust the information I receive from doctors about the flu shot	Strongly agree	64 (23.8)	72 (24.4)	0.948
	Agree	135 (50.2)	139 (47.1)	
	I do not agree nor disagree	48 (17.8)	58 (19.7)	
	Disagree	15 (5.6)	19 (6.4)	
	Strongly disagree	7 (2.6)	7 (2.4)	
I am able to openly discuss my concerns about the flu shot with my doctors	Strongly agree	86 (32.0)	84 (28.5)	0.901
	Agree	141 (52.4)	159 (53.9)	
	I do not agree nor disagree	29 (10.8)	36 (12.2)	
	Disagree	10 (3.7)	13 (4.4)	
	Strongly disagree	3 (1.1)	3 (1.0)	
Children should get the flu shot even when they have mild illnesses with low-grade fevers	Strongly agree	17 (6.3)	17 (5.8)	0.456
	Agree	54 (20.1)	52 (17.6)	
	I do not agree nor disagree	103 (38.3)	99 (33.6)	
	Disagree	70 (26.0)	91 (30.8)	
	Strongly disagree	25 (9.3)	36 (12.2)	
Children should get the flu shot in the hospital before they are discharged home	Strongly agree	30 (11.2)	24 (8.1)	**0.022**
	Agree	86 (32.0)	68 (23.1)	
	I do not agree nor disagree	100 (37.2)	115 (39.0)	
	Disagree	34 (12.6)	54 (18.3)	
	Strongly disagree	19 (7.1)	34 (11.5)	

Figure 1. Influenza vaccine uptake by PACV score during 2019-2020 (a) and 2020-2021 (b) seasons



Conclusion. During the COVID-19 pandemic, caregivers of hospitalized children were less concerned about influenza than pre-pandemic and misinformation about influenza and influenza vaccine persisted. Increased efforts may be needed to educate caregivers about the importance of influenza immunization during the 2021-22 season.

Disclosures. **C. Mary Healy, MD**, **Dexcom** (Shareholder)**Intuitive** (Shareholder)**Quidel Corporation** (Shareholder)**Up to Date** (Other Financial or Material Support, Honorarium)**Vapotherm** (Shareholder)

1176. Experience with PCV10 Implementation in Colombia and More Severe Course of Pneumococcal Pneumonia in children: A Multicenter Study, 2008 – 2019 (Neumocolombia Network)

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Neumocolombia network

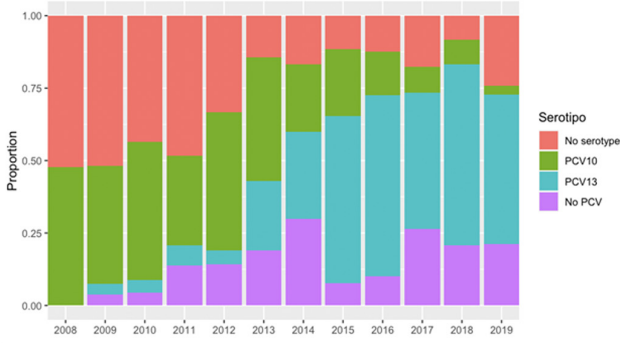
Session: P-69. Pediatric Vaccines

Background. Pneumococcal conjugate vaccines (PCV) have decreased pneumonia in children. Colombia introduced massive vaccination with PCV10 in 2012.

Methods. Pneumococcal pneumonia cases from 10 hospitals part of an active surveillance network for invasive pneumococcal disease were included. Two periods were compared, pre-PCV10: 2008-2012 and post-PCV10: 2014-2019. The objective was to compare characteristics and outcomes before and after PCV10.

Results. 370 cases were included. Serotype 1(15, 11.2%) and 14 (33, 24.6%) were the most frequent in Pre-PCV10, with only 4(3%) 19A and 1(0.7%) serotype 3. Post-PCV10, serotype 1 decreased to 6(3.1%), 14 to 15(7.8%), while 19A increased to 58(30.2%), serotype 3 to 32(16.7%) and 6A to 7(3.6%) (p = < 0.001), (Graph 1). Complicated pneumonia (CN) also increased (13.4% to 31,8%) (p< 0,001). Pre-PVC10, 44% of CN were due to PCV10 serotypes; with no PCV13 serotypes cases. Post-vaccine period, PCV10 explained only 8.2% and PCV13 60.6%(p < 0.001) of CN. Comparing PICU requirement among predominant serotypes on each period; 23.5% of serotypes 14 and 27.2% of serotypes 1 were admitted, while 59.4% of serotypes 3, 56.9 % of 19A and 42.8% of 6A required PICU. The median of hospitalization increased from 8(5.5-15) to 12 (7-22) days (p < 0.001), as well as the frequency of PICU, 32.8% to 51.6 %, (p = 0.001). Penicillin prescription was similar (17.2% -15.7%), with decrease in ampicillin use (28.4% - 3.6%) and increase ampicillin-sulbactam (0.7% to 24%), and ceftriaxone / clindamycin (0.7% to 5.7%) in post-PCV10. The duration of empirical antibiotic treatment was 7(4-11) and increased to 10(6-17) (p = < 0.001). Lethality showed a slight, non-significant increase between periods 7.5% vs. 9.9% (p = 0.57). (Table1)

