REQUEST FOR PROPOSALS (RFP) INSTALLATION OF OXYGEN OUTLETS AND PIPELINES IN THE REGIONAL HOSPITAL OF ESCUINTLA, GUATEMALA

Summary of Deadlines

Release of request for proposals	**January 10, 2022**
Proposals due/last date of submission of proposal	**January 21, 2022** **5pm EST**

The Clinton Health Access Initiative (CHAI) invites interested and capable organizations to submit proposals to conduct the design and installation of oxygen outlets and pipelines in the Regional Hospital of Escuintla in Guatemala.

If you decide to submit your quotation in response to this RFP, please send your submission in soft copy to José Cordova Mendoza, COVID-19 Associate, Central America, at jcordovamendoza@clintonhealthaccess.org; **by 17.00 Hours EST (5 pm) on Friday, January 21, 2022.**

Questions related to this RFP should be submitted to José Cordova Mendoza at the e-mail mentioned above.

BACKGROUND

A. CLINTON HEALTH ACCESS INITIATIVE (CHAI)

The Clinton Health Access Initiative, Inc. (CHAI) is a global health organization committed to saving lives and reducing the burden of disease in low-and middle-income countries, while strengthening the capabilities of governments and the private sector in those countries to create and sustain high-quality health systems that can succeed without our assistance. For more information, please visit: www.clintonhealthaccess.org

B. THE PROGRAM: OXYGEN TECHNICAL ASSISTANCE (TA)

The first case of SARS-CoV-2 was reported in Latin America on February 26 2020, when Brazil confirmed the presence of the virus in Sao Paulo, and since then, 46M+ cases have been registered in the region. According to World Health Organization statistics, in 2020, Latin America and the Caribbean was the region with the highest number of confirmed cases globally, representing one quarter of total cases worldwide.

Latin America continues to carry one of the highest burdens of COVID-19 in the world and its health systems have been among the hardest hit by the pandemic. Despite initial progress in mounting an emergency response, many countries in the region continue to experience difficulties providing quality and timely care to patients. Documented gaps have included limited testing capacity, difficulty connecting the patient's care pathway with a single information system, limited capacity for implementing an oxygen therapy, stock outs of drugs, saturation of ICUs, and delays in implementing a vaccination strategy or limited access to vaccines.

Since July 2021, CHAI started supporting Ecuador and Guatemala with a new program focused on strengthening the oxygen technical capacity of these two countries. Under the new Oxygen TA Program, funded by UNITAID, CHAI is working with the Ministries of Health on prioritizing five to six hospitals, in different departments of the countries mentioned, where COVID-19 cases are higher, as are the gaps for providing adequate therapy to patients. Program interventions will include: a) hospital infrastructure improvement, b) training on clinical aspects of oxygen therapy and also on forecasting of O2 and related commodities, c) developing preventive and corrective maintenance programs for each of the prioritized hospitals, d) procurement of health supplies, among others.

C. OXYGEN TA IN THE REGIONAL HOSPITAL OF ESCUINTLA, GUATEMALA

There´s a continued need to enhance critical care and improve hospital capacities for the adequate care of patients affected by COVID-19 and timely access to oxygen can be decisive in

the correct development of a patient. Oxygen is part of the list of essential medicines of the World Health Organization (WHO), and yet its access and distribution is not adequate, especially in developing countries. The reasons for poor access to oxygen are often cost and lack of adequate infrastructure.

The public hospitals of Guatemala have three main models of medical oxygen supply that are commonly used: concentrators, cylinders and cryogenic liquid oxygen tank, the latter being the main supply for secondary, tertiary and specialized hospitals. For the distribution and supply of medical oxygen from the liquid oxygen tank, hospitals have the infrastructure of pipelines and oxygen outlets.

Oxygen bed infrastructure in hospitals has been and it´s currently being improved to cope with the increased demand from coronavirus patients requiring medical oxygen support. However, not all health care areas have oxygen support, which limits the care that the hospitals can provide to patients to practice oxygen therapy for COVID-19 patients and other diseases.

CHAI's Oxygen TA Program in Guatemala has the scope to assess priority facilities to determine where new equipment and services will be placed. Assessments may include evaluation of current infrastructure, types of care offered, and staff capacity. Longer-term considerations for oxygen availability may be incorporated into this stage such as network design or optimization for oxygen generation and delivery.

Through the above-mentioned assessment, the need to support the Regional Hospital of Escuintla has been identified and the goal of improving the infrastructure for the distribution of oxygen to the patients has been set.

