Summary Report: Primary Health Care Equipment for Iraq
Primary Health Care Clinics

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Gerald A. Evans, Ph.D.
Timothy P. Irgens, MPH
Don Henry

In collaboration with officials and staff of the Iraq Ministry of Health, Baghdad, Iraq
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Introduction

The Iraq Health System Strengthening project (IHSS) was designed to support the long-term development of the Iraq health system. IHSS has taken a dual or “top-down bottom-up” approach to achieving this goal. This includes providing support for policy development and Ministry of Health (MOH) capacity building, which provides a foundation for both short- and long-term implementation of health sector reform initiatives (top-down). This is complemented with support for health care delivery, specifically primary health care (PHC), in the form of training and equipping of PHC providers (bottom-up).

The need for bottom-up support in the Iraq health system is clear as evident from a broad assessment of the health care system and more specifically PHC capability. In support of strengthening the Iraq PHC delivery system, the IHSS project provided kits of PHC equipment for delivery to over 600 PHC clinics throughout Iraq. This document summarizes this component of the IHSS project and provides supporting documents related to MOH involvement, clinic selection, and kit content. It further describes the process for final delivery of PHC kits and documents participation and agreement of this process by the MOH.

Equipment Selection

PHC equipment was selected in collaboration with USAID and the MOH. An initial proposed list of PHC equipment was presented for review by the Iraqi Director General (DG) of Public Health and Primary Health Care. The list was modified and approved by the DG, with subsequent approval to procure provided by USAID.

The final equipment list consisted of the following items:


Basic Equipment Kit
- Goose Neck lamp
- EPI sterilizer or autoclave
- Adult scale with height measurement
- Pediatric scale
- Infant length board
- Mayo stand/instrument tray

Basic Instrument Kit
- Diagnostic set (otoscope, ophthalmoscope)
- Sphygmomanometer and cuffs (large adult, normal adult, child cuffs)
- Stethoscope
- Oral and rectal thermometers
- Reflex hammers
- Tuning forks (256 & 512 hz.)
- Fetal heart tone detector (Doptone)
- Glucometer and test strips
- Peak flow meter, adult and child size
- Vaginal speculæ
- IUD kits (multitoothed tenaculum, uterine sound, long ring forceps, long dressing forceps)
- Suture instrument kits (needle holder, small curved hemostat, scalpel handle, Adson forceps, suture scissors, small curved Metzenbaum scissors)
- Stainless steel bowls, 2 sizes
- Kidney basins
- Dressing scissors
- Sharps disposal containers
- Basins for decontamination of instruments
- Trash bucket with cover (med. size)
- Emergency kit (nasopharyngeal airways, Ambubag, suction machine, IV stand, emergency drug box)

Furniture kit
- Gyn Exam table with stirrups
- Basic Exam table
- Exam stool on wheels
- Waiting room chairs
- Privacy curtains
- Book shelf
- Instrument cabinet with lock
- Office desk
- Office chairs
- File cabinet
- Bulletin Board (large size)

Laboratory kit
- Microscope and light source
- Urine centrifuge
- Spectrophotometer
- Water bath
- Cell counting chamber
- WBC and RBC pipettes
- Centrifuge tubes
- Blood drawing chair
- Tourniquet
- Timer
- Reagent pipettes
- Reagent flasks
- Test tube racks
- Test tubes

Following agreement on the composition of the PHC equipment kit, assessment of the need for this equipment at the PHC clinic level was performed. This assessment⁴ was

⁴ Ibid
conducted in 214 clinics in 5 governorates (Tameem, Wasit, Basra, Ninawa, Thi-Qar, Karbala, and Najaf). PHC clinic managers were asked to indicate the degree that select items on the PHC equipment list were needed at their individual clinic. As can be seen from Table 1, this assessment found that the designed equipment kit largely reflects the needs of PHC clinics in Iraq.

Table 1. The percentage of PHC clinics reporting a need for PHC equipment.

