

PART SEVEN

SCHEDULE TO THE GENERAL CONDITIONS OF CONTRACT – SPECIFICATION

PROVISION OF SYSTEM DESIGN, DEVELOPMENT AND IMPLEMENTATION SERVICES (WTSDHC)

The Specification comprises the following two parts:

- a. **SCHEDULE ONE: General Specification**
- b. **SCHEDULE TWO: Particular Specification**

Unless otherwise stated, all requirements in SCHEDULE ONE and SCHEDULE TWO are mandatory. In the event of any inconsistency between SCHEDULE ONE and SCHEDULE TWO, the requirements in SCHEDULE TWO shall take precedence and prevail over SCHEDULE ONE. Unless the context otherwise required, defined words used in this Schedule have the same meanings given to them as follows: -

“Project”: The overall design, supply, build, development, implementation, installation, testing, implementation, nursing and warranty of the System and if instructed by the Welfare Council, the ongoing maintenance and support services; and

“Solution”: The System and the Services required from the Contractor for the Project;

Other defined words shall be as defined in the General Conditions of Contract and the Glossary of Terms in **Attachment 2 to Schedule Two**.

SCHEDULE ONE: GENERAL SPECIFICATION

1 INTRODUCTION AND GENERAL REQUIREMENTS

1.1 Items and Services To Be Supplied

1.1.1 The Contractor shall design, develop and implement the Solution and provide the nursing services and Warranty Services for the Welfare Council as specified in this Specification.

1.1.2 In this Project, the Contractor(s) shall provide solution, including architecture and technical design, platform and environment setup in on-premises (that is WTSDHC) servers, System development, hardware plan development and procurement, hardware provision and installation, on-site testing, support and maintenance service, user training and other items required to ensure project delivery.

1.1.3 Upon Project completion, the Contractor shall deliver the solution(s) to fulfil the requirements of corresponding category . The solution should include but not limited to the followings:-

- (a) Program for systems and solutions;
- (b) Un-obfuscate program source for solutions unless it is stated clearly in tender reply;
- (c) Programs for related hardware;
- (d) Un-obfuscate program source for hardware unless it is stated clearly in tender reply;
- (e) Related hardware.

1.1.4 It is the responsibility of the Contractor to study, clarify and confirm user requirements as well as the technical solution with the Welfare Council during the system analysis and design stage. In the event that it is discovered that more items of the Contractor Supplied Software and Contractor Supplied Hardware are needed for ensuring that the System complies with the reliability levels in the Particular Specification, the Contractor shall be obliged to provide the additional software and hardware at its own cost, and under no circumstances at the additional cost to Welfare Council. In the event that it is discovered that less items of the Contractor Supplied Software and Contractor Supplied Hardware will be required than those as proposed in **Form 4 “Bill of Materials and Product Information”**, the Welfare Council will not be obliged to procure

the redundant items and there shall be a corresponding reduction of the Contract Price.

1.2 Office Arrangement

- 1.2.1 The Contractor personnel shall work offsite at the Contractor's premises. Upon request of the Welfare Council, the Contractor personnel shall work in the offices of the Welfare Council. The Welfare Council shall not be responsible for any transportation or travelling expenses. The Contractor shall attend all meetings in the offices of the Welfare Council, unless otherwise agreed in writing.

2 BACKGROUND

- 2.1 Established in 1966, the Welfare Council has been providing multifaceted services to individuals across all ages and socioeconomic backgrounds in line with its service philosophy, "Personalised Service, Holistic Care", to "Transform Lives" so they may "Live in Abundance". With over 200 service units and member agencies across the territory, in Macau and Guangzhou, the Welfare Council has established a comprehensive and close-knit service network. Under the auspices of the Hong Kong Sheng Kung Hui, the Welfare Council walks in the footsteps of the Son of Peace, working hand in hand with churches and schools to deliver love and care to the local community, and to reach out to international communities in a collective effort to build a loving society.

2.2 Project Background

In the 2017 Policy Address, the Chief Executive directed that, to further illustrate the effectiveness of medical-social collaboration in providing primary healthcare services, the Food and Health Bureau (FHB) should set up a pilot District Health Centre (DHC) with a brand new operation mode in Kwai Tsing District within two years. The Government will provide funding for the centre according to the needs and characteristics of the district. The planned DHC will make use of the local network to procure services from organisations and healthcare personnel serving the district so that the public can receive necessary care in the community. With the experience gained from the pilot scheme, the Government will progressively set up DHCs in all 18 districts.

According to the Chief Executive's 2018 Policy Address, Hong Kong SAR government is committed to enhancing district-based primary healthcare services in order to effectively change the current focus of our healthcare services on treatment and to alleviate the pressure on public hospitals. District Health centre (DHC) is expected to be a service hub with a Core Centre serving as the headquarters and complemented by no. of Satellite Centres in sub-districts at convenient locations. Enabled by information technology infrastructure, the DHC will form a service network manned by medical and healthcare practitioners in the district. The DHC will strive to better co-ordinate with other district-based primary healthcare services and facilities, making it more convenient to meet individual healthcare needs of the community.

More information about DHC can be found in the following DHC Website.

https://www.dhc.gov.hk/en/healthcare_service_providers.html#scope-of-service

3 SOFTWARE AND ARCHITECTURAL REQUIREMENTS

3.1 Contractor's responsibilities

- 3.1.1 The Contractor shall provide a total solution for the System, which may be either customised from ready-made software packages from third party suppliers or the Contractor itself or be Custom Programs to meet the requirements laid down in this Specification.
- 3.1.2 The Contractor shall provide any software and hardware items to meet the requirements of the System in this Specification which shall not be limited to the Contractor Supplied Software and Contractor Supplied Hardware and all other items specified in this Specification.
- 3.1.3 The quantities of software licences for any Contractor Supplied Software shall be based on the number of users of the System as specified in the Particular Specification, and the usage requirement for development, system expansion, and other purposes as specified further below. The Contractor shall consider and propose the most cost effective solution and software items for the System.
- 3.1.4 The Contractor shall provide the Contractor Supplied Software and Contractor Supplied Hardware for building the System, in conformity with the Specification. If the Contractor Supplied Software or the Contractor Supplied Hardware, or the quantities of the licences thereof proposed are less than required under the Specification, or any of the Contractor Supplied Software or Contractor Supplied Hardware does not conform to the Specification in any way, without prejudice to other rights and claims of the Welfare Council, the Contractor shall provide such additional (whether in terms of quantities of the licences or supplement software or hardware items) and/or replacement software or hardware items in addition to the Contractor Supplied Software and Contractor Supplied Hardware to ensure that the System shall comply with the Specification at no additional cost to the Welfare Council.

3.2 General Requirements

3.2.1 System Software Setup Requirements

- 3.2.1.1 The Contractor shall procure and provide all source codes, required software licences including the licences for the Contractor Supplied Software for the whole Licence Period to the Welfare Council as specified in this Specification. Such cost or any cost incurred during the procurement process shall be borne by the Contractor.
- 3.2.1.2 The Contractor shall install, configure, customise and tune the whole System including but not limited to the operating systems, system application software and database systems, system user client software, network, security and backup software.
- 3.2.1.3 The System shall include system environments covering non-production (development, system integration testing, user acceptance testing, training, and staging) and production environments.
- 3.2.1.4 The Welfare Council may install, configure, customise and tune the whole System according to the materials and other documentation provided by the Contractor. The Contractor shall provide assistance to the Welfare Council in so doing and shall update the relevant materials and other documentation, if necessary.

4 PERFORMANCE REQUIREMENTS

4.1 General Requirements

- 4.1.1 The System shall employ best practice for optimising speed for all enterprise environments with testing functionality including but not limited to metrics for average concurrent active users in the System based on particular hardware configurations so to assess speed performance of the System.
- 4.1.2 The System shall be able to support a reasonable number of users at the same time without

impacting the site speed and performance. The System shall be fast, responsive and efficient in loading and execution, even to accommodate large amount of files. The performance of the System shall be completed within the time limit agreed with the Welfare Council.

4.1.3 The System shall employ best practice for replication and clustering content to fulfil System performance requirements including but not limited to:

- (a) Replicating content to multiple servers, across multiple locations, and different elements or assets at different levels of the broader network;
- (b) Support load balancing with compatibility with content distribution networks.

4.2 Scalability

- (a) The System shall be scalable to expand hardware capacity to support future system expansion in response to changes including but not limited to number of users, assets, simultaneous operations, or execution of structured workflow processes.
- (b) The System shall support management of the required volume of content data without performance degrade.
- (c) The System shall have frequent software updates to accommodate new technology to maintain its usability and performance level.

4.3 Batch Job Performance

4.3.1 All batch jobs, including scheduled and ad hoc, shall be executed at agreed time slots and completed within the agreed time limit. Batch jobs shall be executed with no performance impact to the online services of the System and according to schedule. Such batch jobs include, but are not limited to, the following activities:

- (a) Generation of reports;
- (b) Data interface with other systems;
- (c) Incremental and full backup of data; and
- (d) Housekeeping.

