**Appendix**

**Appendix Table 1**: Respondent Characteristics

|  |  |  |
| --- | --- | --- |
| **Question** | **Category** | **Percent\*** |
| **How many physicians are in your practice/facility (answered by non-pharmacists)** | 1 | 13.5 |
| 2-5 | 35.6 |
| 6-12 | 18.3 |
| 13 or more | 28.9 |
| Unsure | 3.9 |
| **How many prescriptions does your organization fill annually? (answered by pharmacists)** | <25,000 | 3.5 |
| 25,001 – 100,000 | 31.0 |
| 100,001 – 250,000 | 24.1 |
| >250,000 | 20.7 |
| Unsure | 20.7 |
| **Estimate the percentage of your patients/clients with each type of insurance** | **Medicare** |  |
| 0% | 4.4 |
| 1-25% | 48.9 |
| 26-50% | 33.3 |
| 51-100% | 10.4 |
| Unsure | 3.0 |
| **Medicaid** |  |
| 0% | 7.4 |
| 1-25% | 47.4 |
| 26-50% | 34.1 |
| 51-100% | 8.2 |
| Unsure | 3.0 |
| **Private** |  |
| 0% | 0.7 |
| 1-25% | 31.9 |
| 26-50% | 33.3 |
| 51-100% | 31.1 |
| Unsure | 3.0 |
| **Uninsured** |  |
| 0% | 14.1 |
| 1-25% | 63.0 |
| 26-50% | 8.2 |
| 51-100% | 4.4 |
| Unsure | 10.4 |

**Appendix Table 1 cont.**: Respondent Characteristics

|  |  |  |
| --- | --- | --- |
| **Question** | **Category** | **Percent\*** |
| **Estimate what percentage of your patients/clients are in the following age**  **groups:** | **age 0-18** |  |
| 0% | 5.2 |
| 1-25% | 76.9 |
| 26-50% | 10.5 |
| 51-100% | 3.7 |
| Unsure | 3.7 |
| **age 19-64** |  |
| 0% | 1.5 |
| 1-25% | 6.7 |
| 26-50% | 47.8 |
| 51-100% | 40.3 |
| Unsure | 3.7 |
| **age 65 or older** |  |
| 0% | 5.2 |
| 1-25% | 28.4 |
| 26-50% | 38.1 |
| 51-100% | 23.9 |
| Unsure | 4.5 |
| **What is your age?** | 18-29 | 5.2 |
| 30-39 | 28.4 |
| 40-49 | 22.4 |
| 50-69 | 26.1 |
| 60+ | 17.9 |

\*Percentages may not sum to 100% due to rounding.