The installation of oxygen outlets will allow the hospital to expand its capacity to care for patients, especially those suffering from COVID-19, which in turn means an improvement in the quality of care for the population. The hospital currently has 163 oxygen outlets, so this support intervention by CHAI will allow the hospital's capacity to be expanded by 60% compared to its current situation, managing to cover 100% of the hospital services with oxygen intakes.

SCOPE OF WORK

This request for proposals (RFP) is to solicit competitive bids for the design and installation of oxygen outlets and pipelines in the Regional Hospital of Escuintla.

A. TECHNICAL AND QUALITY INFORMATION

Only complete bids with the following documentations will be considered:

- Design drawings (DWGs) for each facility/ward where wall outlets are being added.
- Bill of quantity (BOQ) for works depicted in DWGs (Itemized list of the pipeline components to be installed for each facility)
- Documentation of personnel training/qualifications, which may include:
    - Certification of personnel completing this work
    - CV of lead system design engineer
    - Documentation summarizing the training program that the supplier requires of all engineers involved in medical gas system installation and design
- QMS for company carrying out design and installation (either ISO 9001 or ISO 13485 with scope clearly defined) and detailed relevant work history
- Proof of SRA approval (e.g., FDA or CE mark) and ISO 13485 for flowmeters, humidifiers, and terminal units.
- Statement of compliance with the following standards (or equivalent):
    - ISO 7396-1
    - ISO 9170 1:2008
    - ASTM-B819 / BS EN 13348
    - EN 1254-1
    - EN 1254-4

a. Technical requirements for piping and wall outlets

<table>
<tr><th>Component</th><th>Specification</th></tr>
<tr><td>Piping coverage layout:</td><td>Departments/wards of additional terminal units: Gynecology, Maternity, Newborns, Women´s Medicine, Trauma and pediatric surgery, Pediatric Medicine, Men's Medicine, Men’s Surgery, Men’s Trauma

Number of terminal units to be added per ward:
<table>
<tr><th>Level /Ward</th><th>Quantity of outlets</th></tr>
<tr><td colspan="2">First level</td></tr>
<tr><td>Gynecology</td><td>6</td></tr>
<tr><td colspan="2">Second level</td></tr>
<tr><td>Gynecology</td><td>6</td></tr>
<tr><td>Maternity</td><td>6</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Component</th><th>Specification</th></tr>
<tr><td></td><td>
<table>
<tr><td>Newborns</td><td>2</td></tr>
<tr><td colspan="2">Third level</td></tr>
<tr><td>Women’s Medicine</td><td>14</td></tr>
<tr><td>Trauma and pediatric surgery</td><td>10</td></tr>
<tr><td>Pediatric Medicine</td><td>12</td></tr>
<tr><td colspan="2">Fourth level</td></tr>
<tr><td>Men's Medicine</td><td>12</td></tr>
<tr><td>Men’s Surgery</td><td>22</td></tr>
<tr><td>Men’s Trauma</td><td>6</td></tr>
<tr><td>Total Outlets</td><td>96</td></tr>
</table>
</td></tr>
<tr><td>Design criteria</td><td>Additional terminal units will not affect the existing pipeline network.
Tie-in to existing pipeline and VIE system</td></tr>
<tr><td>Piping layout</td><td>Piping will be concealed in the ceiling voids wherever possible and shall be installed in trunking where it is exposed.</td></tr>
<tr><td>Terminal units</td><td>Terminal wall unit connection compatible with existing facility or wall unit type.
US colour standard (green, labelled “oxygen”)</td></tr>
<tr><td>Network security</td><td>If there is a new area being serviced, ensure these areas are covered under local and master alarms.</td></tr>
<tr><td>Power Supply Requirements</td><td>110 V / 60 Hz for alarm panels</td></tr>
<tr><td>Warranty</td><td>All components of the medical oxygen pipeline network shall have a 5-year warranty period after commissioning, in-line with its design life.
The supplier must ensure the availability of spare part for at least 8 years</td></tr>
<tr><td>Testing and commissioning</td><td>On-site: Inspection, testing and commissioning shall be done before handover.
Provision of:
As-built system drawings
Commissioning report & certificate</td></tr>
<tr><td>Regulatory and Standards:</td><td>Standards: the following certificates given by a certified third-party for system components (or equivalent thereof):
General (vendor):
Certified Quality Management Systems (ISO 13485, ISO 9001), where Scope of current registration defined for piped networks
Component-specific:
ISO 7396-1: Medical gas pipeline systems — Part 1: Pipeline systems for compressed medical gases and vacuum
NFPA 99: National Fire Protection Association (USA): Health Care Facilities Code Handbook</td></tr>
</table>