<table>
<thead>
<tr>
<th>Item of equipment</th>
<th>Needed Clinics</th>
<th>Needed %</th>
<th>Not needed Clinics</th>
<th>Not needed %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrument cabinet with lock</td>
<td>210</td>
<td>98.13</td>
<td>4</td>
<td>1.87</td>
</tr>
<tr>
<td>Book shelf</td>
<td>207</td>
<td>96.73</td>
<td>7</td>
<td>3.27</td>
</tr>
<tr>
<td>Basins for decontamination of instruments</td>
<td>204</td>
<td>95.33</td>
<td>10</td>
<td>4.67</td>
</tr>
<tr>
<td>Office chairs</td>
<td>202</td>
<td>95.28</td>
<td>10</td>
<td>4.72</td>
</tr>
<tr>
<td>Diagnostic set (otoscope, ophthalmoscope)</td>
<td>203</td>
<td>94.86</td>
<td>11</td>
<td>5.14</td>
</tr>
<tr>
<td>Reflex hammers</td>
<td>203</td>
<td>94.86</td>
<td>11</td>
<td>5.14</td>
</tr>
<tr>
<td>Privacy curtains</td>
<td>203</td>
<td>94.86</td>
<td>11</td>
<td>5.14</td>
</tr>
<tr>
<td>File cabinets</td>
<td>201</td>
<td>94.81</td>
<td>11</td>
<td>5.19</td>
</tr>
<tr>
<td>Trash buckets with cover</td>
<td>200</td>
<td>94.79</td>
<td>11</td>
<td>5.21</td>
</tr>
<tr>
<td>Emergency kit</td>
<td>159</td>
<td>94.08</td>
<td>10</td>
<td>5.92</td>
</tr>
<tr>
<td>Sharps disposal containers</td>
<td>201</td>
<td>93.93</td>
<td>13</td>
<td>6.07</td>
</tr>
<tr>
<td>Sphygmomanometer</td>
<td>200</td>
<td>93.90</td>
<td>13</td>
<td>6.10</td>
</tr>
<tr>
<td>Fetal heart tone detector</td>
<td>200</td>
<td>93.46</td>
<td>14</td>
<td>6.54</td>
</tr>
<tr>
<td>Dressing scissors</td>
<td>199</td>
<td>93.43</td>
<td>14</td>
<td>6.57</td>
</tr>
<tr>
<td>Office desks</td>
<td>199</td>
<td>93.43</td>
<td>14</td>
<td>6.57</td>
</tr>
<tr>
<td>Test tubes</td>
<td>198</td>
<td>93.40</td>
<td>14</td>
<td>6.60</td>
</tr>
<tr>
<td>Tourniquet</td>
<td>197</td>
<td>92.92</td>
<td>15</td>
<td>7.08</td>
</tr>
<tr>
<td>Timer</td>
<td>197</td>
<td>92.49</td>
<td>16</td>
<td>7.51</td>
</tr>
<tr>
<td>Centrifuge tubes</td>
<td>196</td>
<td>92.02</td>
<td>17</td>
<td>7.98</td>
</tr>
<tr>
<td>Adult scale with height measurement</td>
<td>196</td>
<td>91.59</td>
<td>18</td>
<td>8.41</td>
</tr>
<tr>
<td>Reagent pipettes</td>
<td>195</td>
<td>91.55</td>
<td>18</td>
<td>8.45</td>
</tr>
<tr>
<td>WBC &amp; RBC pipettes</td>
<td>194</td>
<td>91.51</td>
<td>18</td>
<td>8.49</td>
</tr>
<tr>
<td>Tuning forks</td>
<td>195</td>
<td>91.12</td>
<td>19</td>
<td>8.88</td>
</tr>
<tr>
<td>Test tube rack</td>
<td>193</td>
<td>90.61</td>
<td>20</td>
<td>9.39</td>
</tr>
<tr>
<td>Reagent flasks</td>
<td>192</td>
<td>90.57</td>
<td>20</td>
<td>9.43</td>
</tr>
<tr>
<td>Stainless steel bowels, 2 sizes</td>
<td>193</td>
<td>90.19</td>
<td>21</td>
<td>9.81</td>
</tr>
<tr>
<td>Pediatric scale</td>
<td>191</td>
<td>89.25</td>
<td>23</td>
<td>10.75</td>
</tr>
<tr>
<td>Infant length board</td>
<td>191</td>
<td>89.25</td>
<td>23</td>
<td>10.75</td>
</tr>
<tr>
<td>Oral &amp; rectal thermometers</td>
<td>191</td>
<td>89.25</td>
<td>23</td>
<td>10.75</td>
</tr>
<tr>
<td>Kidney basins</td>
<td>191</td>
<td>89.25</td>
<td>23</td>
<td>10.75</td>
</tr>
</tbody>
</table>
Selection of Clinics

The goal of the PHC equipment procurement effort was to strengthen the ability of the Iraqi MOH to deliver PHC. In line with this, clinics were selected based on their current capability to provide care, the presence of a MOH staff physician, participation of staff in the IHSS PHC training program, and participation in one or more of the rehabilitation efforts managed by other implementing partners.

Out of the more than 2000 clinics in Iraq, 834 are staffed by physicians. From this pool, clinics were first selected from the 7 core governorates in which the IHSS project was providing PHC training. These included Basra, Thi-Qar, Wassit, Najaf, Karbala, Tameem, and Ninnewa. Clinics that were to be rehabilitated by Bechtel and RTI were added to the list. Finally the MOH selected the remaining clinics and focused on equitable distribution across all 18 governorates. Regional IHSS staff proceeded to verify location, point-of-contacts and capability of these clinics. Detailed lists of these clinics are presented in Appendix A and segregated into North, Central, and South regions.

Equipment Procurement and Packaging

Following finalization of the equipment contained in the PHC equipment kit, Abt Associates moved forward with procurement in two phases. The first phase involved a small procurement of equipment for 7 kits for initial kitting and delivery to clinics in Iraq in order to test the logistics and delivery processes that would be employed within the central and governorate levels of the MOH. In parallel, Abt engaged the agreed upon
procurement subcontractor, Trans Century Associates (TCA) for the larger procurement of equipment for 600 kits. A timeline of this process including dates of necessary approvals and other milestones is shown in Table 2 below. A detailed description of each of the 58 items in the equipment kit is presented for reference as Appendix B. The quantities procured per kit are shown in Appendix C.