4.4 System Response Time

4.4.1 The overall response time is defined as the elapsed time from user triggering the activation of an activity to the return of the expected response on the screen including all round-trip network delays.

4.4.2 The average loading speed of **less than 2 second per page/action** is required. The response time of exceptional page/action which will exceed the average time, is required to discuss and agreed with Welfare Council in the kick off meeting.

5 RESILIENCE REQUIREMENTS

5.1 System and Data Backup

5.1.1 The Contractor shall provide the functions and procedures for system backup and recovery for the System.

5.1.2 The Contractor shall design, propose and implement system backup and recovery.

5.1.3 The management and operation of the system backup might be performed by other

contractors or parties. The Contractor shall provide technical assistance to other contractors or parties when required.

6 DELIVERY AND INSTALLATION

- 6.1 The Contractor shall be responsible for planning of system installation and/or delivery, depending on the deployment model of the System.
- 6.2 The Contractor shall be responsible for coordinating with the Application Hosting Service Provider and any related parties in all related activities.
- 6.3 The Contractor shall observe the following during installation and/or delivery, depending on the deployment model of the System:
 - (a) Minimum interruption to daily operations; and
 - (b) Unless otherwise specified or agreed with the Welfare Council, delivery of the Contractor Supplied Software and Contractor Supplied Hardware items to be made shall be within normal office hours.

7 DELIVERABLES

- 7.1 The Contractor shall produce and submit the Deliverables as described in the Particular Specification at different stages of the Services.
- 7.2 The Contractor shall amend and resubmit any Deliverable, document or material which has been reviewed and objected to by the Welfare Council's Representative at no extra cost or expense to the Welfare Council within seven days of the notice of review and objection given by the Welfare Council's Representative or within such other period as the Welfare Council's Representative may specify in the notice.
- 7.3 The costs of preparing and printing the Deliverables (including any re-submissions) shall be deemed to include in the Contract Price set out in the Schedule of Price and shall be borne by the Contractor.
- 7.4 The Contract Price shall include all the relevant costs arising from the Deliverables including but not limited to delivery cost, transportation cost and labour, licence fees, import and export taxes.

8 IMPLEMENTATION SERVICES

8.1 General Implementation Services

8.1.1 Project Management Services

- 8.1.1.1 The Contractor shall provide the whole project plan and the project management services to the Welfare Council to ensure that the Project will run and deliver successfully including but not limited to:
 - (a) Develop project plans and monitor and report the progress of the Project against project plan;
 - (b) Manage the scope and changes of the Project;
 - (c) Build and sustain effective communication and liaise with stakeholders and other relevant parties involved;
 - (d) Lead and manage the Project team for the delivery of the Project;
 - (e) Manage the quality of the Deliverables of the Project team to the satisfactory level;

- (f) Manage Project resource utilisation, costs, milestones and output of Deliverables to ensure completion on time, within budget and adhere to the Specification;
- (g) Resolve issues and conflicts among parties involved in the Project and initiate corrective actions as appropriate;
- (h) Manage risks and minimise impact to the Project success and develop contingency plans where appropriate;
- (i) Identify gaps between the expectation of the Welfare Council and the Contractor's project team and bridge any gaps to resolve conflicts; and
- (j) Conduct project evaluation at closure and report evaluation results and lessons learned.

8.1.1.2 The Contractor shall carry out best practice project and programme management, including stakeholder management and alignment. The Contractor shall propose and adopt industry best practices project management methodology for project management and governance such as specified in PMBOK of PMI.

8.2 System Analysis and Design (SA&D) Services

- (a) The Contractor shall propose the components needed for implementing a complete and fully functional System during the SA&D stage, including hardware and software as appropriate.
- (b) The Contractor shall be responsible for studying, clarifying as well as confirming the detailed user requirements, furnishing the business workflows and producing the solution architecture and the detailed design of the System, and closely working with the Welfare Council in carrying out detailed SA&D to review and refine the solution design of the System to ensure that the requirements are fully met.
- (c) The Contractor shall propose and adopt the industrial best practicing software development method that best fits the Project and the Welfare Council. The software development method to be adopted shall be sequential waterfall model or iterative design-and-build process with elements like "agile development" scrums, conference room simulations and wire-framing.

8.3 Development and Implementation Services

- (a) The Contractor shall be responsible, if applicable depending on type of system, for the installation and integration of the Contractor Supplied Software and Contractor Supplied Hardware with all the necessary equipment for the System and the integration with the Welfare Council's hardware and software and the existing systems of the Welfare Council.
- (b) The Contractor shall, if applicable depending on type of system, set up, install, configure, customise and optimise the System and relevant components for the Welfare Council.
- (c) The Contractor shall provide at its own cost any hardware and software in addition to the Contractor Supplied Software and Contractor Supplied Hardware that are necessary for a total solution of the System.

8.4 Testing Services

- (a) The Contractor shall perform the unit test, system test, system integration test, stress test and system performance test on an environment with similar setting to the production environment. Data volume shall be as realistic as possible and tuning shall be conducted and validated against the agreed performance level. Reliability under extreme conditions such as peak loads, high concurrency or limited computational

resources should also be tested.

- (b) The Contractor shall be solely responsible for planning, managing, monitoring and execution of all necessary tests specific to the System to ensure that the quality of delivered System will meet all predefined quality standards.
- (c) For User Acceptance Test (UAT), the Contractor shall provide sample test plan to the Welfare Council for reference and provide assistance to the Welfare Council for planning the test and producing test cases. The Contractor shall support the Welfare Council and users throughout the whole UAT and provide onsite support during UAT.
- (d) For System Performance Test, System Stress Test and Reliability Test on the System, the Contractor shall submit a test plan to the Welfare Council. Upon the approval of the test plan by the Welfare Council, the Contractor shall execute the test according to the plan and report the test results to the Welfare Council for acceptance.
- (e) To ensure test coverage, the Contractor shall maintain a traceability matrix that maps the detailed requirements and design with the test cases.
- (f) The Contractor shall maintain all test results of performed tests and submit them as reports to the Welfare Council for acceptance.
- (g) The Contractor shall work closely with and provide support to the Welfare Council to enable the Welfare Council to plan, manage, execute and report all testing to be conducted by the Welfare Council.
- (h) For any changes on the testing environment, documentation which outlines the detailed step-by-step procedure shall be provided by the Contractor to the Welfare Council for review prior to execution.
- (i) Any defects found during any of the tests performed by the Contractor shall be immediately rectified or resolved through circumvention by the Contractor at no cost to the Welfare Council. Re-tests shall be arranged by the Welfare Council after the rectification within the agreed time frame.
- (j) A test plan shall be proposed by the Contractor which roles and responsibilities of the Contractor and the Welfare Council during the testing stage of the System will be detailed in the project kick-off meeting.

8.5 System Rollout

- (a) The Contractor shall provide and execute the System rollout plan.
- (b) The Contractor shall coordinate with the Welfare Council and other stakeholders to ensure a smooth System rollout.
- (c) The Contractor shall provide on-site support if necessary.

9 WARRANTY SERVICES

9.1 General

- 9.1.1 Upon the commencement of the Defects Liability Period, the Contractor shall provide Warranty Services to maintain smooth operation and service levels of the System and for the installed software.
- 9.1.2 The scope of the Warranty Services shall include but not be limited to: -
 - (a) Provide emergency system online and remote support via proper reporting channels such as telephone hot-line or emergency email address;
 - (b) Once an issue or problem is reported from the Welfare Council's Representative to the

Contractor by any means, revert to the Welfare Council's Representative via email or telephone or other effective mean;

- (c) Perform bug fixing to solve all System related problems;
- (d) Provide on-going application user support services and fix application problems;
- (e) Provide preventative and adaptive maintenance for the System;
- (f) Install any related application or security patches with the consent from the Welfare Council's Representative;
- (g) Coordinate with software vendors and other related parties to solve any System problems;
- (h) Monitor and maintain a reasonable performance of the System during the Defects Liability Period;
- (i) Provide unlimited email and telephone support and assistance for problem solving including System and software related problems, and provide assistance and support through online remote access if onsite assistance and support are not available; and
- (j) Work closely and provide support to other appointed contractors and the dedicated System support team.
- (k) The Service Levels during the warranty period should not be less than those as stipulated in **Attachment 4 to Schedule Two "Service Levels Specification"**.

9.2 Nursing Services

9.2.1 The Contractor shall provide the nursing services upon successful completion of System rollout to ensure that the production system runs smoothly during the initial period after go-live. The Contractor shall provide advice and assistance to the Welfare Council as and when required, monitor the performance of the System, and analyse and resolve all issues and problems relating to the System.