Component	Specification
	• ISO 9170-1:2008, Terminal units for medical gas pipeline systems — Part 1: Terminal units for use with compressed medical gases and vacuum • ASTM-B819 / BS EN 13348: Standard Specification for Seamless Copper Tube for Medical Gas Systems • EN 1254-1: Copper and copper alloys - Plumbing fittings - Fittings with ends for capillary soldering or capillary brazing to copper tubes • EN 1254-4: Copper and copper alloys - Plumbing fittings - Fittings combining other end connections with capillary or compression ends

b. Technical requirements for Flowmeters

Product	Category	Specifications
Flowmeter, Thorpe tube, pressure compensated	Technical	The provider must include at least a flowmeter for each single oxygen outlet installed.
		Device suitable for use with medical oxygen
		Thorpe tube flowmeter type, contains inlet and outlet port, a flow regulator, a valve and a clear measuring tube.
		Flowmeters to measure and regulate flow from an already pressure-reduced and regulated oxygen source to the patient or other medical device
		Pressure compensated flowmeters, calibrated at 345–380 kPa (3.4–3.8 bar, 50–55 psi) inlet gauge pressure.
		Max gauge inlet pressure 690 kPa (6.9 bar, 100 psi).
		Flow adjustment knobs to have rough surface to prevent slipping.
		Flowmeters calibrated to the following flow range, all metric: 0-15 L/min, accuracy 10%, *dual taper graduations 0.5 L/min (0–5 L/min range) and 1 L/min (5 L/min – maximum range)*
		All minimum flowrates to be zero when fully closed
		All graduations to be clearly visible for 270 degrees (most breadth for provider vantage points)
		Inlet and outlet ports to be clearly specified and will in part be determined by use case (suitable for connection to centralized system, cylinders, concentrators or compressors)
		Piped source inlet: Connection to terminal unit / bedside unit (e.g. from a piped oxygen network)
		Specify adapter for inlet connection, including but not limited to, 1/8 inch NPT female (this is 'no adapter'), BS (3/8 inch BSP female,

Product	Category	Specifications
		"British Standard"), DIN, DISS 'HIT' or DISS nut & gland (female), AFNOR, Ohmeda, Chemetron, Puritan Bennet, Schrader.
		Outlets:
		Specify outlet adapter, e.g., "Christmas tree" tubing adapter, DISS female to barbed 1/4 inch ID (male) hose connector or DISS, male
		Flowmeter material:
		Column to be transparent, clear, shatter-resistant, medical-grade polymer (polypropylene, polycarbonate)
		Hardware/valves: Brass/steel/aluminum
		All materials in contact with oxygen certified for medical use.
		Internal parts (e.g., valve, inlet filter if present), replaceable by user.
		Environmental:
		Capable of being stored in ambient temperature of at least 5–50 °C, relative humidity of at least 15–95% non-condensing.
		Suitable for continuous operation in ambient temperature of at least 5–45 °C, relative humidity of at least 15–90% non-condensing.
		Specific requirements for altitude may be required, depending on the installation site.
		Disinfectable with hospital grade detergents.
	Warranty	2 years minimum
	After sales	Availability of repair and/or service level agreements
	QMS	ISO 13485 (medical device QMS)
	Regulatory	CE and/or
		FDA-registered
	Packaging	Name and/or trade mark and address of the manufacturer.
		Product name.
		Product reference.
		Type of product and main characteristics.
		Performance testing information against the mentioned standards.
		Lot number prefixed by the word "LOT" (or equivalent harmonized symbol).
		Information for particular storage conditions (temperature, pressure, light, humidity, etc.), as appropriate (or equivalent harmonized symbol), if applicable.
		Information for handling, if applicable (or equivalent harmonized symbol).

Product	Category	Specifications
		If the packaging is not transparent, it must bear a diagram (preferably actual size) showing the essential parts of the product and indicating the position of the product in the packaging.
		Gross Weight.
		Cubic Measurement.
		All indicated at least in Spanish.
	Product performance standards (indicate compliance)	ISO 32 Gas cylinders for medical use — Marking for identification of content (or ANSI equivalent) ISO 5359 Low-pressure hose assemblies for use with medical gases. ISO 15001 Anesthetic and respiratory equipment – Compatibility with oxygen. ISO 15002 Flow-metering devices for connection to terminal units of medical gas pipeline systems. ISO 15223-1 Medical devices – Symbols to be used with medical device labels, labelling and information to be supplied – Part 1: General requirements. ISO 18082 Anesthetic and respiratory equipment – Dimensions of non-interchangeable screw-threaded (NIST) low-pressure connectors for medical gases. ISO 18562 Biocompatibility evaluation of breathing gas pathways in healthcare applications.