**Appendix Table 2.** Regression Analysis of Factors Relating to Vaccine Stocking

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Outcome (Yes/No) →** | **Pneumococcal conjugate: PCV 13** | | | | **Pneumococcal polysaccharide: PPSV23** | | | | **Tetanus-diphtheria-pertussis (Tdap)** | | | | **Tetanus-diphtheria (Td)** | | | | **Zoster** | | | | **Hepatitis A** | | | | **Hepatitis B** | | | | **Hepatitis A & B** | | | | **Meningococcal ACWY** | | | | **Meningococcal B** | | | |
| **Predictors** | **Coef.** | **SE** | **P-value** | **Overall P-value** | **Coef.** | **SE** | **P-value** | **Overall P-value** | **Coef.** | **SE** | **P-value** | **Overall P-value** | **Coef.** | **SE** | **P-value** | **Overall P-value** | **Coef.** | **SE** | **P-value** | **Overall P-value** | **Coef.** | **SE** | **P-value** | **Overall P-value** | **Coef.** | **SE** | **P-value** | **Overall P-value** | **Coef.** | **SE** | **P-value** | **Overall P-value** | **Coef.** | **SE** | **P-value** | **Overall P-value** | **Coef.** | **SE** | **P-value** | **Overall P-value** |
| **Intercept** | 1.350 | 1.273 | 0.289 |  | 3.213 | 1.508 | 0.033 |  | -1.184 | 1.274 | 0.353 |  | -0.578 | 0.996 | 0.562 |  | 2.598 | 1.082 | 0.016 |  | 0.576 | 0.974 | 0.554 |  | 0.794 | 1.149 | 0.490 |  | -0.268 | 0.926 | 0.772 |  | -0.565 | 1.033 | 0.585 |  | -0.220 | 1.007 | 0.827 |  |
| **Role** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Physicians | 2.004 | 1.127 | 0.075 |  | 0.472 | 1.127 | 0.676 |  | 2.358 | 1.109 | 0.033 |  | 1.745 | 0.908 | 0.055 |  | -0.828 | 0.897 | 0.356 |  | 0.120 | 0.839 | 0.886 |  | 0.048 | 0.965 | 0.960 |  | 0.755 | 0.834 | 0.365 |  | 1.015 | 0.941 | 0.281 |  | 0.334 | 0.909 | 0.713 |  |
| Pharmacist | 16.180 | 1097.835 | 0.988 |  | 18.960 | 3998.087 | 0.996 |  | 15.078 | 1701.481 | 0.993 |  | 1.072 | 1.313 | 0.414 |  | -0.415 | 1.292 | 0.748 |  | 2.010 | 1.422 | 0.158 |  | 1.124 | 1.519 | 0.459 |  | 1.003 | 1.189 | 0.399 |  | 0.527 | 1.224 | 0.666 |  | 1.190 | 1.336 | 0.373 |  |
| Nurses | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  |
| Managers/Admin/Other | -0.930 | 1.078 | 0.389 | 0.0679 | 0.988 | 1.283 | 0.441 | 0.8969 | -0.776 | 1.195 | 0.516 | 0.0238 | 1.493 | 1.087 | 0.169 | 0.2698 | -0.713 | 1.017 | 0.483 | 0.8244 | 0.677 | 0.966 | 0.484 | 0.5551 | 0.575 | 1.135 | 0.612 | 0.8691 | 0.401 | 0.948 | 0.672 | 0.7232 | -0.510 | 1.009 | 0.613 | 0.4042 | 1.452 | 1.119 | 0.194 | 0.6231 |
| **Specialty/department** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Internal medicine/family medicine | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  |
| Ob/Gyn | -4.636 | 1.078 | 0.000 |  | -4.453 | 1.089 | 0.000 |  | -0.613 | 0.837 | 0.464 |  | -2.321 | 0.722 | 0.001 |  | -1.628 | 0.671 | 0.015 |  | -2.155 | 0.678 | 0.001 |  | -2.719 | 0.784 | 0.001 |  | -1.627 | 0.661 | 0.014 |  | -2.995 | 0.822 | 0.000 |  | -2.264 | 0.810 | 0.005 |  |
| Pharm/Multi-specialty/other | -1.298 | 0.998 | 0.193 | 0.0001 | -2.473 | 1.306 | 0.058 | 0.0002 | 1.417 | 1.296 | 0.274 | 0.3534 | -0.188 | 0.991 | 0.850 | 0.0055 | -0.544 | 0.947 | 0.565 | 0.0526 | -0.903 | 0.917 | 0.325 | 0.0056 | -1.024 | 1.049 | 0.329 | 0.0024 | -0.487 | 0.891 | 0.585 | 0.0474 | -1.719 | 0.967 | 0.076 | 0.0006 | -2.208 | 1.130 | 0.051 | 0.0071 |