9.2.2 The scope of the nursing services shall include but not be limited to:

- (a) Assign dedicated personnel to immediately answer queries raised by users of the System through a help desk service provided by the Contractor;
- (b) Provide onsite support or maintenance after receipt of support or maintenance request;
- (c) Perform bug fixing to solve all System related problems;
- (d) Coordinate, troubleshoot and work with other contractors including but not limited to Application Hosting Service Provider and other related parties to resolve System related problems, and report problem status to the Welfare Council's Representative and recommend solutions to the Welfare Council for consideration and approval;
- (e) Monitor system performance, conduct application and system tuning, and study and implement measures to address performance issues of the System so as to maintain reasonable performance of the System as agreed with the Welfare Council;
- (f) Install any required application or security patches with the consent from the Welfare Council's Representative; and
- (g) The Service Levels during the nursing period should not be less than those as stipulated in **Attachment 4 to Schedule Two "Service Levels Specification"**.

9.3 Maintenance and Support Services

9.3.1 The Contractor shall provide maintenance and support services to ensure system stability,

system availability, and satisfactory customer support and shall resolve any issue in a timely and effective manner. The scope of the maintenance and support services is specified in **Attachment 3 to Schedule Two – “Scope of Maintenance and Support Services”**.

10 ACCEPTANCE CRITERIA

- 10.1 The Welfare Council will only confirm acceptance of the Services if:
- (a) the Contractor completes the Project in compliance with all the requirements as specified in the Specification to the satisfaction of the Welfare Council;
 - (b) the Contractor produces and submits all the Deliverables as specified in the Specification to the satisfaction of the Welfare Council; and
 - (c) the Contractor successfully rolls out the System as specified in the Specification to the satisfaction of the Welfare Council.

11 TRAINING

- 11.1 During implementation, the Contractor shall provide classroom training for general and super user training, system operation and administration training. The customised training shall be planned and implemented according to the user requirements as identified during implementation of the System. The training sessions delivered by the Contractor may be recorded by the Welfare Council for future reference.
- 11.2 The training venue will be provided by the Welfare Council.
- 11.3 The Contractor shall be responsible for:
- (a) Setting up the training environment, including provision of necessary software;
 - (b) Setting up the Welfare Council’s hardware and data for the training;
 - (c) Preparing training materials in Chinese or English which is subjected to the agreement at kick off meeting;
- 11.4 The trainer(s) of the Contractor shall possess sufficient work experience as follows:
- (a) Having practical knowledge and skills on the Contractor Supplied Software and Custom Programs; and
 - (b) Experience in conducting similar training courses.
- 11.5 The Contractor shall provide all the necessary training material in both hardcopy and softcopy format for each training lesson.
- 11.6 The Contractor shall ensure that contents of training shall be comprehensive and user friendly enough to cover all business operations and required operations of target audiences.
- 11.7 The Contractor shall provide general and super user manuals, system operation manual, system administration manual, installation and configuration guide in both hardcopy and softcopy format for the System.
- 11.8 The Contractor shall provide standard product manuals including original software media (where applicable) and original licence materials.

12 **COMMENCEMENT DATE**

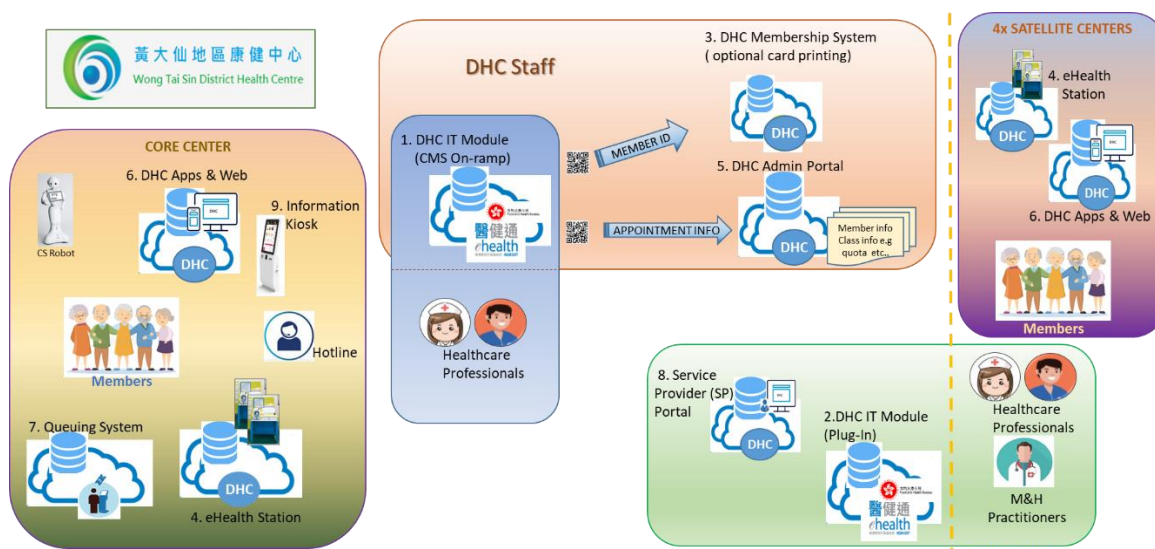
- 12.1 The Services are expected to commence immediately on the Commencement Date. The Commencement Date may be subject to change at the discretion of the Welfare Council's Representative. For the avoidance of doubt, the Contractor shall be deemed to have allowed in its Contract Price for the dynamic nature of the duration of the Services and no additional payment will be made by the Welfare Council, unless additional services instructed by the Welfare Council's Representative in accordance with the terms and conditions of the Contract.
- 12.2 The Contractor shall complete the Services and the Deliverables specified in the Specification to the satisfaction of the Welfare Council's Representative and submit draft Deliverables to the Welfare Council's Representative for review before the submission of the Deliverables to the Welfare Council.
- 12.3 Presentation of findings, response to queries and meetings as specified in this Specification may be carried out beyond the end or termination of the Contract.
- 12.4 Time is of essence in respect of the completion of the Deliverables and Services and the Contractor shall deploy all necessary resources to complete the Services in the timeframe required under this Contract. The Contractor shall work closely with the Welfare Council's Representative to ensure that the Contractor has been provided all the necessary information to enable the Contractor to undertake the Services smoothly. In case of delay of completion of the Deliverables due to unforeseeable and uncontrollable factors, the Contractor shall give sufficient prior notice and full justification to the Welfare Council's Representative to enable the Welfare Council's Representative to decide if the time for the completion may be extended.

SCHEDULE TWO: PARTICULAR SPECIFICATION

1 OBJECTIVES AND SCOPE OF PROJECT

1.1 Objectives

As an NGO Operator of Wong Tai Sin DHC (namely WTSDHC), Welfare Council has to deliver the required services through (i) DHC IT Systems provided by Food and Health Bureau (FHB); (ii) Welfare Council's DHC IT Operations Systems. WTSDHC will start operations in June of 2022.



IT Systems for WTSDHC are summarized in the followings

Item	System Name	Provided By	Category #1
1	DHC IT Module (CMS On-ramp)	FHB	
2	DHC IT Module (Plug-In)	FHB	
3	DHC Membership System	WTSDHC	A
4	eHealth Station	WTSDHC	A
5	DHC Admin Portal	WTSDHC	B
6	DHC Apps & Web	WTSDHC	B
7	Queuing System	WTSDHC	B
8	Service Provider Portal (SP Portal)	WTSDHC	B
9	Information Kiosk	WTSDHC	C

#1: This is the Category for tender submission

1.2 Scope of Project

Scope of work for this tender includes the delivery of the following services and procurements of related hardware equipment for Council Welfare's DHC IT Operations Systems.

