

Pima County Health Department

After Action Report

“Back- to- School Immunization Clinics”

Tucson Convention Center

Tucson Arizona 2008

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Executive Summary

For more than twenty years, Pima County Health Department has coordinated back-to-school immunization clinics to provide Pima County residents low cost or free vaccinations. Historically, the clinics have been combined efforts of the Vaccine Preventable Disease Program and Public Health Nursing. Since 2004, the Tucson Convention Center has been utilized for these mass immunization clinic events.

In 2006, an administrative decision was made to incorporate the National Incident Management System (NIMS) training into the activity. Since then, staff members from many different areas of the health department had been added to the team to participate in the exercise. This planned event was a full scale exercise and the operation was evaluated using NIMS standards.

Vaccine administration occurred over a period of five days: Tuesday, August 5th, from 10:00 a.m. - 5:00 p.m., Thursday, August 7th, from 1:00 p.m. - 7 p.m., Saturday, August 9th, from 9:00 a.m. - 2:00 p.m., Monday, August 11th, from 1:00 p.m. - 7:00 p.m., and Wednesday, August 13th, from 10:00 a.m. - 5:00 p.m. Children (under age 19) received immunizations through the Vaccine for Children (VFC) Program and adult purchase vaccines and TB (PPD) screening tests were administered to adults.

This year, a grand total of 2,614 clients were served. Of these, 2,453 clients received vaccinations--2,390 clients or 91.43% were under 19 years of age and 63 or 2.41% of these were reported as adults (over 18 years of age). One hundred and sixty one (161) or 6.16% clients had PPD testing and/or were screened and did not receive vaccine.

The grand total cost for this event was \$482,219.34 including vaccine, labor costs, medical supplies and non-warehouse expenses. The cost of the vaccine provided by the VFC program was approximately \$426,237.05. The revenue for this event totaled \$41,882. The average amount spent per client served is \$22.79. The average cost of each vaccine administration is \$7.26. Given these figures, PCHD absorbed \$14,193.76.

A review of the event reveals a further understanding of the NIMS structure by staff. Additional training will take place focusing on Job Actions. In addition, the review revealed a need to better structure the core of volunteers for similar events in the future. The number vaccinated this year represents a 20% increase from 2007.

Part 1: Exercise Overview

Exercise Name: Back-to School Immunization Clinics

Exercise Date: August 5, 7, 9, 11, 13, 2008

Sponsor: Pima County Health Department

Type of Exercise: Full-Scale Exercise.

Focus: Operating a NIMS compliant vaccination clinic

Classification: Planned Event

Scenario: Mass Vaccination Clinics

Location: Tucson Convention Center, Tucson Arizona

Participants:

1. Public Health Nursing
2. Vaccine Preventable Disease
3. Bioterrorism Preparedness
4. Theresa Lee Clinic
5. Family Planning
6. Oral Health
7. Tobacco Cessation Program
8. TB
9. CHFS
10. WIC
11. IT Department
12. Health Records
13. Central Supply
14. Kids Care
15. PCAP
16. RACES
17. Health Education and Promotion
18. Volunteers through CERT, MRC and PCHD Nurse Corp.
19. Director's Office
20. McDonalds
21. University of Arizona College of Nursing

Number of Participants: See Appendix A: Incident Command Structure (ICS) Organization Chart

Nine (4) Command staff: This includes: Incident Commander, Medical Officer, Safety Officer, Public Information Officer and their Deputies.

Four (4) General Staff: This includes: Operation Chief, Planning Chief, Logistics Chief, Finance Chief and their Deputies

Approximately 20 Pima County Health Department (PCHD) staff attended, under the five functional areas of the ICS

Sixteen (16) PCHD Public Health Nurses participated.

Volunteers:

Licensed (LPN, R.N., N.P., P.A., M.D.) from PCHD, Medical Reserved Corp. (MRC), and Other: 21

Unlicensed: 37

PCHD "Volunteer" staff: 15 (WIC, Health Education, VPD)

Volunteers worked in the following capacities: medical (screeners, shooters, & fillers), traffic flow, crowd control, Health Educators with WIC, Health Educators (West Nile), Nutrition Educator (U of A Nursing), Vaccine Information (VIS) (clerical).