Table 2: Chronology of Primary Health Care Equipment Procurement

<table>
<thead>
<tr>
<th>No.</th>
<th>Action</th>
<th>Date of Initial Action Or Date Request Submitted</th>
<th>Date of Final Action Or Date Approval Received</th>
<th>Interim Period</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
|     |                                                                         |                                                  |                                               |                |  9/6 Jeff Gould follow-up with Greg Martin  
|     |                                                                         |                                                  |                                               |                |  9/30 Jeff Gould follow-up with D. Simms  
|     |                                                                         |                                                  |                                               |                |  10/6 Jeff Gould Follow-up with D. Simms  
|     |                                                                         |                                                  |                                               |                |  10/14 D Simms indicates that procurement list is in MOH/CPA review  
|     |                                                                         |                                                  |                                               |                |  10/14 D Simms requested Abt for one page summary of procurement plan, estimated deliver dates etc.  
|     |                                                                         |                                                  |                                               |                |  10/23 Abt submitted requested procurement Plan  
|     |                                                                         |                                                  |                                               |                |  10/24 D Simms approved IHSS list and plan.  
| 2.  | Abt Submitted TCA Task Assignment to CTO as directed by CO             | Oct. 30, 2003                                    | Nov. 10, 203                                  | 11 days        | Procurement Contractor scope of work and funding modified to reflect a single IFB solicitation (USAID CO Changed)  
| 4.  | Advertisement in ABS of Invitation for Bid IFB                        | November 4                                       |                                               |                | 30 day IFB minimum Bid cycle. This is a 935 solicitation to equip 600 clinics.  
| 5.  | IFB Bid Opening Date at Subcontractor’s Office                         | December 2                                       |                                               |                | End of 30 day Bid prep period. Total of 47 bid submissions  
| 6.  | IFB Vendor Selection Period                                            | Dec. 03-20, 2003                                 |                                               | 17 days        | Includes TCA Cost and Tech Review, Vendor clarification and Abt Technical Review  
| 7.  | IFB Submission to CO for approval as                                   | Dec. 27, 2003                                    | Jan. 6, 2004                                  | 10 days        | IFB is $2.7 Million package for CO approval.  


<table>
<thead>
<tr>
<th></th>
<th>Event Description</th>
<th>Date Range</th>
<th>Duration</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Purchase Contracts Issued by Procurement Subcontractor</td>
<td>January 16 2004</td>
<td></td>
<td>Vendors Sent Purchase Contract which Abt reviewed and approved</td>
</tr>
<tr>
<td>9</td>
<td>Written Acceptance of Purchase Contracts by Vendors</td>
<td>Jan 20-Feb 22, 2004</td>
<td>30 days</td>
<td>Some Vendors delayed in signing PC and required additional clarifications.</td>
</tr>
<tr>
<td>10</td>
<td>Order Processing Vendor (manufacturing Period)</td>
<td>Feb 1-Mar 15</td>
<td>45 days</td>
<td>In most cases no off the shelf product available, items have to be manufactured</td>
</tr>
<tr>
<td>11</td>
<td>Abt begins consolidated Air shipment of late Manufactured Items</td>
<td>March 24</td>
<td></td>
<td>Consolidation shipping Points include USA, Pakistan, India, China, Taiwan and Germany. USAID advised congestion at Aquaba ports and delays in other ports</td>
</tr>
<tr>
<td>12</td>
<td>Sub-kitting of IFB Equipment starts in Jordan</td>
<td>March 25</td>
<td></td>
<td>USAID freight forwarder finalizes kitting arrangements using “lift vans” containers.</td>
</tr>
<tr>
<td>13</td>
<td>Last IFB equipment items arrive in Jordan to Manufacture 200 Kits</td>
<td>April 15</td>
<td></td>
<td>Jordan kitting operations in full production.</td>
</tr>
<tr>
<td>14</td>
<td>40 IFB Kits delivered in Baghdad from Jordan</td>
<td>May 10</td>
<td></td>
<td>Kits are transported on flat bed trailers with 10 kits to a trailer</td>
</tr>
<tr>
<td>15</td>
<td>Last Abt Air shipment delivered to Jordan Free Zone warehouse</td>
<td>May 16</td>
<td></td>
<td>Vendor Purchase Contract cancellation in April delayed delivery of autoclaves. Abt procurement and delivery to logistics contractor complete.</td>
</tr>
<tr>
<td>16</td>
<td>330 IFB Kits Completed 290 in Jordan Warehouse waiting transport to Iraq</td>
<td>May 30</td>
<td></td>
<td>Kit production averages 40 kits per working day.</td>
</tr>
</tbody>
</table>
As directed by USAID, Abt delivered equipment to the Iraq logistics contractor Logenix for initial receipt and warehousing in Amman, Jordan, packaging and kitting of equipment for each kit, and final transport into Iraq to the selected clinic. As can be seen from Table 2, a combination of events resulted in the delay of equipment reaching the central warehouse and kitting facility in Amman, Jordan. This was principally due to delays in receiving approval to initiate the procurement (81 days). This was exacerbated by delays in receiving certain items (i.e., autoclaves). Because of these delays, the decision was made to focus our procurement efforts so as to ensure the receipt of sufficient equipment to complete 200 kits as rapidly as possible. This was accomplished by April 15, 2004. All remaining equipment was received in Amman Jordan by May 16, 2004.

As part of the PHC equipment kit, Abt compiled a User’s Manual\(^5\) that was included in each kit. This manual served as a guide to health clinic managers and potential users of the PHC equipment. It was delivered to each clinic along with equipment and includes specifications, instructions for use, maintenance instructions, manufacturer contact, and warranty information for each item.

**Delivery**

The strategy for final delivery of PHC equipment to the selected clinics involved close collaboration with the Iraqi MOH and was managed by the USAID logistics contractor Logenix. Abt provided assistance by coordinating the strategy with the MOH. This resulted in formal approval of the strategy and is documented in letters signed by the DG of Public Health and distributed to all governorate DOHs. These letters are provided in Appendix D along with their respective English translation.