| **Ownership/affiliation** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Private/independent organization | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  |
| Hospital/academic medical center | 2.049 | 0.758 | 0.007 | 0.0070 | 1.019 | 0.739 | 0.168 | 0.1680 | 1.745 | 0.864 | 0.043 | 0.0430 | 1.707 | 0.609 | 0.005 | 0.0050 | 0.464 | 0.582 | 0.425 | 0.4250 | 0.792 | 0.559 | 0.156 | 0.1560 | 1.283 | 0.617 | 0.038 | 0.0380 | 0.807 | 0.545 | 0.139 | 0.1390 | 1.902 | 0.703 | 0.007 | 0.0070 | 1.934 | 0.685 | 0.005 | 0.0050 |
| **Patient Distribution: Age 0-18** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0-50% | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  |
| 51-100% | -3.452 | 1.908 | 0.070 | 0.0700 | 15.468 | 8089.731 | 0.998 | 0.9980 | -1.682 | 1.885 | 0.372 | 0.3720 | -2.098 | 1.807 | 0.246 | 0.2460 | -0.827 | 1.609 | 0.607 | 0.6070 | -1.869 | 1.610 | 0.246 | 0.2460 | -1.755 | 1.649 | 0.287 | 0.2870 | -1.075 | 1.674 | 0.521 | 0.5210 | -1.808 | 1.798 | 0.314 | 0.3140 | -1.711 | 1.843 | 0.353 | 0.3530 |
| **Patient Distribution: Age 19-64** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0-50% | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  |
| 51-100% | -0.975 | 0.760 | 0.199 | 0.1990 | -0.405 | 0.755 | 0.592 | 0.5920 | 0.032 | 0.816 | 0.969 | 0.9690 | -0.303 | 0.590 | 0.608 | 0.6080 | -1.771 | 0.622 | 0.004 | 0.0040 | 0.402 | 0.595 | 0.499 | 0.4990 | 0.348 | 0.655 | 0.595 | 0.5950 | -0.266 | 0.554 | 0.631 | 0.6310 | -0.269 | 0.641 | 0.675 | 0.6750 | -1.108 | 0.657 | 0.092 | 0.0920 |
| **Patient Distribution: Age 65 or older** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0-50% | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  | Ref. |  |  |  |
| 51-100% | -0.936 | 0.838 | 0.264 | 0.2640 | -1.032 | 1.004 | 0.304 | 0.3040 | -0.105 | 0.936 | 0.910 | 0.9100 | 0.253 | 0.666 | 0.704 | 0.7040 | -1.062 | 0.660 | 0.108 | 0.1080 | 0.193 | 0.626 | 0.758 | 0.7580 | -0.770 | 0.726 | 0.289 | 0.2890 | 0.515 | 0.583 | 0.378 | 0.3780 | 0.464 | 0.658 | 0.480 | 0.4800 | 0.750 | 0.672 | 0.265 | 0.2650 |
| **Importance of Scaling Factors** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Cost of purchasing | -0.798 | 0.839 | 0.342 | 0.3420 | -1.040 | 0.905 | 0.251 | 0.2510 | 1.305 | 0.870 | 0.134 | 0.1340 | -0.764 | 0.736 | 0.299 | 0.2990 | 0.364 | 0.653 | 0.577 | 0.5770 | -0.388 | 0.635 | 0.541 | 0.5410 | 0.964 | 0.691 | 0.163 | 0.1630 | -1.002 | 0.638 | 0.116 | 0.1160 | 0.332 | 0.711 | 0.640 | 0.6400 | -0.538 | 0.745 | 0.471 | 0.4710 |
| Expense of maintaining inventory | -0.189 | 0.708 | 0.790 | 0.7900 | -0.218 | 0.793 | 0.783 | 0.7830 | 0.477 | 0.680 | 0.483 | 0.4830 | 0.157 | 0.604 | 0.795 | 0.7950 | -1.176 | 0.592 | 0.047 | 0.0470 | -0.202 | 0.541 | 0.709 | 0.7090 | -0.015 | 0.618 | 0.980 | 0.9800 | 0.249 | 0.539 | 0.643 | 0.6430 | -0.373 | 0.614 | 0.544 | 0.5440 | -0.308 | 0.626 | 0.623 | 0.6230 |
| Inadequate reimbursement | -0.204 | 0.680 | 0.764 | 0.7640 | 0.696 | 0.678 | 0.305 | 0.3050 | 0.520 | 0.676 | 0.442 | 0.4420 | -0.087 | 0.577 | 0.881 | 0.8810 | -0.367 | 0.569 | 0.520 | 0.5200 | -0.488 | 0.556 | 0.380 | 0.3800 | 0.257 | 0.605 | 0.671 | 0.6710 | 0.181 | 0.559 | 0.745 | 0.7450 | -0.104 | 0.681 | 0.878 | 0.8780 | -0.325 | 0.680 | 0.632 | 0.6320 |