Ancillary staff included:

Securitas Security staff (3 per clinic)

Pima County Sherriff Department (1 officer per shift to secure cash)

Exercise Components:

The exercise components consisted of:

1. Planning
Identifying command and general staff, supervisors, team leaders, and support staff; development of ICS; recruitment of volunteers, development of staff schedules (medical, clerical, volunteers), ordering office and medical supplies, ordering vaccines; vaccine management; development of the incident action plan, development of the mobilization and demobilization plan and coordination of efforts, central supply
2. Mobilization: staging of equipment and supplies, facility set-up
3. Execution of 5 vaccination clinics
4. Daily briefings and evaluation by staff members
5. Use of "Just-in-Time training" for staff members and volunteers
6. Demobilization

Exercise Evaluation:

Daily briefings were held by the Incident Commander and Planning Chief prior to each clinic. Daily post clinic briefings were held and each Chief, Director and Leader were asked to identify one strength noted and one area that required improvement. These comments were collected; documented and appropriate changes were incorporated into the next clinic functions.

Part 2: Exercise Objectives

See Appendix B: Incident Action Plan Form ICS-202:

Incident Action Plan Objectives:

- 1) Maintain safe environment for clients and staff while providing vaccination services.
- 2) Provide immunizations to Pima County residents using best nursing practices
- 3) Utilize best practices of National Incident Management System (NIMS); including utilization of the Incident Command Structure (ICS), Just-in-Time Training (JIT) and Advanced Planning functions
- 4) Incorporate PCHD employees from different departments to provide a cohesive public health service.
- 5) Provide an accurate financial account of what the clinic operations cost PCHD.

Part 3: Exercise Event Synopsis

The initial planning meeting with Chiefs was held on 2/26/08. Thereafter, meetings were held with command and general staff on 3/26/08, 6/30/08, 7/16/08, and 08/01/08. In addition, each chief or deputy chief conducted meetings with their own staff during the planning phase. The Incident Action Plan was developed including the ICS organizational chart; medical, safety and mobilization/demobilization plans. Tasks and responsibilities/job action sheets were reviewed. A folder was created in the shared drive to house information related to this event. It included folders for the planning, operations, logistics, and finance sections.

A mobilization plan was implemented on Monday, August 4th, Ballroom A—Lower Level, at the Tucson Convention Center (TCC) - was set-up using the established facility diagram. Tables, chairs and curtain dividers were provided by TCC. All other equipment and supplies came from either Central Supply, PHN offices and the Bio Terrorism Preparedness and Response Program. Refrigerators and the copy machine were leased and were delivered on this day. RACES provided the radios for communication, TCC provided the phone line for the credit card machine and IT provided computers and wireless access. Adjustments were made to the facility lay-out to facilitate a better clinic flow this year. More room was provided for clients in the VIS/Pay area and in the waiting line to get vaccinations; tables were configured in a “T” fashion in the vaccination area, health educators were placed inside the ballroom rather than being near the escalator as originally planned.

Vaccine administration occurred over a period of five days: Tuesday, August 5th, from 10:00 a.m. – 5:00 p.m., Thursday, August 7th, from 1:00 p.m. – 7:00 p.m., Saturday, August 9th, from 9:00 a.m. – 2:00 p.m., Monday, August 11th, from 1:00 p.m. – 7:00 p.m., and Wednesday, August 13th, from 10:00 a.m. – 5:00 p.m.

Total Number of Clients Served:

Number of clients who received vaccine	2,453
Number of clients who received TB/PPD tests	18
Number of clients who were screened and did not receive vaccine	143
Total Clients Served	2,614

Using mainframe system reports of the total number of clients receiving vaccinations, 63 clients or 2.57% were reported as adults (over 18 years of age) and the remainder 2,390 clients or 97.43% of the total were under 19 years of age. (See Appendix C: Number of Clients Who Received Vaccine per Clinic Day).