The process used for in-country transport and delivery and detailed in Appendix D, was under the complete control of Logenix. This included kitting and transport of kits from Amman, Jordan, storing and securing equipment in regional Iraq warehouses, reviewing delivery sites, scheduling transport, movement of equipment, security during transport, obtaining initial signatures verifying clinic delivery, and ensuring these delivery receipts were received by USAID. Abt provided support regarding the collection of DOH documents resulting from entering the equipment into the appropriate MOH inventory. However, this was entirely dependent on the actions of DOH personnel of which Abt had no control.

Abt’s principal responsibilities were complete once all equipment was procured and received in the Logenix warehouse in Amman, Jordan. Abt has had no control over the process from that point forward. However, Abt staff continued to support the process by working with local DOH representatives and helping to coordinate delivery with clinic staff, DOH staff, and Logenix where possible.

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As a result of the dangerous and ever changing security environment in Iraq, only 342 of the over 600 kits had been delivered as of October 10, 2004. This is in spite of all equipment being received by May 16, 2004. Delivery began in the southern areas of Iraq, including Basra and surrounding areas and has proceeded to include the central region in and around Baghdad. No information is available from Logenix at this writing which may indicate an estimated date for completion of PHC kit delivery.

Summary

It is important to note that there were many challenges faced during implementation of this activity. Some of these challenges were due to the unique and difficult environment of post-war Iraq. These are persistent and will continue to have a negative impact on the completion of PHC kit delivery. As delivery-route security continues to erode and threats against drivers and others associated with humanitarian support increases, the ability to provide broad assistance to health care providers in Iraq will be very limited.

In addition to environmentally imposed delivery delays, the project also experienced significant delays in completion of procurement and receipt of equipment in Amman, Jordan. Certain delays were due to poor performance of vendors but the most significant delay that could have been avoided was the more than 80 day delay in receiving approval to procure from USAID (Table 2). Once procurement began, the process was complete in just over 6 months, which is a reasonable period for completion of an IFB procurement. Other minor delays associated with transport and customs clearance of items such as autoclaves were dealt with. However, as these delays occurred toward the end of the procurement, they had a much larger perceived impact.

Changes at the CPA/MOH level also affected the project. When this activity began, the MOH was being managed under the direct supervision of the CPA and the CPA Senior Health Advisor. Under this leadership, decisions were made regarding the manner by which equipment would be delivered to clinics and the inventory control processes that would be employed. When the Iraqi government assumed control of the MOH in March 2004, this process was revisited and lengthy discussions and reworking of the strategy proceeded. In the end, a plan was devised that met the concerns of the MOH and MOH inventory control while at the same time meeting the approval of the logistics contractor and governorate health representatives. This process underscored the importance of ensuring that MOH objectives were an integral part of the process. As with all aspects of the IHSS Project, coordination with the in-country stakeholder was a common theme.

In summary, the delivery of equipment to PHC clinics in Iraq is an important part of the health service delivery strengthening component of the IHSS Project. The work that was performed in support of this clearly shows that the equipment contained in these kits meets the needs of health care providers based on their own assessment. This was also verified at the central MOH level. When delivery is complete, this activity will impact on over 70% of the PHC clinics in Iraq that are staffed by an MOH physician.
This coupled with PHC provider training, will result in a significant increase in the capability of PHC providers to delivery care to the Iraqi population.
APPENDIX A: LIST OF CLINICS SELECTED TO RECEIVE PHC EQUIPMENT
APPENDIX B: IHSS Basic Medical Kits Specifications

Item #1
Goose Lamp, OB/GYN Examination

Specifications

- Goose Floor lamp
- Flexible arm that can be freely moved in all directions
- Adjustable height.
- Made of durable metal stainless steel, chrome plated steel or baked on enamel steel (or equivalent.)
- Heavy duty base on caster wheels
- For regular screw in electrical bulbs
- With on/off switch
- Electrical requirement 220V/50Hz.

Item #2
Autoclave

Specifications

- Self-contained sterilizer.
- Heavy cast aluminum with an immersion heating element.
- Automatic release valve.
- Pressure gauge.
- Pilot light.
- Metal-to-metal seal to eliminate all rubber gaskets and clamping locks to prevent removal of the cover while pressure is present.
- Double safety locking to prevent opening while pressurized.
- Timer.
- Temperature selection.
- Support base to avoid heat damage to surfaces.
• 220 Volts and 50 Hertz.

**Item # 3**

**Adult Scale with height measurement.**

**Specifications**

- Hospital/clinic scale with 100 gm increments.
- Maximum weight 150 Kg.
- Slip resistant mat.
- Built-in beam lock and hand operated balance adjustment
- Cast metal base gives accuracy on carpets or uneven floors

**Item # 4**

**Pediatric scale**

**Specifications**

- Suitable for newborns
- 10 gm increment
- Up to 7 Kg
- Baby tray has no seams or screws on upper surface & removes for easy washing & disinfecting. With smooth edges to hold babies.
- Stable & lightweight steel base design for portability
- Robust
- Easy to clean

**Item # 5**

**Infant length board.**

**Specifications**

- To measure new born heights
- With a movable arm
- Made of wood preferably
• To show height in cms up to 75cm.
• For hospital and clinic use.