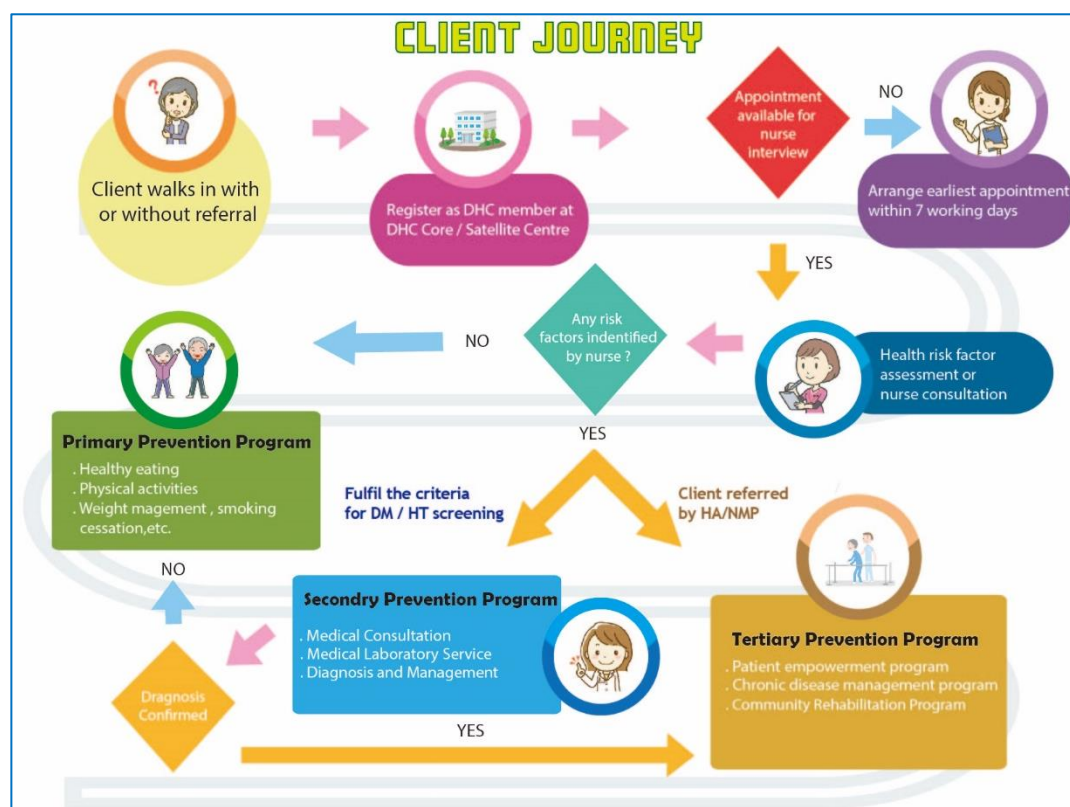
- Provide system design, development and implementation services for the above named systems.
- Procure, provide and setup the hardware and its software to fulfil the requirements unless specified in tender award letter
- Arrange, Complete and Pass the 1st Security Risk Assessment and Audit (SRAA) and Privacy Impact Assessments (PIA) done by 3rd Party vendor for system launch.

In order to leverage contractors' strength and optimize management overhead to deliver the systems, **Tenderers are allowed to submit their offers by Category Basis** but bonus scores will be provided to Tenderer(s) offering multiple Categories with elimination of integration overheads.

2

GENERAL REQUIREMENTS

The following diagram illustrates the WTSDHC client journey.



WTSDHC will adopt the following IT facilities to enhance the daily service operation and user experience. Queuing System (item 7) will be set up for directing service users to different queues of services they choose and thus shorten the waiting time. Member can check their vital sign such as blood pressure, weight by themselves using the self-service eHealth Stations (item 4). All the vital sign figures will be synchronized to DHC Admin Portal (item 5). DHC members can also check their health care data through the DHC App & Website (item 6) at their convenience. In addition, the health care data is also shared with healthcare professionals and the network M&H practitioners through either DHC-IT Module (CMS On-ramp (item 1), Plug-in (item 2)) or DHC Admin Portal (item 5).

To reach out to a population with low mobility or living in relatively less accessible housing estates, DHC will also have Mobile Service Point which may be on the truck or in Community Center, for promotion and provide member recruitment and basic health assessment services. With this Mobile Service Point arrangement, the system has to be accessible and devices have to be handy enough.

Members can check their coming appointment and related information from the Health Information Kiosk (item 5) and via the DHC App & Website.

The smoothness of daily operation and capacity of information sharing are the major concern of the Healthcare Professionals and M&H practitioners. By using the DHC IT Module (item 1&2), all the daily operation such as service booking, consultation recording, payment and service statistics will be handled. In order to further strengthen communication among the professionals and enhance information sharing, a Service Provider (SP) Portal (Item 8) will be created to enable network M&H practitioner to access DHC guideline and related documents regarding the DHC Scheme and share information and experience.

2.1

Overall Requirements

- Solution design including hardware and software should take into account of the conditions of Core Centre, Satellite Centres, Mobile Service Points (e.g. Outreaching Truck and Assessment Rooms).
- Language : Only support Chinese / English
- The menu display for DHC staff in English is sufficient while data input has to support Chinese/ English
- For the user interface and material for service users, it has to support Traditional Chinese and Simplified Chinese and English
- For material in other language, they will be in PDF or image format
- For APP design, Web technology is **preferred**. It needs to support Android and iOS.
- For Web design, responsive design is required which can see nicely on PC, tablet and mobile.
- Proposed system is required to be hosted On-premises (i.e. WTSDHC) unless the proposed solution is a product which is able to compile to FHB policy and security requirements.
- Hosting server will be provided by WTSDHC according to proposed specifications.
- Proposed solution is required to be illustrated as diagrams from both system and workflow perspectives in tender reply.
- Contractors **for Category A and B systems** are required to arrange, complete and pass the 1st SRAA (Security Risk Assessment and Audit) and PIA (Privacy Impact Assessments) by 3rd party vendor for system launch
- Scope of 1st SRAA and PIA for Category B systems not only include systems but also, DHC Centres SRAA. SRAA for DHC Centre includes but not limited to the infrastructure setup and site visit for DHC Core Centre which will be setup with 60 personal computers in maximum.
- The follow-up actions for the SRAA and PIA results will be accountable by the contractor(s) that is responsible for that item(s).

2.2

System launch priority

Item	System Name	Provided By	Category ^{#1}	Launch Priority ^{#2}
1	DHC IT Module (CMS On-ramp)	FHB		
2	DHC IT Module (Plug-In)	FHB		
3	DHC Membership System	WTSDHC	A	1 st
4	eHealth Station	WTSDHC	A	1 st
5	DHC Admin Portal	WTSDHC	B	1 st
6	DHC Apps & Web (Public Area)	WTSDHC	B	1 st
	DHC Apps & Web (Member Area)	WTSDHC	B	2 nd
7	Queuing System	WTSDHC	B	1 st
8	Service Provider Portal (SP Portal)	WTSDHC	B	1 st
9	Information Kiosk	WTSDHC	C	1 st

#1: Tenderer can submit tender reply by this Category

#2: It is the indication of preference

2.3 Warranty Service Requirements

- Provide warranty services for systems until end of DLP (Defects Liability Period) (i.e. 31st May 2025). Warranty Services comprising of **3 months** of nursing services and the remaining months of maintenance and support services will be provided by the Contractor. The scope of the maintenance and support services is specified in Attachment 3 to Schedule Two – “Scope of Maintenance and Support Services
- As part of operational requirement, SRAA and PIA are required for every two years. After every SRAA and PIA exercises, Contractor(s) is responsible for the follow-up actions if necessary.
- Service Level can be referred to Service Level Specification in Attachment 4 to Schedule Two

3 FUNCTIONAL REQUIREMENTS

3.1 Category A Requirements

3.1.1 Objectives

This category A intends to include the two highlighted systems.

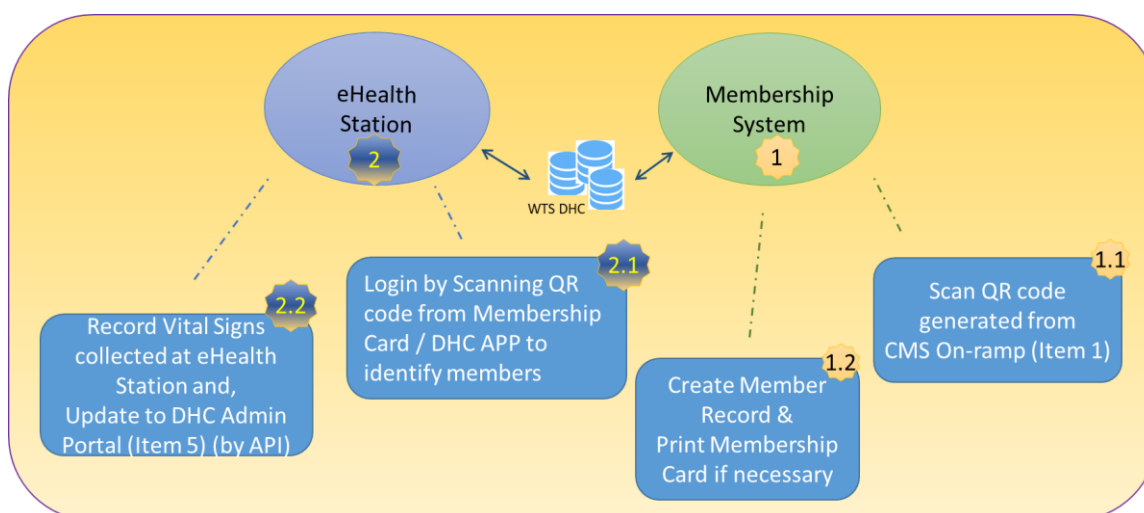
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9	Information Kiosk	WTSDHC	C

#1: Tenderer can submit tender reply by this Category

Once service user becomes WTSDHC member, he will have a DHC member ID provided by CMS On-ramp (item 1) and his health data will be tracked in DHC Membership System and synchronized to DHC Admin Portal for sharing with related Healthcare Professionals in WTS DHC. .

eHealth Stations are setup in the reception and waiting areas, for measuring blood pressure, pulse, temperature, oxygen saturation level and body measurement by self to encourage users to self-monitor their health conditions.