Vaccines came from three sources: Vaccine for Children Program (VFC), Vaccines for Adults Program (VFA) and purchased adult vaccine including PPDs. Arizona Department of Health Services – Arizona Vaccine for Children (ADHS – AZVFC) Program Guidelines were followed for management of vaccine including transport, inventory and storage activities for each day of the event. There were no costs incurred for the vaccines to PCHD through the VFC or VFA program. The adult purchased vaccines and PPDs, were covered by the fees charged to clients.

A client satisfaction survey was conducted on August 9, 2008. The purpose of the survey is to determine the level of satisfaction of care by clients. The survey is a Likert type scale with 5 responses. The results revealed that on a scale from 1 to 5: with 5 being the highest, “ease of location” scored a 4.46, “good time of day”, scored a 4.39, “length of wait”, was 3.27, “staff helpful” was a 4.19 and “overall excellent response” was a 4.19. See Appendix D: 2008 Client Satisfaction Survey Results.

The facility was spacious and it was easy to accommodate staff and the public for this event. Parking was problematic at times for staff and the public, due to other events that coincided with this event. The lines of clients were contained inside the air conditioned building. Security, Safety staff, and crowd control volunteers were present at all times. The TCC Facilities Liaison person maintained close communication with TCC staff to assure that the temperature of the facility was adequate and cleaning crew was available and working to maintain a clean facility. The “Cash Handling Procedure” was followed. One Sheriff was available at each shift to provide security and assisted with transfer of monies.

The Demobilization Plan was implemented on the last day of clinic, August 13th. While two (2) days were planned for this, all activities were completed on the first day. On August 14th, the trailer packed with the equipment and supplies was removed from TCC along with the stanchions, barricades, signage, cot and privacy screen. The refrigerators were also picked up on this day.

Part 4: Analysis of Lessons Learned

See Appendix E: "Hotwash" Results

A "Hotwash" session was held on September 12, 2008, at the Nursing Division Meeting.

Staff commented that they are getting more familiar with using the ICS for this event; the number of clinic days for the event was adequate; the floor plan allowed for good clinic flow; there was enough vaccine and supplies, and having the immunization tables set-up prior to the start of the clinic in a "T" configuration worked very well. Participation of staff from other divisions of the health department and many volunteers that came each day were found very helpful. The nurse practitioner volunteer for "fainting" control in the vaccine administration area was very effective. The Mobilization/Demobilization Plan with identified staff to carry out the activities made the process more efficient this year.

Staff commented that the greatest need for improvement was to understand the roles/functions of different groups of nurses or health care volunteers including the Medical Reserve; also, communications/relations with all health volunteer groups needs improvement - and two recommendations were made: (1) assign PHN to be "liaison" with health care volunteer groups, (2) have health care volunteer groups come to clinics before TCC event. Knowing which volunteers are coming and when, and what skills they have, would be very helpful for the next event. Volunteer nurse training the day before the event, would also make the screening and administration processes more efficient.

Part 5: Costs

The costs of this service include the following: vaccines provided by the State (VFC and VFA); adult purchased vaccines; labor costs; and miscellaneous expenses (Appendix G). The VFA and VFC vaccine are provided to Pima County through the Arizona Department of Health Services at no cost. The VFC and VFA vaccine used totaled \$424,698.91. The purchased vaccine for adults totaled \$1,538.00. Pima County residents paid individually for cost of vaccine plus administration fees.

Labor costs measured included work hours of all PCHD personnel during the actual clinic days. The total was \$38,665.31. Additional labor costs, including the planning stage were not covered.

Miscellaneous expenses included: Non-warehouse expenses; and medical supplies. The total cost was approximately \$17,317.12.