Item # 6

Mayo stand/Instrument tray.

Specifications

• Mayo stand for use in obstetrical delivery room
• Stainless steel construction
• Wide –spread, low center, heavy base design to ensure non-tipping, non-wobbling stability
• Three caster wheels
• Adjustable height (hand adjustable), approximate adjustment: 100-155 cm
• Approximate dimensions of tray: 48cm (L) x 32 (W)

Item # 7

Otoscope Ophthalmoscope Set

Specifications

• Standard rechargeable ophthalmoscope
• Halogen light for true tissue color and consistent, long lasting illumination.
• 6 apertures for all general and specialist use.
• 28 lenses –25 to + 40 diopters for better resolution.
• Rubber brow rest prevents scratching of eyeglasses.
• Illuminated lens dial clearly identifies setting.
• Halogen replacement lamp.
• All accessories should be quoted separately.
  • Pneumatic Consulting 3.5V rechargeable Otoscope
• Halogen Lamp that provides 30% more light output, for true tissue color and consistent, long lasting illumination.
• Two viewing lenses for dual observation; teaching; consulting.
• Fiber optic illumination for cool light.
• Sealed system for pneumatic otoscopy.
• Rotatable head for left and right sided viewing.
• With five polypropylene specula, sizes 2,3,4, 5 and 9 mm
• With insufflator bulb and tube
• Halogen replacement lamp
• All optional accessories should be quoted separately.
• Equal to Welch Allen.

Item # 8

Sphygmomanometer

Specifications

• Professional Mercurial Sphygmomanometer
• 2 Adult cuff with Velcro closure one standard and one large sizes, 1 child cuff.
• Mercurial scale 0-300mm Hg in protective housing
• Desk model in self-contained case
• Two (2) spare cuffs of each size.
• Two (2) spare bulbs with release valves

Item # 9

Stethoscopes, Pediatric

Specifications

Stainless Steel head chest piece
• Chrome plated rotating stem
• Diaphragm/bell 47cm & 25 cm diameter (approx.)
• Stainless steel binaural with internal spring
• Non-Chill rubber ring
• White plastic ear tips
• 60 cm (approx.) “Y” tubing
• Additional diaphragm and ear tips included.
Item # 10

Fetal Heart Detector

Specifications

- Light weight, portable (hand-held)
- Speaker output provides clear and distinct doppler sound
- Obstetric probe 3 Mhz for detection of fetal sounds
- Earphone
- Rechargeable
- Power indicator
- With probe protective built in socket
- Carrying case
- NOTE: Supplier must provide a list of typical spare parts and consumable supplies required for operation of item over a two (2) year period, including quantities and unit cost.

Item # 11

Stethoscope, Adult

Specifications

- Stainless steel dual head chest piece
- Stainless steel binaural with internal spring
- Non-Chill rubber ring
- White plastic ear tips
- 56 cm (approx.) “Y” black tubing
- Additional diaphragm and ear tips included.
- Equal to Littman.

Item # 12

Thermometer, Oral

Specifications

- Clinical glass thermometer
- Oral
- Prismatic Magnifying lens
- Celsius scale
- Range: 35-42°C
- In protective case

**Item # 13**

**Thermometer, Rectal**

Specifications

- Clinical neonatal glass thermometer
- Prismatic Magnifying lens
- Celsius scale
- Range: 30-40°C
- In protective case

**Item # 14**

**Reflex Hammers**

Specifications

- Standard clinical reflex hammer
- Durable
- Easy to clean
- Resistant

**Item # 15**

**Tuning forks**

Specifications

- To check the hearing
- Set of 5 pieces of different frequencies.

**Item # 16**

**Glucometer and test strips**

- Easy to use
- 50 strips must be included with each machine
- strips must be available in Iraq or at least in the region.
Item # 17

Peak flow meter

- Adult and child size
- Regular
- Hand held for easy use
- Color indicators for easy reference
- Easy to clean
- Includes Peak flow diary to track your measurements

Item # 18

Vaginal Graves specula

Specifications

Set speculum retractor 2 sizes:
- 70 x 40mm/70 x 33mm valve (medium)
- 90 x 40mm/90 x 33mm valve (large)
- large, medium, & small
- Stainless steel

Item # 19

IUD Kits

Specifications

- Multitoothed teniculum: 9"
- Uterine sound: 7"
- Long ring forceps: 9.5"
- Long dressing forceps: with serrated tip
  - weck-Pattern standard tips Bright Finish 12” (40.4 cm) tip 5.0 mm
- Speculum – Graves, medium.

Item # 20

Suture instrument kits

Specifications
• Needle holder: 8”
• Small curved hemostat:
• Scalpel handle with a pack of 100 blades (#11 & 15)
• Forceps suture scissors straight and curved 8”

Item # 21
Stainless steel bowls
Specifications
• Round Stainless Steel bowls
• Non-rusting material
• Small
• Medium
• Large

Item # 22
Kidney Basins
Specifications
• Stainless Steel kidney shaped basins
• Non-rusting material
• Large
• Medium

Item # 23
Dressing scissors
Specifications
• Stainless steel
• Non-rusting
• Size: 8”

Item # 24
Sharp disposable containers
Specifications
• Disposable Hanging buckets with attached lid.
• Bucket wall holder.
• Clearly marked as a sharp items disposable bucket.

Item # 25

Buckets for decontamination

Specifications

• Big containers (approx. 20 L) with step on lid.
• Disposable big Yellow color Bags.