3.1.2 System Conceptual Diagram



3.1.3 DHC Membership System

- There is web portal to include member record maintenance (Add/ change/ delete, Active/Inactive) with record creation and last update date
- Able to create member record based on information scanned QR code generated from CMS On-ramp after membership profile setup at CMS On-ramp

- Print membership card with DHC member id and name and QR code on pre-print card
- In case of re-print of membership card, it requires to validate the identity by scanning of the QR code from CMS on-Ramp.
- Able to setup in Mobile Service Points (e.g. on Truck or Community Center) for membership registration
- Able to export and import member records in excel format
- To ensure no privacy issue, Member's personal information is acceptable to be input for every card printing purpose in case the proposed system is not setup in WTSDHC.
- Proposed system is required to be hosted On-premises (i.e. WTSDHC) unless the proposed solution is a product, and the hosting of product is able to compile with FHB policy and security requirements.
- Proposed solution should include all required hardware excluding server, software and consumables such as card printer, card reader/ scanner, ribbon
- State clearly the specifications for required server together with system software
- Setup requirements:

Description	Set
Core Centre	2
Outreaching Truck	1
Satellite Centre	4

3.1.4 eHealth Station

- Login by Scanning QR code from physical Membership Card or DHC APP
- Able to obtain the following health care data for members from Bluetooth devices automatically
 - Body Temperature
 - Body Height
 - Body Weight
 - Body Mass Index (BMI)
 - Blood Pressure
 - Blood Glucose
 - Oxygen Saturation – SpO2
- Manual input for Health care data is always allowed through Measurement software.
- Source of Health data is required to be indicated such as manual key-in by Healthcare Professional, manual key-in by members, eHealth Station devices, assessment room devices, MSP devices)
- Measurement software will display member health care data for DHC members immediate reference and have optional result printing. The default setting of result printing preference can be setup by DHC staff.
- It is **preferred** that the measuring data will also be presented in a web page for member access through an URL which will only be valid for a period of time. The default setting for period and default setting of result printing can be setup by DHC staff.
- Measuring software can be Android APP or Web application with display size is not less than 10". Its design should also consider the needs of all walks of life.
- DHC staff can list and export (in excel format) the measuring data according to selection criteria on Measuring software.
- Ready API to push health care data to Admin Portal and, frequency/ period for pushing the data is configurable. Enable/Disable of this pushing function is also allowed. The API should be designed with retry mechanism. System Testing & UAT and Implementation services are required.
- It is preferred that the Bluetooth interface for all measuring devices is documented in specifications.

- Proposed solution and devices need to take account of
 - convenient setup in different Centers or Mobile Service Points
 - transportation and spaces requirements
- Choices of furniture with minor customization for setting up the station is allowed for fitting into the DHC setup in size and also design to align the look and feel of Center
- Proposed solution is required to include all required hardware, software, furniture and consumables such as printer, card reader/ scanner, luggage with cover for outreach team, measuring devices, ribbon
- Ongoing fee for required 3-years storage and related fees for health care data and related member information should be included if the system is not setup in Welfare Council datacenter.
- Station set and Mobile set are required. They are
- Station Set includes measuring devices for
 - Body Temperature
 - Body Height
 - Body Weight
 - Body Mass Index (BMI)
 - Blood Pressure – Desktop Arm-tube Blood Pressure Monitor (Brand AND is preferred)
 - Blood Glucose
 - Oxygen Saturation – SpO2
- Mobile set includes measuring devices for
 - Body Temperature
 - Blood Pressure – Upper Arm Blood Pressure Monitor
 - Blood Glucose
 - Oxygen Saturation – SpO2

- Setup requirements:

Description	Set
Station Set	6
Mobile Set	4
Wheelchair Platform Scale	1

3.2 Category B Requirements

3.2.1 Objectives

This category B intends to include the four highlighted systems.

Item	System Name	Provided By	Category ^{#1}
1	DHC IT Module (CMS On-ramp)	FHB	
2	DHC IT Module (Plug-In)	FHB	
3	DHC Membership System	WTSDHC	A
4	eHealth Station	WTSDHC	A
5	DHC Admin Portal	WTSDHC	B
6	DHC Apps & Web	WTSDHC	B
7	Queuing System	WTSDHC	B
8	Service Provider Portal (SP Portal)	WTSDHC	B
9	Information Kiosk	WTSDHC	C

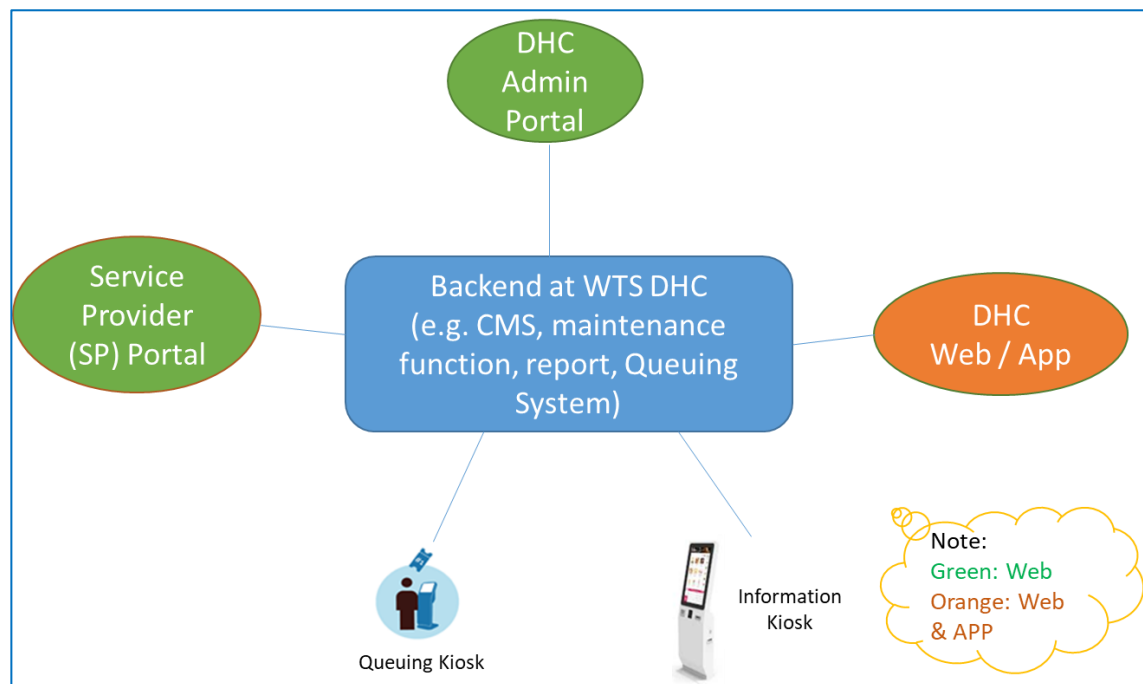
#1: Tenderer can submit tender reply by this Category

As a DHC operator, service quality is our top concern. In order to attain a high service quality, good planning and efficient utilization of resources is unavoidable. In order to strengthen the connections among members and Service Providers, IT systems are required to facilitate information sharing and smoothing operations. The systems in this category serve the following purpose.

Item	System Name	Purpose
5	DHC Admin Portal	System for DHC staff to maintain operational information, member's holistic health care information, and information sharing
6	DHC Apps & Web	Public area shares general DHC information with public Member area is specific for Member to access his own health care data and information shared by DHC
7	Queuing System	System for directing members and service users to different queues of services
8	Service Provider Portal (SP Portal)	The portal is created for Service Providers to access DHC guideline and related documents regarding the DHC Scheme and information sharing.

In order to align the Look and Feel with WTSDHC, the Look and Feel design of DHC Apps & Web, Service Provider Portal will be provided by Welfare Council.