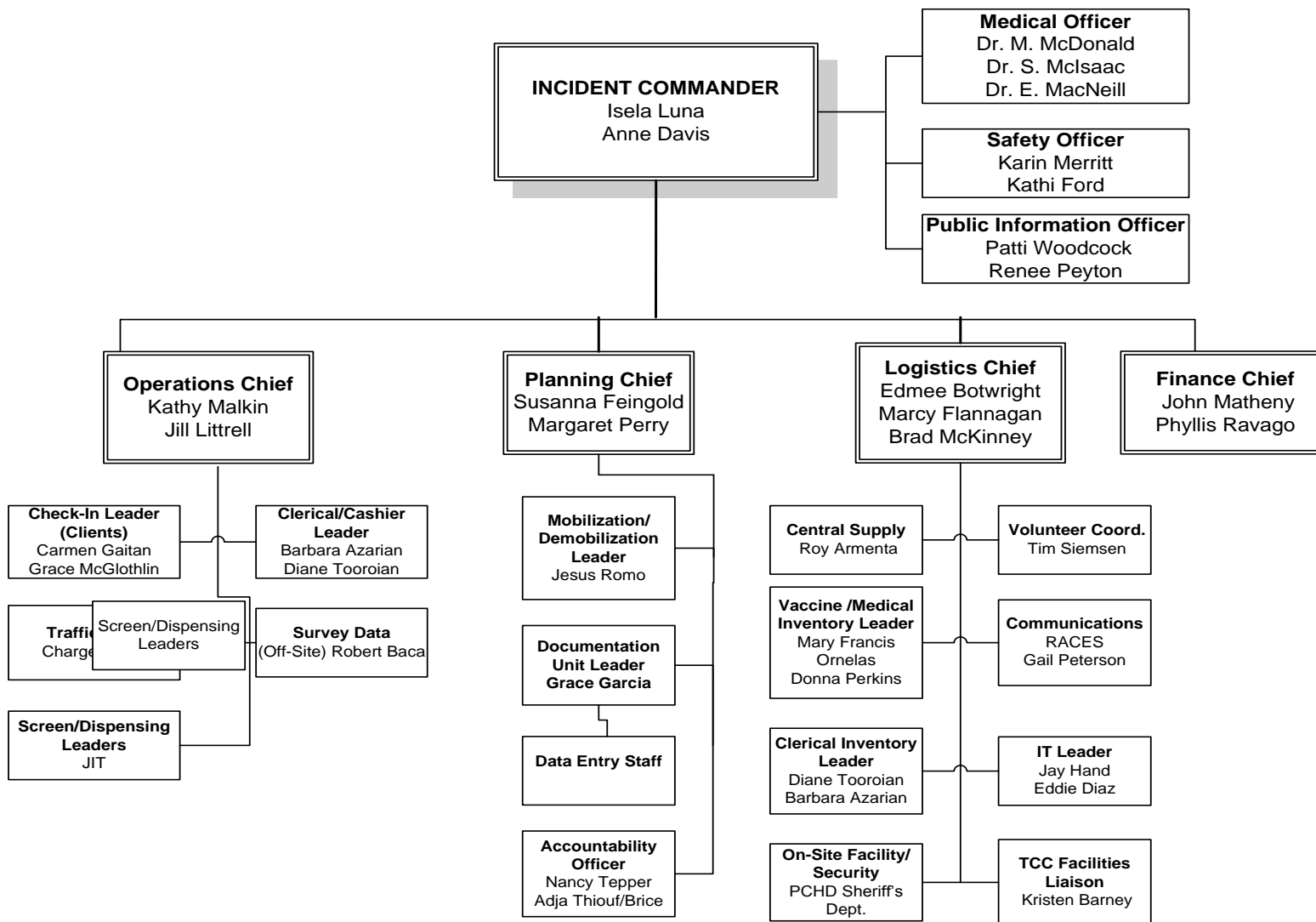
The expenses for this event totaled \$482,219.34. Two thousand four hundred fifty-three (2,453) of the 2,614 clients served, received an average of 3 vaccines each ($7763 \text{ vaccines} / 2,453 = 3 \text{ vaccines}$). Without counting the cost of the vaccine provided to Pima County by the State, the average amount spent per client is \$22.00. Given revenues and expenses, PCHD absorbed \$14,193.76 (See Appendix G).