c. Technical requirements for Humidifiers

Product	Category	Specifications
Bubble Humidifier	**Description**	Bid must include at least 700 humidifiers.
		A device designed to prevent the drying of airway passages associated with the inhalation of oxygen (O2) by adding water vapor to the dry gas as it is passed through, or more seldom, over water. It typically consists of a graduated container (reservoir) for the water, a top piece that functions as a detachable lid (typically a screw lid with a gastight seal), and a tube that protrudes into the water to divert the gas below the water level. This device, commonly known as a bubble humidifier, does not heat the water. It has connectors: 1) one (e.g., a winged nut) that connects to an oxygen therapy flowmeter; and 2) one to which the patient tubing is connected. This is a reusable device. (SOURCE: GMDN 35113)
	Technical	Reusable humidifier for oxygen therapy and ventilation/anesthesia inspiratory lines.
		Non-heated humidifier - ambient temperature functionality.
		Bubble-through humidification system.
		Unbreakable or shatter resistant.
		Transparent humidification bottle

		Graduated, graduation shall show minimum and maximum water level.
		Humidification chamber working volume at least 150 mL, not greater than 500 mL.
		Detachable metal or rigid durable polymer cap with gas connectors.
		Pressure relief safety valve, ≥ 14 kPa (0.1 bar, 2 psi) pressure rating.
		DISS, female (nut) connectors for inlet.
		6 mm barbed connector for outlet.
		Flow rate capacity up to 15 L/min.
		Must be capable of disinfection.
		Materials, all to be certified for medical use:
		Cap and connectors made of brass/steel/other biocompatible metal or polymer
		Bottle and tubes made of polypropylene, polycarbonate or equivalent biocompatible plastic/polymer
		Pressure valve made of brass chromium plated or equivalent metal
		Supplier must define decontamination procedure.
	Warranty	2 years minimum
	After sales	Availability of repair and/or service level agreements
	QMS	ISO 13485 (medical device QMS)
	Regulatory	CE and/or
		FDA registered
	Product performance standards	ISO 8185 Respiratory tract humidifiers for medical use – Particular requirements for respiratory humidification systems.
		ISO 15001 Anesthetic and respiratory equipment – Compatibility with oxygen.
		ISO 15223-1 Medical devices – Symbols to be used with medical device labels, labelling and information to be supplied – Part 1: General requirements.
		ISO 18562 Biocompatibility evaluation of breathing gas pathways in healthcare applications.
		ISO 18190 Anesthetic and respiratory equipment – General requirements for airways and related equipment
		ISO 18562-1 Biocompatibility evaluation of breathing gas pathways in healthcare applications – Part 1: Evaluation and testing within a risk management process.
	Packaging	Name and/or trademark and address of the manufacturer.
		Product name.
		Product reference.
		Type of product and main characteristics.
		Performance testing information against the mentioned standards.
		Lot number prefixed by the word "LOT" (or equivalent harmonized symbol).

		Expiry date by year and month, prefixed by the word "EXP" (or equivalent harmonized symbol).
		Information for particular storage conditions (temperature, pressure, light, humidity, etc.), as appropriate (or equivalent harmonized symbol), if applicable.
		Information for handling, if applicable (or equivalent harmonized symbol).
		If the packaging is not transparent, it must bear a diagram (preferably actual size) showing the essential parts of the product and indicating the position of the product in the packaging.
		Gross Weight.
		Cubic Measurement.
		All indicated at least in English.

APPLYING FOR THE PROJECT

Based on the national COVID-19 response, through the Oxygen Technical Assistance Program, CHAI has assessed priority facilities and determined where new equipment and services could be placed. Assessments have included an evaluation of the current infrastructure, types of care offered, and staff capacity. Considerations for oxygen availability have been incorporated into this stage such as network design and optimization for oxygen delivery.

In order to apply for this RFP, applicants should provide (1) Technical visit form signed by the Regional Hospital of Escuintla. (2) a completed application form (Sections 1 and 2); (3) a completed budget template (collectively "Materials"); and (4) technical and quality documentation outlined in the Scope of Work.

Proposed budgets should not exceed **USD 56,500**[i] and proposed deliverable timelines (installation and performance tests) should take no longer than **2 months** to implement.

Quotations will remain valid for 30 days from the closing date of this RFP, despite anything to the contrary on the Quotation.

Completed applications will be reviewed and agreed upon among CHAI and the winning bid will be communicated no later than January 28, 2022.