3.2.2 System Conceptual Diagram



3.2.3 DHC Admin Portal

- a. Maintenance for Online booking for first visit
- b. Member profile
 - i. Scan QR code generated by CMS On-ramp by scanner
 - ii. Create New Member with provided name & DHC membership no. and further supplement additional information such as address, contact number, school, interest on types of classes, education, preference of notification (e.g. email, DHC APP)
 - iii. For those members without mobile number (minors or elderly), mobile number of their guardian or carer
 - iv. Retain assessment result
 - v. Assign to target groups based on assessment result
 - vi. Retain last date and target date for Annual Health Risk Factor Assessment
- c. Family member
 - i. Able to define establish family relationship
 - ii. A family has a “Family master” 一家之主 which is nominated by family members.
 - iii. A member can only belong to a single family with a relationship which is pre-defined in the system such as wife, husband, parent, parent in-law, son, daughter.
 - iv. Relationship setup with other family members through mobile number of family members.
- d. Healthcare data maintenance for member
 - i. Interface with eHealth Station to retain healthcare data in the system by using provided API
 - ii. Add/change additional healthcare data
 - iii. Able to present health care data by member and by measurement source of data such as manual key-in by Healthcare Professional, manual key-in by members, eHealth Station devices, assessment room devices, MSP devices)
 - iv. Able to export health care data in excel format according to selected criteria
- e. Individual Service Appointment
 - i. Scan QR code from appointment slip provided by CMS On-ramp to update Individual Service Appointment information to the calendar with member information
 - ii. DHC staff is able to maintain (add/change/delete) the appointment information if necessary

- iii. Consolidated view for Individual Service Appointments with member's healthcare alert remark according to selected criteria such as target groups
- f. Health Classes
 - i. Health Classes maintenance with information of two quotas – target group and Open group
 - ii. Shortlist target groups members based on selected criteria
 - iii. Export the shortlisted members in excel format
 - iv. DHC staff enroll classes for target group members
 - v. Print appointment slip in pdf upon member request
 - vi. Mark on member record if consent sharing is required and, alert message is required when member attends the classes
 - vii. For DHC staff follow-up, it is required to show all class appointments with any changes for specified period
 - viii. Class enrollment list is required
 - ix. Attendance taking by scanning QR code with options manual key-in remarks
 - x. Attendance report is required and the information can be exported in excel format
- g. Service Appointment
 - i. Scan QR code from appointment slip provided by CMS On-ramp to update service appointment information to the calendar with member information
 - ii. DHC staff is able to maintain (add/change/delete) the appointment information if necessary
 - iii. DHC staff generates appointments made by SP according to selected criteria and, post the information on SP Portal for specific SP.
- h. Notification
 - i. Reminder to Service user will be automatically in prior day according to preference way.
 - ii. Ad-hoc function for sending reminder for selected appointment is allowed
 - iii. Member is able to receive notification even though DHC APP is not in used
- i. Service Provider pool maintenance and management
 - i. Service Provider information (e.g. name, address, contact number, email, service fee)
 - ii. Effective date for joining the scheme
 - iii. End date for exiting the scheme
 - iv. Automatic publishing and archiving the SP information according to the Effective date & End date
- j. Content management is required for all Areas and Portals (i.e. Public & Member Area, Service Provider (SP) Portal).
- k. It is **preferred** to manage the content of Information Kiosk at the same place in same manner.
- l. Report (PDF or Excel): 15 sets of report for Category B

3.2.4 DHC Apps & Web

There are Public Area and Member Area

- a. Public Area:
 - i. Information sharing / Promotion
 - ii. Health Class schedules
 - iii. Online booking for first visit
 - When service user would like to become member of WTSDHC, he is encouraged make an online booking for the first visit. With this booking, he can complete his registration successfully in one-go as a set of required documents (e.g. address proof) is required and, nurse assessment has to be gone through.
 - A reservation no. is provided after service user has provided his personal information (e.g. name and contact number) and selected available time-slot.
 - Service user is able to save the reservation no. together with its QR code conveniently.

- System will show the reserved timeslot if Service user key-in reservation number
- System shows calendar with indication of available timeslots
- Service time, no. of timeslot, quota for each timeslot and lead time for online booking are configurable
- iv. Service Providers information
- v. Route guidance from MTR/Reception to Reception/Specified Room by showing photo or pdf
- b. Member Area (with member login) :
 - i. Show Member profile and its online membership card (barcode/ QR code)
 - ii. Member's healthcare data
 - Allow member to input their own measurements of healthcare data
 - Indicate measurement source (e.g. eHealth station, DHC staff, Member input)
 - Able to present health care data by measurement source of data such as manual key-in by Healthcare Professional, manual key-in by members, eHealth Station devices, assessment room devices, MSP devices)
 - iii. Individual Service Appointment
 - Show appointment details
 - Show Appointment QR code
 - Raise cancellation request
 - Raise rescheduling request
 - iv. Health Class Appointment
 - Show appointment details
 - Show appointment QR code
 - Raise cancellation request
 - Raise rescheduling request
 - Show class schedule and their available seats for enrollment (open group only)
 - Duplicate enrollment for same class is not allowed. Enrollment for open group and target group is also not allowed.
 - v. Service Appointment
 - Show appointment details
 - Show Appointment QR code
 - Raise cancellation request
 - Raise rescheduling request
 - vi. Receive notifications/reminders even the APP is not in used
 - vii. Special announcement
 - viii. Hyper Tension and Diabetes screening and suggestion based on criteria set by Healthcare Professionals
 - ix. Member activities recording for reference

3.2.5 Queuing System

Queuing System is required to setup with three queues. They are (i) Members with appointment made; (ii) Non-members for first visit booking; (iii) General Enquiry. The System will show the current ticket numbers on both the Queuing Kiosk and TV display setup in waiting area and reception area. Once DHC staff update the system over web, the tickets being served will be refreshed. That is, member has been served.

The brief handling for different queues is found below.

- a. For Member :
 - i. Scan appointment QR code from appointment slip or DHC APP
 - ii. Ticket number is shown on DHC APP and member can choose to print the ticket
 - iii. The system will handle the ticket as usual.

- b. For Non-member:
 - i. With first visit booking reservation number, service user either key-in his reservation number or scan the reservation QR code in order to have the ticket
 - ii. The first visit booking is attended once the reservation number is logged in queuing system.
 - iii. The system will handle the ticket as usual.
- c. General Enquiry:
 - i. Handle all kind of enquiries including walk-in service user for member registration
 - ii. DHC staff will handle member registration without online booking as an exceptional case.

The Queuing System is also required to include the followings

- i. 22" or above Touchscreen Monitor
- ii. Kiosk Casing with choices of design for look and feel alignment
- iii. Control PC
- iv. Ticketing Printer
- v. QR code/ Barcode Scanner
- vi. One set for Core Center is required
- vii. 3-years Warranty

3.2.6 Service Provider Portal (SP Portal) with login

- a. Information sharing – DHC guideline, newsletter etc
- b. After login, SP can access the Referral/ appointments made for the SP and reminder message to the SP such as timely update of clinical records

3.3 Category C Requirements

3.3.1 Objectives

This category C intends to include the highlighted systems.

Item	System Name	Provided By	Category ^{#1}
1	DHC IT Module (CMS On-ramp)	FHB	
2	DHC IT Module (Plug-In)	FHB	
3	DHC Membership System	WTSDHC	A
4	eHealth Station	WTSDHC	A
5	DHC Admin Portal	WTSDHC	B
6	DHC Apps & Web	WTSDHC	B
7	Queuing System	WTSDHC	B
8	Service Provider Portal (SP Portal)	WTSDHC	B
9	Information Kiosk	WTSDHC	C

#1: Tenderer can submit tender reply by this Category

Information Kiosk plays some promotional video or a slideshow of images when not in use. Apart from displaying the promotional content, it will be more informative for the intends to share the update information with all service users in the DHC. Other than accessing information over DHC Apps & Web, Service users can also access information on the Information Kiosk when they visit DHC.

3.3.2 Information Kiosk

The requirements are as below.

- It is an indoor, floor-standing interactive kiosk with widgets design
- Content of kiosk can be maintained over network so that DHC staff can access it over web on DHC counter.

- It is **preferred** to use the content management of Admin Portal for the content management of Information Kiosk to ease daily operations.
- Support Language : Only support Chinese / English
- Content format: photo, slideshow, internet link, pdf
- For material in other language, they will be in pdf or photo format
- Demo video of the proposed Kiosk and content management is required to be included in proposal to facilitate tender reply assessment.
- Requires 40" or above Touchscreen Monitor
- Requires kiosk Casing with wheels and logo sticker
- Includes 3-year Warranty

- Setup requirements:

Description	Set
Core Centre	1
Satellite Centre	4

4 TECHNICAL REQUIREMENTS

4.1 Purchase

The Contractor shall procure any hardware (including but not limited to, new server, networking and security equipment) and software for the development of the System. If the System requires any additional hardware and software which shall be purchased to commit the Services, the Contractor should list out in the breakdown of the Schedule of Price, and such cost shall be all-inclusively included in the Contract Price. The Welfare Council shall become the owner of any hardware and software installed in the System, unless otherwise specified in writing.

4.2 Installation

4.2.1 The Contractor shall identify the hardware model and architecture, e.g. PC, Tablet, Mobile Device and set up, install and configure all the related hardware, software and other IT necessary components for the Solution. On each of the hardware/software delivery dates, the Contractor shall deliver the Contractor Supplied Hardware/Software at its own cost to the hosting data centre for the Welfare Council's inspection and testing.