Graph 1. Serotype distribution 2008 - 2019



Year 2012, PCV10 introduced 2 + 1 schedule.

Table 1. Outcomes in the Pre-PCV10 and Post-PCV10 Period

CHARACTERISTICS	PREVACCINE (N=134)	TRANSITION (N=44)	POSTVACCINE (N=192)	P VALUE
Length of hospital stay				
Median, (IQR)	8 (5.5-15)	10 (6-14)	12 (7-22)	<0,001 [3]
PICU admission, n (%)				0,001 [1]
Yes	44 (32.8)	12 (27.3)	99 (51,6)	
No	90 (67.2)	32 (72.7)	93 (48,4)	
PICU admission according to serotypes				< 0,001
PCV10				
PCV13	14 (31,8)	5 (41,7)	8 (8%)	
Non PCV	2 (4,6)	1 (8,3)	59 (59,6)	
Unknown serotype	3 (6,8)	1 (8,3)	16 (16,2)	
	25 (56,8)	5 (41,7)	16 (16,2)	
Complicated pneumonia accoding to serotypes				< 0,001
PCV10	8 (44,4)	3 (37,5)	5 (8,2)	
PCV13	0	1 (12,5)	37 (60,6)	
Non PCV	0	2 (25)	7 (11,5)	
Unknown serotype	10 (55,6)	2 (25)	12 (19,7)	
Total days in PICU				
Median, IQR	5 (2-16)	3.5 (2-8)	5 (1-11)	0,21 [3]
Empiric antibiotic, n (%)				
Penicillin	23 (17,2)	10 (22.7)	30 (15.7)	<0,001 [1]
Ampicillin	38 (28.4)	8 (18.2)	7 (3,6)	
Ampicillin-Sulbactam	1 (0.7)	2 (4,4)	46 (24)	
Ceftriaxone	30 (22,4)	11 (25)	48 (25)	
Cefepime	4 (3)	3 (6.8)	12 (6,2)	
Ceftriaxone and Clindamycin	1 (0.7)	2 (4.5)	11 (5,)	
Other	31 (23.1)	6 (13.6)	35 (18,2)	
NA	6 (4.5)	2 (4,5)	3 (1,6)	
Total antibiotics days				
Median (IQR)	7 (4-11)	5 (3-10)	10 (6-17)	<0,001 [3]
Lethality, n (%)				
Yes	10 (7.5)	2 (4,5)	19 (9,9%)	0,57 [1]
No	124 (92.5%)	42 (95,5%)	173 (90,1%)	

Conclusion. PCV10 significantly decreased vaccine serotypes, with increase in PCV13 serotypes. 19A, 3 and 6A the predominant serotypes had greater severity including PICU admission, CN and more resistance, with an increase in the use of broad-spectrum antibiotics and longer hospitalization. The current data support national and regional evidence on the importance of replacing PCV10 to a higher valence that include 19A, as PCV13, with the aim of reducing the circulation, particularly of this serotype.