After the communication of the winning bid, the Purchase Order will be made and the contract signed with the supplier, which can be carried out up to 21 days.

SECTION 1: BIDDER INFORMATION

1. **Name of the bidder organization/provider:**

2. **Contact information (please include contact name, address, telephone number, and email):**

3. **Total budget requested:**

4. **Commercial references:**

5. **Please provide a brief description of the company/organization.**

6. **Provide information of experiences related to the area of work.**

SECTION 2: PROJECT INFORMATION

7. **Project and Deliverables Description**

8. **Main Activities with Deliverables Due Dates and Timeline (Please ensure the activities shown here match the activities shown in the budget template):**

Activity(ies)/Deliverables	Description	Estimated Date of Completion

9. **How will this project contribute to or further for the optimization for oxygen delivery to the patients in the country?**

10. **How will you accomplish the project within the timeframe indicated? If the project is time-sensitive (e.g. funding needs to be in place by XX date in order to achieve the proposed results) please indicate that here.**

SECTION 3: **ELIGIBILITY AND QUALIFICATION OF OFFERS**

A. TENDER EVALUATION AND SELECTION CRITERIA

The selection of the winning bid will be carried out in accordance with the criteria described below:

- Specifications
- Performance criteria
- Operational criteria (including warranty)
- Quality requirements (including regulatory and standards and proof thereof)
- After sales service support at site(s) including costs of spare parts, service, and maintenance – where applicable
- Execution time
- Technical support, based on the staff certifications
- Price

For this, the offers will be evaluated and weighted according to the following criteria:

Criteria	Points
Execution time	10 points
Technical support	40 points
Price	50 points
Total	**100 points**

EXECUTION TIME

The offer that presents the lowest execution time in labor days for Installation and accessories delivery, will automatically obtain ten (10) points; the other offers will have a qualification inversely proportional to the first, according to the value of their offer. For which the following formula must be taken:

$$\frac{\text{Lower Delivery time offered X 10}}{\text{N Value}}$$

N Value = Delivery time of offers to qualify (in labor days).

TECHNICAL SUPPORT:

Documents that certify the technical competencies of the personnel who will execute the installation, binder certifications, including resume, photocopies of diplomas, certificates and / or certifications that support the competence in this type of service, in the last 10 years to date of the presentation of the offers.

For the qualification, the BOARD will assign forty (40) points according to the documents that support the competence of the technicians presented by the BIDDER, according to the following formula:

$$\frac{\text{Value N X 40}}{\text{Greater amount of records}}$$

Value N = Documents to qualify.

PRICE:

The offer that presents the lowest price, will automatically obtain fifty (50) points; the other offers will have a qualification inversely proportional to the first, according to the value of their offer. For which the following formula must be taken:

$$\frac{\text{Lowest price offered X 10}}{\text{N Value}}$$

N Value = Offers price to qualify.

OTHER INFORMATION

Failure to furnish all information required by the RFP or submission of a bid not responsive to the RFP in every respect will be at the bidder's risk and may result in rejection or disqualification of the bid.

CHAI shall have the right to seek any additional information or document from the bidder in the manner it deems fit in its sole and absolute discretion.

The bid prepared by the bidder, as well as all correspondence and documents relating to the bid exchanged by the bidder and CHAI shall be written in Spanish language only. However, in case bidder chooses to enclose certain supporting document(s) in any language other than Spanish, then bidder shall also enclose certified / authentic translated copies of the same in English language. Any document which is not translated into Spanish will not be considered and the bid shall be considered incomplete and therefore, liable for disqualification.

All prices quoted in the bid shall be quoted in Guatemalan Quetzal (GTQ)[1].

CHAI will examine the bids to determine whether these are complete, whether these meet all the conditions of the RFP and whether the documents have been properly signed and the bids are generally in order. If there is a discrepancy between words and figures, the amount in figures may be used as the prevailing amount.

Disclaimer

Distribution of this document does not mean there is any commitment on the part of CHAI to award a contract or fund an applicant.

CHAI will not reimburse or otherwise bear any costs associated with this RFP regardless of whether an organization is selected to undertake the supply.

Please note that no fee is required in submission of these applications.

CHAI makes no representation or warranty and shall incur no liability whatsoever under any law as to the accuracy, reliability or completeness of the information contained in the RFP.

Confidentiality

Information which the Responder considers to be proprietary should be clearly marked as such. All such information will be treated as confidential and used by the CHAI team for assessment purposes only.

[i] GTQ 426,591.38. Exchange rate: 1 USD = GTQ 7.55029. https://www.oanda.com/currency-converter, consulted 01/05/2022.