4.2.2 Upon completion of the installation, the installation test shall be conducted and documented in the presence of the Welfare Council's representatives to assess whether the installed components are operating in accordance with the Specification and performance criteria. If the installation test fails and/or is not accepted by the Welfare Council, arrangement for the reinstallation/replacement of equipment, hardware and software at the Contractor's own costs is required.

4.3 Development

4.3.1 The Contractor shall provide System UX/UI design, process refinement, solution design, information and back-end system architecture and technical design, platform and environment setup, application development, configurations, testing, operation handover, production rollout, migration plan (of any existing System contents the Welfare Council deems appropriate) and testing plan.

4.3.2 The Contractor should ensure the System is of downloadable file size (ideally <50MB), which is lightweight enough for fast download via Wi-Fi on-site or cellular network download off-site. The Contractor should also propose handling method(s) for large media files.

4.3.3 The System should be able to handle different network scenarios, including full network capability, limited network capability and no network available, and will provide basic info and functionalities and smooth System experience even when the network is not stable.

4.4 Mobile Platforms and Screen Size

The Mobile APP has to running free of issues on the below devices at least and, the Contractor is required to fine tune the system if there is any issues found within Nursing period.

For the demonstration, the System should support the below versions of mainstream mobile device operating systems. Thus, public can view the demonstration by their own mobile devices.

No.	Platform Support (OS)	OS Version	Display Support
1	Android	9.0 or above	5" or above
2	ios	13.0 or above	4.7" or above

The System should also –

- The application is able to download from “Google Play” and “App Store”, using the Welfare Council’s account.
- Fit the display requirements stated in the above table
- For APP design, Web technology is preferred

4.5 Hosting Services

Systems have to be hosted On-premises (that is, WTSDHC).

4.6 User Acceptance Test

- 4.6.1 The Contractor shall plan, coordinate and prepare testing procedures, testing data, testing cases with expected results of each function test for the user acceptance test, in order to validate the integrated software against end-user needs.
- 4.6.2 The Contractor shall prepare the testing environment of on-device test with similar production configuration and setup for users to perform the test so as to make the testing as realistic as possible. Testing data shall also be as realistic as possible.
- 4.6.3 If any parts of the installed system fail to conform fully to the specification and performance criteria as stated in this Specification, the Contractor shall at its own cost rectify such failure forthwith and repeat the tests on the same terms and conditions until all parts conform fully to this Specification and performance criteria stated in this Specification.
- 4.6.4 The Contractor shall rectify such failure at its own cost in order to meet with the end-user’ needs if the test fails or is not accepted by the Welfare Council. The Welfare Council reserves its right to reject the System if it is not in conformity with the Welfare Council’s requirements and the Welfare Council shall demand damages by way of an abatement of the price or if payment is already made by the Welfare Council, the Contractor shall forthwith refund the abated sum to the Welfare Council.

4.7 Training

Proper training has to be provided to nominated Welfare Council staff and conducted at location decided by the Welfare Council. All the stationary and training material, user manuals in soft and hard copy will be provided.

System Usage training and System Administration & Support training are required. It will be arranged in the WTSDHC onsite with the DHC equipment. Since Core Centre will be opened in June 2022 and Satellite Centres will be opened afterwards, four training sessions is required. As on-going training for new joint staff will be carried out by DHC staff, train the trainer approach is also expected.

5 OPTIONAL SERVICES

Provide system enhancement and procurement services for the followings upon Welfare Council request during DLP.

- a. System Enhancement including but not limited to new feature, system fine tuning, report enhancement
- b. Healthcare Data Measuring Devices for Category A solution
- c. Consumables (e.g. pre-printed member cards, printer ribbon) for Category A solution
- d. Required Servers with required software licenses to host the systems

6 FUTURE CONSIDERATIONS

Not Applicable

7 SECURITY REQUIREMENTS

7.1 General Solution Security Requirements

The Contractor shall take all necessary measures to ensure that the developed System is free of security loopholes and risk and invulnerable to cyber-attack.

- (a) In general, the System should be secure and stable when operating, which –
 - i. Secure communication channel should be used whenever possible;
 - ii. Vulnerabilities found in the System or back-end system should be cleared before production launch unless with the approved exception from the Welfare Council;
 - iii. Logging covering application information, crash report and usage activities is mandatory, while no sensitive information should be stored in logs;
 - iv. Log files or information shall be accessed by authorised parties only and shall be able to transfer to centralised logging management server;
 - v. Sensitive data should be stored in secure location; and
 - vi. System permissions for use of device hardware or access of device information should only be required when deemed necessary.
- (b) When handling customer personal information or Personal Identification Information (PII) data, the System should –
 - i. Encrypt the data with strong encryption algorithm and store the data with high security standard on device (e.g. Keystore or Keychain);
 - ii. Use secure end-to-end communication channel with strong encryption (e.g. TLS1.2) to send customer personal information over any networks whenever possible;
 - iii. Encrypt the data with string encryption algorithm before it is sent over network; and
 - iv. Delete customer personal information once it is no longer in used.
- (c) When working with payment or Payment Card Industry (PCI) data, the System should –
 - i. Not store any card holder information, any part of credit card number or any form of PCI data on device; and
 - ii. Store sensitive data according to PCI standard.
- (d) When handling public information, the System should cache or store the data in device according to development needs.

7.2 Access Control Security

7.2.1 General

- (a) The System shall exercise strict control on external user accounts to protect the System information, resources and the content data from unauthorised access.
- (b) The System shall be able to assign unlimited security profiles and cumulate the rights and restriction of each profile.

7.2.2 Authentication and Authorisation

- (a) The System shall honour role-based security in accessing content, managing content, publishing content, search results displayed or any presentation format of content (including templates used for authoring).
- (b) The System shall provide management facilities for user roles to support the role-based personalisation for users.
- (c) The System shall allow the setting of multi-level granular permissions (e.g. folder level, file level, etc.).
- (d) The System shall allow user maintenance (e.g., user information, user group assignments, revoking user access, etc.).
- (e) The System shall be able to assign users to multiple groups and to a combination of groups and roles.
- (f) The System shall provide user group management facilities to enable user grouping (such as grouping by team and by department) and user-group authorisation.
- (g) The System shall provide group-specific authority, scope and visibility of asset accessibility, functionality, operations and capability.
- (h) The System shall be able to set different levels of users with different access rights (e.g. specific folder or pages, or level, able to write/read/delete etc.).

7.2.3 Malware-related

The System shall be aware of malware-related events including but not limited to the following:

- (a) An anomalous number of hosts are not updating their malware signatures;
- (b) An abnormally high number of infected hosts are discovered;
- (c) A critical priority host is infected;
- (d) Critical priority user is logging in to an infected machine;
- (e) A host keeps being infected after multiple removals;
- (f) A host is infected by multiple malware;
- (g) A host is re-infected by the same malware; and
- (h) A number of hosts are exhibiting the same behaviours of infection.

7.2.4 Other Security Events

The System shall be aware of other events including the following:

- (a) Occurrence of a particular event is significantly increasing;
- (b) Occurrence of any event in the watch-list;
- (c) Device triggers an abnormally large number of unique events;
- (d) Device triggers events to an abnormally large number of unique targets;

- (e) Activities matches with a predefined threat; and

7.2.5 Low and Slow Password Attack

The System shall be aware of password attacks on single account / multiple IP addresses through:

- (a) Detecting successful and/ or unsuccessful events from online ticketing application/ OS server;
- (b) Detecting a single account with login failure over threshold from multiple source IP addresses;
- (c) Detecting multiple accounts with login failure over threshold from single IP address;
- (d) Triggering alerts and flagging the source IP addresses on multiple account attack;
- (e) Triggering alerts and flagging the account on multiple IP addresses attack; and
- (f) Recording the attack IP address in flagged list.

7.2.6 Role / Access Auditing

The System shall provide role and access auditing through:

- (a) Application log and authentication log detecting successful and/ or unsuccessful events, including creation and deletion of all objects, from the System;
- (b) Ability to generate a merged report for user activity, combine role authorisation events across all roles;
- (c) Tracking suspicious user activity including high risk events and higher number of low risk events spread over longer period; and
- (d) Triggering an alert when the suspicious activity exceeds some configured level.

8 MILESTONES & KEY DELIVERABLES

- 8.1 For the project management services, solution design, implementation and maintenance services as specified in the Specification, the Contractor shall make reference to the Milestones and Key Deliverables as stated in **Attachment 5 to Schedule Two** to propose a detailed implementation plan and submit the same for the approval by the Welfare Council. In preparing the detailed implementation plan, the Contractor shall incorporate the Milestones and their key dates as specified in **Attachment 5 to Schedule Two** to the extent not inconsistent with the preliminary implementation plan submitted by the Contractor for implementation plan and key deliverables at the tender stage.
- 8.2 The above key dates may change in the event that access to various sites and locations for the Project or any part thereof is delayed or is not made available to the Contractor on time for carrying out necessary works as per implementation plan. The Contractor is deemed to have made due allowance in the Contract Price and shall not be entitled to any additional costs that may be required arising out of the delay or such change of the key dates provided that such change by reason of the access to various sites shall not exceed 6 months.
- 8.3 All the Deliverables shall be prepared to the satisfaction of the Welfare Council and submitted by the key dates in **Attachment 5 to Schedule Two**.