Disclosures. **Ivan Felipe Gutiérrez Tobar, n/a, Pfizer and MSD** (Advisor or Review Panel member, Research Grant or Support, Speaker's Bureau, Has received support from Pfizer and MSD for participation in congresses and has received conference payments from Pfizer)**Pfizer and MSD** (Speaker's Bureau, Other Financial or Material Support, Has received support from Pfizer for participation in congresses) **Cristina Mariño Drews, n/a, Pfizer** (Other Financial or Material Support, Has received support from Pfizer for participation in congresses) **Sandra Beltran, n/a, Pfizer** (Other Financial or Material Support, Has received support from Pfizer for participation in congresses) **Aura Lucia Leal Castro, MD, Pfizer and MSD** (Research Grant or Support, Speaker's Bureau, Other Financial or Material Support, Has received support from Pfizer for participation in congresses) **Aura Lucia Leal Castro, n/a, Pfizer and MSD** (Research Grant or Support, Speaker's Bureau, Other Financial or Material Support, Has received support from Pfizer for participation in congresses) **Jaime alberto Patiño-Niño, n/a, Pfizer** (Research Grant or Support, Speaker's Bureau, Other Financial or Material Support, Has received support from Pfizer for participation in congresses) **Martha Isabel Alvarez-Olmos, n/a, Pfizer** (Other Financial or Material Support, Has received support from Pfizer for participation in congresses) **Rocio Barrero Barreto, n/a, Pfizer and MSD** (Other Financial or Material Support, Has received support from Pfizer and MSD for participation in congresses and has received conference payments from Pfizer) **Fabio Espinosa, n/a, MSD** (Research Grant or Support, Other Financial or Material Support, Has received support from MSD for other research.) **Nicolas Ramos, n/a, Pfizer** (Other Financial or Material Support, Has received support from Pfizer for participation in congresses) **Vivian Marcela Moreno Mejia, n/a, Pfizer** (Research Grant or Support)

1177. Vaccinate Lurie (VaLu) a QI Project to Improve Pediatric Pre-Transplant Immunization Rates

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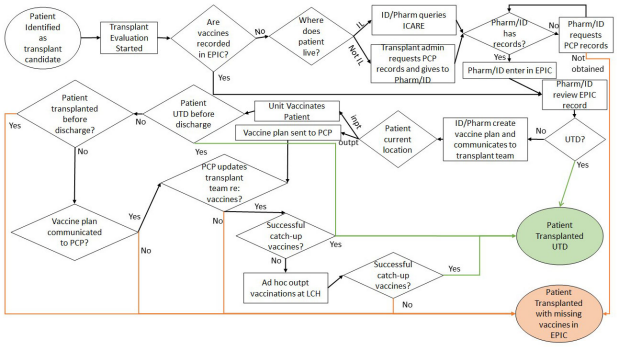
Session: P-69. Pediatric Vaccines

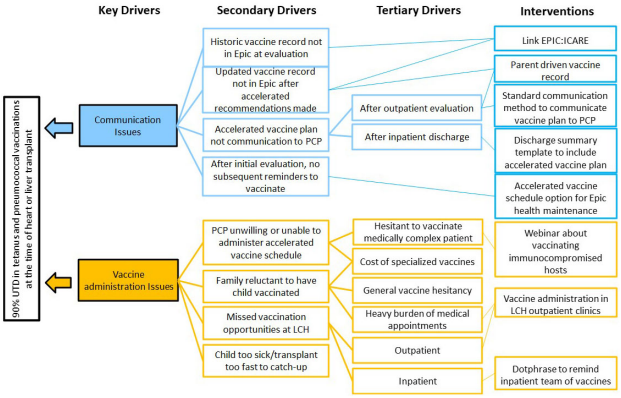
Background. Immunization prior to transplantation is important due to post-transplant immunosuppression. According to a national study, 15% of pediatric solid organ transplant recipients were hospitalized within 5 years post-transplant for a vaccine preventable illness or RSV. At our large academic pediatric hospital approximately 53% of heart and liver transplant recipients in 2016 -2018 were up to date with tetanus and pneumococcal vaccinations. This QI project was designed to improve our pre-transplant vaccination rates to minimize post-transplant infections.

Methods. An interdisciplinary team was convened including pharmacists, nurses, nurse practitioners, and physicians from cardiology, hepatology, and infectious diseases. After evaluating our current processes and key drivers, we selected interventions to implement via the PDSA model. Our first intervention was to have team members gain access to our statewide vaccine database (ICARE). Our second cycle was to link ICARE to our electronic medical record system (EPIC) for automatic immunization record integration.

Process Map



Key Driver Diagram



Results. Our outcome measure was up to date tetanus and pneumococcal vaccines per the CDC recommendations by age at transplant, as documented in the medical record. We saw an improvement in immunization rates to 100% during the third quarter of 2020 with an overall rate of over 80% for late 2019 - mid 2020. With the understanding that our average wait time for a heart and liver transplant was 2.4 and 3.8 months, respectively, the initiation of our QI project and obtaining access to ICARE by our team members was likely related to the improved vaccination rates. Unfortunately, after the team stopped meeting during the pandemic our immunization completion rates have decreased in 2021, despite implementing institutional access to ICARE.

Control Chart