Item #26

Trash Bucket with Cover

• Steel construction
• Swing top
• 24 Gallon capacity
• White color

Item # 27

Nasopharyngeal airways
For Emergency Kit

Specifications

• Sizes: 2, 3 & 4

Item # 28

Ambubag
For Emergency Kit

Specifications

• Adult and child sizes manual operation
• Self-inflating rubber bag with inlet valve
• Inflating valve (peep)
• Adult and Child facemask
• Autoclavable
• Relief valve that works when pressure exceeds 30 mm Hg
• Airway size 00, 0 & 1
• Oxygen reservoir bag
• 2 spare masks of each size.

Item # 29

Suction machine
For Emergency Kit

Specifications

• For mucus suction
• Disposable suction tubing
• Pediatric and adult suction tips (stainless steel)
• Light weight
• Portable
• Suction regulator valve and gauge
• Automatic shut off
• Reusable collection container 220v/50Hz
• 2 spare collection containers with legs

Item # 30

IV stand
Emergency Kit

Specifications

• 2 hooks for suspension of solution containers
• Adjustable height
• Base with 4 to 5 caster wheels
• Stainless steel, chrome plated steel or baked on enamel painted steel

Item # 31

Drug Box Emergency Kit

Specifications

• Emergency drug box (tackle box)
Item # 32

Gyn Exam table with stirrups

Specifications

- Medical Gynecological examination table
- Heavy steel frame construction
- Vinyl (black or dark brown) upholstered over 5 cm foam cushion and 20 mm plywood
- Adjustable lithotomy type gynecological stirrups
- Backrest adjustable from 0° to 50° upward by manual mechanism
- Leg rest section adjustable from 0° to 90° downward by manual mechanism
- Rubber-tipped legs (no wheels)
- Open frame construction (no drawers or cabinets)
- Overall approximate dimensions: 180cm (L) x 60 cm (W) x 75 cm (H)
- Stainless steel, chrome plated steel or backed on enamel painted steel (or equivalent)
- Models with 2 or 3 drawers are preferred.

Item # 33

Examination Table

Specifications

- Medical examination table
- Hinged leg and head extension adjustable to any angle
- Heavy steel frame construction
- Sliding instrument tray extends outward from either side of table
- Mattress: vinyl upholstered over 5 cm foam cushion
  1. Rubber-tipped legs
  2. Approx 170cmx76cmx58cm
- Stainless steel, chrome plated steel, or baked on enamel painted steel

Item #34

Step Stool

- Single step for use with examination and delivery tables
- Non-slip rubber mat surface on platform
- Platform approximate dimensions:
cm (L) x 25 cm (W)
- Overall approximate dimensions: 26 cm (L) x 25 cm (W)
- Tabular steel frame
- Rubber-tipped legs
- Stainless steel, chrome plated steel, or baked on enamel painted steel

**Item # 35**

**Exam stool on wheels**

**Specifications**
- Revolving stool
- Tubular steel frame
- Stool seat vinyl (black or dark brown) upholstered over 5 to 7.5 cm thick foam cushion
- Large base spread for stability
- Twin disc caster wheels
- Adjustable height
- Stainless steel, chrome plated steel or baked on enamel painted steel (or equivalent).

**Item # 36**

**Waiting room chairs**

**Specifications**
- Molded plastic
- Color to be determined
- Attachable to create sets of 2 to 4 seats

**Item # 37**

**Privacy curtain**

**Specifications**
- 3 panel paravan
- Scotch guarded material
- On casters
- 180 cms high
Item # 38

Book shelf

Specifications

- Approx 220 cm Height, 40 cm depth, 100 cm wide
- Adjustable shelves
- Metal
- Preferably shipped unassembled

Item # 39

Instrument cabinet

Specifications

- Cabinet to store instruments supplies and equipment
- Stainless steel construction
- Two (2) glass-paneled hinged doors
- Five (5) adjustable shelves
- Solid side panels
- Key lockable
- Rubber tipped legs (on wheels)
- Overall approximate dimensions: 160 cm (H) x 100 cm (W) x 42 cm (D)

Item # 40

Office desk - large

Specifications

- Double pedestal wood desk
- 4 drawers minimum
- Modesty panel
- Approx 5 feet long x 2.5 feet deep
- Preferably shipped unassembled.

Item # 41

Manager Desk Chair with Arms

Specifications

- Mid-back
- Swivel mechanism with adjustable height
- Roller with casters
- Dark Fabric material.

Item # 42
Vertical File Cabinets

Specifications
- 4 drawers
- Metal
- For legal size hanging files.

Item # 43
Vertical Lockable File Cabinets

Specifications
- 4 drawers
- Metal
- Lockable
- For legal size hanging files.

Item # 44
Bulletin Boards

Specifications
- For wall Hanging.
- To pin on notices.
- With a 50 pin pack different colors.
- Approx. dimensions 4 ft x 3 ft
- Aluminum frame

Item #45

Microscope
- Addresses the needs of small clinical laboratories
- Compound microscope
• High resolution
• Binocular head rotatable 360 degrees.
• 10x eyepieces.
• 10x 40x, 100x and oil immersion objectives.
• Coaxial coarse and fine adjustment knobs
• Halogen illumination with adjustable field diaphragm.
• Dust cover
• All needed accessories and spare parts are provided.
• 220 Volts and 50 Hertz.