**Appendix Table 3.** Cross-Tabulation of Role and Percentage of Patients over Age 65

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Estimate what percentage of your practices' patients/clients are in the following age group: 65+ years** | | | | | |
|  | **0%** | **1%-25%** | **26%-50%** | **51%-100%** | **Unsure** | **Total** |
| **What is your role within your organization?** |  |  |  |  |  |  |
| **Physician** | 4.3% | 37.1% | 37.1% | 20% | 1.4% | 100% |
| **Practice Manager** | 0% | 50% | 33.3% | 16.7% | 0% | 100% |
| **Health System Administrator** | 0% | 0% | 50% | 50% | 0% | 100% |
| **Nurse** | 20% | 6.7% | 46.7% | 26.7% | 0% | 100% |
| **Pharmacist** | 4.2% | 20.8% | 41.7% | 29.2% | 4.2% | 100% |
| **Other** | 0% | 25% | 25% | 50% | 0% | 100% |
| **Total** | **5.6**% | **28.8**% | **39.2**% | **24.8**% | **1.6**% | **100**% |

**Appendix Figure 1**. Reasons for not stocking specific vaccines

(b) Pneumococcal (PCV13) (N=46)

(a) Influenza (N=4)

(d) Tdap (N=20)

(c) Pneumococcal (PPSV23) (N=35)

(f) Zoster (N=51)

(e) Td (N=52)

(g) Hepatitis A (N=54)

(h) Hepatitis B (N=41)

(i) Hepatitis A and B (N=61)

(j) Meningococcal ACWY (N=64)

(k) Meningococcal B (N=72)

**Appendix Figure 2.** Best-worst scaling of barriers by respondent characteristics

(b) Indirectly Involved in Stocking Decisions (N=65)

1. Directly Involved in Stocking (N=60) (60)Decisions

(f) Role: Manager/Administrator/Other (N=16)

(e) Role: Nurses (N=15)

(d) Role: Pharmacists (N=24)

(c) Role: Physicians (N=70)

(g) Department: Internal medicine/Family medicine (N=40)

(j) Affiliation: Hospital/academic medical center (N=47)

organization

(i) Affiliation: Private/independent organization (N=55)

(h) Department: Ob-Gyn (N=45)

(n) Insurance Distribution: >25% Medicare (N=57)

organization

(m) Insurance Distribution: <=25% Medicare (N=66)

organization

(l) Number of Physicians: 6+ (N=47)

organization

(k) Number of Physicians: 1-5 (N=47)

organization

(r) Insurance Distribution: >25% Private (N=71)

organization

(q) Insurance Distribution: <=25% Private (N=42)

organization

(p) Insurance Distribution: >25% Medicaid (N=55)

organization

(o) Insurance Distribution: <=25% Medicaid (N=68)

organization

(v) Patient Age Distribution: >50% age 19-64 (N=52)

organization

(u) Patient Age Distribution: 0-50% age 19-64 (N=71)

organization

(t) Insurance Distribution: >25% Uninsured (N=14)

organization

(s) Insurance Distribution: <=25% Uninsured (N=100)

organization

(x) Patient Age Distribution: >50% age 65+ (N=31)

(w) Patient Age Distribution: 0-50% age 65+ (N=92)

(c) Stocked PCV13 (N=71)

(d) Did not stock PCV13 (N=46)

(b) Did not stock influenza (N=4)

(a) Stocked influenza (N=113)

**Appendix Figure 3**. Best-worst scaling of barriers based on stocking specific vaccines

(g) Stocked Tdap (N=97)

(h) Did not stock Tdap (N=20)

(f) Did not stock PPSV23 (N=35)

(e) Stocked PPSV23 (N=82)

(l) Did not stock Zoster (N=51)

(k) Stocked Zoster (N=66)

(j) Did not stock Td (N=52)

(i) Stocked Td (N=65)

1. Stocked Td
2. Did not stock Td
3. Did not stock Zoster

(p) Did not stock hepatitis B (N=41)

(o) Stocked hepatitis B (N=76)

(n) Did not stock hepatitis A (N=54)

(m) Stocked hepatitis A (N=63)

1. Stocked Hepatitis B

(s) Stocked meningococcal ACWY (N=53)

(t) Did not stock meningococcal ACWY (N=64)

(r) Did not stock hepatitis A and B (N=61)

(q) Stocked hepatitis A and B (N=56)

1. Did not stock Hepatitis A & B
2. Stocked Meningococcal ACWY

(v) Did not stock meningococcal B (N=72)

(u) Stocked meningococcal B (N=45)