Part 6: Conclusion

The exercise revealed a need for further NIMS training. In addition, a more functional core volunteer structure will need to be developed for future events. The revenue received represented approximately over 2/3 of the overall costs; not including vaccines. The average number of dollars spent per individual was \$22.00 dollars.

The number vaccinated in 2008 represents a 20% increase in the number of clients that received vaccines. Major factor contributing to the increase in the number of clients served this year, are the new Arizona Department of Health Services (ADHS) rules/requirements for the Menactra vaccine; Tetanus Diphtheria and Pertussis (Tdap) for students 11 years and older who have had their last Tetanus (TD) vaccine within 5 years or more. Also for the first time this year, adults were able to be vaccinated with VFA vaccine.

2008 "Back-to-School Immunization Clinic"
Incident Command Organization Chart



Appendix B: Incident Action Plan Form ICS 202

Incident Objectives	1. Incident Name	2. Date Prepared	3. Time Prepared
	2008 Summer Immunization Clinics	7/16/2008	1600
4. Operational Period (Date and Time)			
8/1 1/2 008		1300 to 1900	
5. General Control Objectives for the Incident (include Alternatives)			
	1) Maintain safe environment for clients and staff while providing vaccination services.		
	2) Provide immunizations to Pima County residents using best nursing practices.		
	3) Utilize best practices of NIMS including utilization of the including utilization of the Incident Command Structure, Just-in-Time Training (JIT) and Advanced Planning functions.		
	4) Incorporate PCHD employees from different departments to provide a cohesive public health service.		
	5) Provide an accurate financial account of what the clinic operations cost PCHD.		
6. Weather Forecast for Operational Period			
This planned incident is occurring during Tucson's Monsoon Season. Every day there will be a 30-50% chance of rain (including strong winds and lightening) which can lead to local flooding and power outages.			
7. General Safety Message			
Wear closed toed shoes. Watch for trip hazards, wet floors and electrical cords. Plug in electronic equipment into power strips. Use ergonomic keyboards/mouse/chair, padded mat, wrist supports as needed.			
8. Attachments (check if attached)			
			Mob/Demob Plan
ICS-202	9. Prepared by (PSC)	10. Approved by (IC)	
	Susanna Feingold	Isela Luna	

Appendix C: Number of Clients Who Received Vaccine per Clinic Day

2008 TCC Back-to School Immunization Clinics

Date of Clinic	Number of clients who received vaccine Per Clinic Day
8/5/08	564
8/7/08	635
8/9/08	575
8/11/08	409
8/13/08	270
Total	2,453

Source: Mainframe

Appendix D: 2008 Client Satisfaction Survey Results

2008 Client Satisfaction Survey Results		
Date of Survey	8/9/2008	
Number of Responses	217	
Average Rating Per Category		
	Based on 0 to 5 Scale	Percentage of Responses
Ease of Location	4.46	54% (5s); 41% (4s); 0% (3s); 5% (2s); 0% (1s)
Good Time of Day?	4.39	52% (5s); 40% (4s); 1% (3s); 2% (2s); 5% (1s)
Length of Wait	3.27	23% (5s); 35% (4s); 7% (3s); 20% (2s); 15% (1s)
Staff Helpful	4.56	58% (5s); 38% (4s); 3% (3s); 1% (2s); 0% (1s)
Overall Excellent Response	4.19	41% (5s); 45% (4s); 6% (3s); 4% (2s); 4% (1s)
Comments		
Total Number of Comments	56	
Positive Comments	33 (59%)	
Constructive Comments	10 (18%)	
Negative Comments Made	13 (23%)	

Appendix E: “Hotwash” Results

2008 Back-to School Immunization Clinics

What Worked well:

ICS- getting more familiar with structure
Number of days for the event
Enough vaccine and supplies
Having the immunization tables set-up
Flow—floor plan was good
Had plenty of help
Involvement of the departments with the health department
Having volunteers
“T” table configuration and open boxes
Nurse Practitioner volunteer for “fainting” control
ICS form documentation
Mob/Demob Plan with identified staff
Large ICS chart on wall
Incident Action Plan handout
TCC Incident Folder in “S” drive