Item # 46

Urine Centrifuge

Specifications

• Spins up to six tubes
• Low speed of 1750 for urine analysis
• Built in timer to allow runs of 0 to 60 minutes
• With a Hold feature.
• Six place Fixed angle rotor to accommodate up to 17 mm dia x 133 mm long
• With adapter to accommodate smaller 10 to 13 mm dia x 75 mm long tubes
• With numbered rotor positions.
• Operation should stop if lid is open.
• Heavy metal base for stability.
• With rotor, six shields, thumscrew and instruction manual.
• With all accessories for operations.
• Electrical requirements: 220V / 50 Hz.

Item # 47

Spectrophotometer

Specifications

• Mono reading with high resolution
• Spectral range 340 – 700 nm
• Bandwidth at least 10 nm +/- 2
• Photometric linearity: better than 1 %
• Precision: CV Less or equal to 0.5% to 0,200 A and Less or equal to 0.1% to 2,000A
• Linearity: up to 2,200 A
• Light source: Halogen lamp (12V/20W)
• Zero: Automatic
• Reading: Monochromatic and bichromatic
• Detector: Silicon photodiode

• Thermostatic control:
• Programmable temperature 23° to 40°
• Accuracy +/- 0.2 °

• Display: LCD 4 x 20 characters

• Printer:
• Type, bi-directional
• Printing speed: 40 characters/sec
• Characters per line: 40

• Paper: Thermosensitive, 80 mm wide
• Programming: Intensity printing control with on/off printer

• Calculation modes:
• Absorption/Concentration
• End point with factor or standard
• Enzyme kinetics with factor or standard
• Differential mode with factor or standard
• Fixed time with factor or standard
• Polygonal Multi-Standard (Calibration curve)

• Programming:
• 75 locations (non volatile memory) to program up to 75 different tests, (Open System): Incorporates all points mentioned. In addition: Printer control and two washing modes (fixed volume or continuous)

Item # 48

Water bath

Specifications

• Precise temperature control
• Overhead prevention system
• Fast heat up to correct temperature
• Cover: self draining, lift off, see-through
• Digital temperature display
• Stainless steel reservoir easy to empty.
• 10-liter size
- High-gabled
- Smoke-tint polycarbonate cover
- Drain pump
- Lighted on-off switch
- Oversize air-jacketed heating element
- Stainless steel sample tray
- Push button reset circuit breaker
- -20C to + 150C thermometer

**Item # 49**

**Cell counting chamber**

**Specifications**

- For accurate white and red blood cell and platelet counts
- With 2 counting areas
- Made of molded glass
- Each counting area with a thin metal layer each with 400 small squares in central 1mm square.
- Under microscope partitions should appear as white lines on a dark base.
- Smooth capillary action for precise loading and more even cell distribution. With two 0.4 mm cover glasses
- V-shaped slashes at each loading side of both counting chambers.
- With 10 replacement cover glasses.

**Item #50**

**Automatic Pipettes**

- Variable volume single channel
- Robust lightweight design
- Slim line tip ejector allows pipetting tubes into narrow tubes
- Smooth plunger action
- Compatible with a wide range of tips
- High degree of accuracy and precision
- Easy maintenance and calibration tool supplied
• Wide range of volumes in bath fixed and variable styles
• Volume range: 0.5-10 ul 100-1000 ul

Item # 51
Centrifuge tubes

Item # 52
Blood drawing chair

Specifications
• With two armrests adjustable to different angles.
• To support any patient's arm from shoulder to wrist in secure straight position.
• Draw blood from either arm
• Chair made of fiberglass with modified “A” frame for stability
• With drawer under each side for storage of blood-drawing supplies.

Item # 53
Tourniquet

Specifications
• Made of treated live gum rubber, self-adhesive.
• Firm, constant grip.
• Adjustable for any tension.

Item # 54
Timer

Item # 55
Reagent pipettes

Item # 56
Reagent flasks
Item # 57

Test Tube Racks

Specifications

- Stainless Steel
- 24 tubes up to 16 mm diameter.

Item # 58

Test tubes
APPENDIX C:

Quantities Required per Kit:

<table>
<thead>
<tr>
<th>Item #</th>
<th>Item Description</th>
<th>Quantity for each clinic</th>
<th>Quantity for 600 Clinics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic Equipment Kits</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Goose Neck lamp</td>
<td>1</td>
<td>600</td>
</tr>
<tr>
<td>2</td>
<td>EPI sterilizer or autoclave</td>
<td>1</td>
<td>600</td>
</tr>
<tr>
<td>3</td>
<td>Adult scale with height measurement</td>
<td>1</td>
<td>600</td>
</tr>
<tr>
<td>4</td>
<td>Pediatric scale</td>
<td>2</td>
<td>1200</td>
</tr>
<tr>
<td>5</td>
<td>Infant length board</td>
<td>1</td>
<td>600</td>
</tr>
<tr>
<td>6</td>
<td>Mayo stand/instrument tray</td>
<td>1</td>
<td>600</td>
</tr>
<tr>
<td><strong>Basic Instrument Kit</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Otoscope Ophthalmoscope set</td>
<td>1</td>
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</tr>
<tr>
<td>8</td>
<td>Sphygmomanometer</td>
<td>3</td>
<td>1800</td>
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<tr>
<td>9</td>
<td>Stethoscope, Pediatric</td>
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<td>1800</td>
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<tr>
<td>10</td>
<td>Fetal Heart Detector</td>
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<tr>
<td>11</td>
<td>Stethoscope, Adult</td>
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</tr>
<tr>
<td>12</td>
<td>Thermometer, Oral</td>
<td>12</td>
<td>7200</td>
</tr>
<tr>
<td>13</td>
<td>Thermometer, Rectal</td>
<td>12</td>
<td>7200</td>
</tr>
<tr>
<td>14</td>
<td>Reflex hammer</td>
<td>3</td>
<td>1800</td>
</tr>
<tr>
<td>15</td>
<td>Tuning forks (256 &amp; 512 hz.)</td>
<td>3</td>
<td>1800</td>
</tr>
<tr>
<td>16</td>
<td>Glucometer and test strips</td>
<td>3</td>
<td>1800</td>
</tr>
<tr>
<td>17</td>
<td>Peak flow meter, adult and child size</td>
<td>3</td>
<td>1800</td>
</tr>
<tr>
<td>18</td>
<td>Vaginal speculae (at least 3 sizes – small, med., large)</td>
<td>3</td>
<td>1800</td>
</tr>
<tr>
<td>19</td>
<td>IUD kits (multitoothed tenaculum, uterine sound, long ring forceps, long dressing forceps)</td>
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<td>600</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Quantity</td>
<td>Unit Cost</td>
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<tr>
<td>---</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------</td>
<td>-----------</td>
</tr>
<tr>
<td>20</td>
<td>Suture instrument kits (needle holder, small curved hemostat, scalpel handle, Adson forceps, suture scissors, small curved Metzenbaum scissors)</td>
<td>3</td>
<td>1800</td>
</tr>
<tr>
<td>21</td>
<td>Stainless steel bowls, 3 sizes per set</td>
<td>3</td>
<td>1800</td>
</tr>
<tr>
<td>22</td>
<td>Kidney basins, 2 sizes per set</td>
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<td>1800</td>
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<tr>
<td>23</td>
<td>Dressing scissors</td>
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<td>1800</td>
</tr>
<tr>
<td>24</td>
<td>Sharps disposal containers</td>
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<td>1800</td>
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<tr>
<td>25</td>
<td>Buscets for decontamination of instruments</td>
<td>3</td>
<td>1800</td>
</tr>
<tr>
<td>26</td>
<td>Trash bucket with cover (med. size)</td>
<td>3</td>
<td>1800</td>
</tr>
<tr>
<td>27</td>
<td>Nasopharyngeal airways for emergency kit</td>
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<td>600</td>
</tr>
<tr>
<td>28</td>
<td>Ambubag for emergency kit</td>
<td>1</td>
<td>600</td>
</tr>
<tr>
<td>29</td>
<td>Suction kit for emergency kit</td>
<td>1</td>
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<tr>
<td>30</td>
<td>IV Stand for emergency kit</td>
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</tr>
<tr>
<td>31</td>
<td>Drug box for emergency kit</td>
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<td>600</td>
</tr>
<tr>
<td></td>
<td><strong>Furniture kit</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Gyn Exam table with stirrups</td>
<td>1</td>
<td>600</td>
</tr>
<tr>
<td>33</td>
<td>Basic Exam table</td>
<td>1</td>
<td>600</td>
</tr>
<tr>
<td>34</td>
<td>Step stool for exam table</td>
<td>1</td>
<td>600</td>
</tr>
<tr>
<td>35</td>
<td>Exam stool on wheels</td>
<td>1</td>
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<tr>
<td>36</td>
<td>Waiting room chairs</td>
<td>6</td>
<td>3600</td>
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<tr>
<td>37</td>
<td>Privacy curtains</td>
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<td>38</td>
<td>Book shelf</td>
<td>1</td>
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<tr>
<td>39</td>
<td>Instrument cabinet with lock</td>
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<tr>
<td>40</td>
<td>Office desks</td>
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<td>41</td>
<td>Office chairs</td>
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<td>42</td>
<td>Vertical file cabinet</td>
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<td>43</td>
<td>Lockable vertical file cabinet</td>
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<tr>
<td>44</td>
<td>Bulletin Boards large size</td>
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<td></td>
<td><strong>Laboratory kit</strong></td>
<td></td>
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<tr>
<td>45</td>
<td>Microscope and light source</td>
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</tr>
<tr>
<td>46</td>
<td>Urine centrifuge</td>
<td>1</td>
<td>600</td>
</tr>
<tr>
<td>47</td>
<td>Spectrophotometer</td>
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<td>48</td>
<td>Water bath</td>
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<td>Item Number</td>
<td>Description</td>
<td>Quantity</td>
<td>Quantity Required</td>
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<td>----------------------------------</td>
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<tr>
<td>49</td>
<td>Cell counting chamber</td>
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<tr>
<td>50</td>
<td>Automatic pipettes</td>
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<tr>
<td>51</td>
<td>Centrifuge tubes</td>
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<td>Blood drawing chair</td>
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<td>53</td>
<td>Tourniquet</td>
<td>1</td>
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<tr>
<td>54</td>
<td>Timer</td>
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<td>Reagent pipettes</td>
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<td>56</td>
<td>Reagent flasks</td>
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<tr>
<td>57</td>
<td>Test tube racks</td>
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<tr>
<td>58</td>
<td>Test tubes</td>
<td>48</td>
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APPENDIX D: Letters from the Iraqi MOH Describing the PHC Kit Delivery Process