What Needs Improvement:

JIT
Guidelines for using volunteers
Understanding of DMAT/DM/Medical Reserve-what is the difference?
Need training of nurse volunteers for day before TCC event
So busy before/after TCC clinics
Knowing which volunteers come when/can do what (communication with Tim—volunteer coordinator)

Improve communications/relations with DMAT

- 1) Have PHN “liaison” with DMAT
- 2) Have DMAT staff come to clinics before TCC event

Supplies and Equipment Checklists for events on the “s” shared drive

Recommendations:

Use PHN Office cell phones
Better chairs for nurses (ergo/soft)
More volunteers for the line
“Please Wait” sign before shot table
Need more experienced shooters/fillers/pre-screeners
Change timing of event: last day was a Wednesday/change to a Thursday since North was hit very hard.

Appendix F: Marketing: Special Edition Pima County Summer 2008 Immunization Clinic

SPECIAL EDITION
PIMA COUNTY SUMMER 2008
IMMUNIZATION CLINIC

Immunization services are available at these Pima County locations

<p>Tucson Convention Center - 260 S. Church Exhibit Hall A Tuesday: 8/5/08 10:00am --5:00 pm Thursday: 8/07/08 1:00 pm -- 7:00 pm Saturday: 8/09/08 9:00 am -- 2:00 pm Monday: 8/11/08 1:00 pm -- 7:00 pm Wednesday: 8/13/08 10:00 am -- 5:00 pm</p> <p>CATALINA Resource Center 3414 E. Golder Ranch Call 243-2850 (for appointment and information)</p> <p>MARANA & PICTURE ROCKS Call 243-2850 (for appointment and information)</p> <p>AJO OFFICE 120 Estrella Ajo, AZ 85321 1-520-387-7206 (call for appointment and information)</p>	<p>EAST OFFICE 6920 E. Broadway Blvd. Suite E 298-3888 Monday 1-4pm & 3rd Sat of each month 9am-12pm * No Immunization Clinic: 8/04/08 and 8/11/08</p> <p>SOUTH OFFICE 175 W. Irvington Rd. 889-9543 Tuesday 1-4pm & 4th Tuesday each month 1-6pm * No Immunization Clinic: 8/05/08 and 8/12/08</p> <p>NORTH OFFICE 3550 N. First Ave. 243-2850 Thursday 1-7pm * No Immunization Clinic: 8/07/08</p> <p>GREEN VALLEY 601 N. La Cañada Dr. 648-1626 Wednesday 1-4pm by appointment (call for appointment and information)</p>
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For information about immunization clinic sites log on to our website @www.pimahealth.org

Appendix G: Miscellaneous 1. Revenue and Expenses

TCC Back-to School Immunization Clinics 2008

Revenue

Total Revenue	\$41,882.00
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Expenses

Total Labor Costs*	\$38,665.31
Miscellaneous expenses	
Non-Warehouse Expenses	\$12,317.12
Medical Supplies (Approx.)	\$5,000.00
Vaccine Costs**	
Vaccine Adult Purchased	\$1,538.00
VFC	\$382,212.64
VFA	\$42,486.27
Total Cost	\$482,219.34

* Labor Costs of PCHD personnel for actual clinic days only and total labor hours of PCHD working actual clinic days. Total labor hours of PHN personnel working actual clinic days= 1,641.85.

** Vaccine costs based on purchases on 7/2008.

Average cost per vaccine administration=\$7.26

Amount absorbed by PCHD \$55,982.43-\$41,882.00=\$14,100.43 or \$1.84 per vaccine (total vaccines administered 7714)

Appendix G: Miscellaneous 2. Medical Inventory

Item	Amount	Total Amt	
Alcohol wipes (200/box)	8 boxes	1,600 wipes	
Band-aids/peeled (200/box)	16 boxes	3,200 band-aids	
Bio-Hazard Bags	1 box	1 box	
Cautions tape	2 rolls	2 rolls	
Clear packing tape	1 roll	1 roll	
Clinic Boxes (complete)	6 boxes	6 boxes	
Clorox Wipes Large container	1 container	1 container	
Cot	1 cot	1cot	
Duct Tape	2 rolls	2 rolls	
Garbage Bags, large/black	1 box	1 box	
Gauze 2 x 2		9 pkgs	
Gloves, large	1 case	1 case	
Gloves, Medium	1 case	1 case	
Laundry baskets (garbage)	8 baskets	8 baskets	
Needles 1" (500/box)	2 boxes	1,000 needles	
Needles 1" (500/box)	2 boxes	1,000 needles	
Needles 1" (500/box)	4 boxes	2,000 needles	
Needles 1" (500/box)	4 boxes	2,000 needles	6,000 needles 1"
Needles 5/8" (500/box)	6 boxes	3,000 needles	
Needles 5/8" (500/box)	6 boxes	3,000 needles	
Needles 5/8" (500/box)	7boxes	3.500 needles	9,500 needles 5/8"
Needles, Misc	1 box	1 box	
Plastic cups	12 cups	12 cups	
Plastic garbage container/small	6 containers	6 containers	
Refrigerator cable/lock/keys		2 cables/1 lock	
Screens	4 screens	4 screens	
Sharps Containers	2 containers	2 containers	
Stanchions	All	All	
Syringes 1" needles (100/box)	12 boxes	1,200 syringes	
Syringes 1" needles (100/box)	13 boxes	1,300 syringes	
Syringes 1" needles (100/box)	4 boxes	400 syringes	
Syringes 1" needles (100/box)	6boxes	600 syringes	
Syringes 1" needles (100/box)	7 boxes	700 syringes	
Syringes 1" needles (100/box)	7 boxes	700 syringes	4,900 Syringes 1"
Syringes 5/8" (100/box)	6 boxes	600 syringes	
Syringes 5/8" (100/box)	7 boxes	700 syringes	1,300 Syringes 5/8"
Table Cloth/plastic	2 rolls	2 rolls	
Tupperware, small with lids	8 small	8 small	
Vests assorted	3 boxes	3 boxes	
White Plastic vax carriers	3 carriers	3 carriers	
Small Blue Lunch bags	4 bags	4 bags	
Freezer	1 freezer	1 freezer	
Assorted coolers			

Appendix G: Miscellaneous 3. Supplies for Vaccine Management

Item	Quantity	Available
Transport coolers	Enough to get vaccine to TCC	Check with Central Supply – they usually have some larger coolers we can use
While Styrofoam coolers	One for each vaccine, one for VFA, one for purchased vaccine	In Central Supply, in nursing section
Hard plastic coolers	Two – one for varicella, one for emergency juice & water. The blue coleman ones work well.	Check with Central Supply
Dry Ice	For varicella cooler – need each day of clinic	Check with Central Supply
Thermometers	About 35 – for coolers, friges, and large bins (goes with MMR)	In Central Supply – check with staff
Temperature logs	About 30 – one for each cooler, & all friges	Online at AIPO office
Tables	5 total - 3 for coolers, 1 for vaccine equipment, 1 for emergency items	TCC
Ice packs	A ton!!!! Some for shipping vaccine, some for coolers, some for tables, some for emergency use	Check with Central Supply
Bubble wrap	Enough for each cooler	In Central Supply
Large Plastic bins (to hold small vaccine bins)	About 6, or one for each table	After TCC, some are in central supply, some went to be used in the clinics; there “should” be enough for next year
Small plastic bins (for each vaccine)	About 60 (9 fit in each large plastic bin)	
Vaccine labels for small plastic bins		
Rubber bands, plastic bags, sharpee, masking tape, paper towels, scissors	General stuff for vaccine mgmt	
Lot number list	Enough for TCC staff – clerical, screeners, fillers, & shooters; send before TCC to medical records	
Cables, locks and keys	Enough cables to fit around all the friges/freezers & enough keys for the staff designated to checking temps	In nursing section in Central Supply
Sign-up list for checking temps on non-clinic days, include TCC contact numbers as well	Give to all staff checking temps, to TCC office staff, TCC security, and TCC liason	