ATTACHMENT 1 TO SCHEDULE TWO

**GENERAL REQUIREMENTS AND FUNCTIONAL
REQUIREMENTS**

**PROVISION OF SYSTEM DESIGN, DEVELOPMENT AND
IMPLEMENTATION SERVICES
(WTSDHC)**

1. Supplementary information for Functional or Technical Requirements

There is no supplementary information.

ATTACHMENT 2 TO SCHEDULE TWO

GLOSSARY OF TERMS

PROVISION OF SYSTEM DESIGN, DEVELOPMENT AND IMPLEMENTATION SERVICES (WTSDHC)

Glossary of Terms

Term	Definition
Application Hosting Platform	Application Hosting Platform is a platform that provides a combination of IT functions such as infrastructure, applications (software as a service), security, monitoring, storage, web development, website hosting and email, over the Internet or other wide area networks.
Application Hosting Service Provider	Application Hosting Service Provider is a business provider that delivers a combination of IT functions such as infrastructure, applications (software as a service), security, monitoring, storage, web development, website hosting and email, over the Internet or other wide area networks.
Application Platform Interface (API)	Application programming interface (API) is a set of subroutine definitions, protocols, and tools for building application software. In general terms, it is a set of clearly defined methods of communication between various software components.
Deliverables	Deliverable is a tangible or intangible good or service produced as a result of a project that is intended to be delivered to a customer (either internal or external). A deliverable could be a report, a document, a software product, a server upgrade or any other building block of an overall project.
Hypertext Markup Language (HTML)	HTML is a standardised system used to tag text files to achieve font, colour, graphic and hyperlink effects on web pages.
ITSD	The Information Technology Services Department of the Welfare Council oversees the technology implementation to ensure harmonisation to overall enterprise architecture and ensures technology support in both hardware and software in implementing and running the System.
Key Dates	The Contractor shall define the key dates for the deliverables in the project initiation phase, system analysis and design phase, implementation phase, warranty services and ongoing maintenance support services of the project.
Milestones	Milestones are tools used in project management to mark specific points along a project timeline. These points may signal anchors such as a project start and end date, a need for external review or input and budget checks, among others. In many instances, milestones do not impact project duration. Instead, they focus on major progress points that must be reached to achieve success.
New Releases	New Release constitutes an upgraded version of the System to resolve some programming problems.
PC	A personal computer (PC) is a multi-purpose computer whose size, capabilities, and price make it feasible for individual use. PCs are intended to be operated directly by an enduser.
Personal Identification Information (PII)	Any data that could potentially identify a specific individual
PMBOK	Project Management Body of Knowledge (PMBOK) is a set of standard terminology and guidelines (a body of knowledge) for project management.

Term	Definition
PMI	Project Management Institute (PMI) is a US non-profit professional organisation for project management.
Reliability Test	To measure the stability and overall performance of a system collated during an extended period of time under various specific sets of test conditions
SA&D	System Analysis and Design Services
SRAA	Security Risk Assessment and Audit
PIA	Privacy Impact Assessments
Stakeholders	A person or group of people who own a share in a business with a legitimate interest in a project or entity.
Standards	Standards are a set of specification, often with a reference implementation and usually supported by multiple vendors. Standards allow integration and interoperability, skill rationalisation, portability, and simpler and more predictable development lifecycle. Examples of standards are J2EE and HTML5.
Stress Test	To determine the stability of the System.
System Integration Test	Involves the overall testing of a complete system of many subsystem components or elements. The system under test may be composed of hardware, or software, or hardware with embedded software, or hardware/software with human-in-the-loop testing.
System Performance Test	To investigate, measure, validate or verify other quality attributes of the system, such as scalability, reliability and resource usage.
User Acceptance Test (UAT)	Actual software users test the software to make sure it can handle required tasks in real-world scenarios, according to specification.
User Interface (UI)	User interface is the space of interaction between the user and the computer system.
User Experience (UX)	The overall experience of a person using the System, especially in terms of how easy or pleasing it is to use.
Unit Test	Specify and test one point of the entire system with unit test plan that should have a very narrow and well-defined scope.

ATTACHMENT 3 TO SCHEDULE TWO

SCOPE OF MAINTENANCE AND SUPPORT SERVICES

**PROVISION OF SYSTEM DESIGN, DEVELOPMENT AND
IMPLEMENTATION SERVICES
(WTSDHC)**

SCOPE OF MAINTENANCE AND SUPPORT SERVICES

1. Scope of Services

- 1.1. The Contractor shall provide maintenance and support services for the System to ensure system stability, system availability and satisfactory customer support and shall resolve any issue in a timely and effective manner. The scope of the Maintenance and Support Services shall include but not be limited to the following:
- (a) Provide a single point of contact for answering queries and reporting application and technical problems;
 - (b) Provide emergency System online and remote support;
 - (c) Perform bug fixing to solve all System related problems;
 - (d) Coordinate and work with other contractors and other related parties to solve any System related problems;
 - (e) Provide on-going application user support services and provide System assistance and support through online remote access if onsite System assistance and support are not available;
 - (f) Monitor and maintain reasonable performance of the System as agreed with the Welfare Council;
 - (g) Observe and verify the impact of Beta and new release of mainstream mobile device operating systems and operating system for the System; Always keep verification records for reference upon Welfare Council request; Apply the fixing of the System if there is compatibility issue after the verifications.
 - (h) Install any required application or security patches with the consent from the Welfare Council's Representative; and
 - (i) Other tasks and duties as reasonably requested by the Welfare Council Representative or the delegate(s).
- 1.2. It shall include without limitation such fault findings as may be necessary to enable the Welfare Council to repair any part of the System which the Contractor has no obligation to repair hereunder.
- 1.3. The Contractor shall procure for the Welfare Council, at no additional charge to the Welfare Council, from the manufacturers of the Contractor supplied hardware and Contractor supplied software the following technical support services of the System:
- (a) collection and interpretation of technical data of the System;
 - (b) diagnosis of the System;
 - (c) modification of the System to fulfil contract requirements;
 - (d) advice on the expansion of the System to meet new operational needs; and
 - (e) upon request of the Welfare Council, send technical staff to the specified location within the response time set out in the Service Levels Specification in **Attachment 4 to Schedule Two**.
- 1.4. The Welfare Council shall be entitled to participate in the Maintenance and Support Services conducted by the Contractor for the purpose of accessing and obtaining on-the-job training so as to facilitate the Welfare Council's staff taking up subsequent in-house maintenance of the System or any part of the System. The Welfare Council shall also be entitled to access the System or any part of the System by running diagnostics, analysing system performance, application of development, testing and the like for familiarisation purposes.
- 1.5. The Welfare Council may, without notifying the Contractor, carry out repair work if deemed necessary for urgent operational requirements. The Welfare Council shall record and advise the Contractor that such repair work which has been performed.

- 1.6. The usage of all equipment implemented by the Contractor for the System may be shared by other existing or upcoming systems of the Welfare Council. The Contractor, in such circumstances, shall remain responsible for the support and maintenance of such equipment, including system configurations, system upgrades, patches and fixes applications, preventive maintenance and performance tuning.

2. Maintenance of System Hardware

- 2.1. The Contractor shall maintain each item of the System hardware to ensure continuous compliance with the Specification in **Part Seven**.
- 2.2. The Contractor shall maintain each item of the System hardware to ensure the firmware; security patches and signatures are up-to-date at no additional cost.
- 2.3. The Contractor shall at its own cost and expense provide all necessary replacement units and parts within the Maintenance and Support Services except for consumables.
- 2.4. Maintenance and Support Services for the System hardware shall comprise the provision by the Contractor of the preventive maintenance and the remedial maintenance in respect of each item of the System hardware. The Contractor shall provide preventive maintenance for each item of System hardware at least twice a year or such higher frequency.
- 2.5. Preventive maintenance shall comprise:
- (a) testing and necessary adjustments on defective or suspect parts or unit of any item of System hardware;
 - (b) engineering adjustments, modifications and improvements (including but not limited to the Contractor's latest engineering revision and any or all reliability improvements) on each item of System hardware;
 - (c) inspection of each item of System hardware at least twice a year or such higher frequency;
 - (d) produce and submit to the Welfare Council a Preventive Maintenance Report for each maintenance cycle to document the result of inspection, defective or suspect defective parts identified and all adjustment, modifications and improvements made to the System.
- 2.6. Remedial maintenance shall be provided as part of the Maintenance and Support Services. The remedial maintenance shall be performed in compliance with the response time set out in Service Level Specification in **Attachment 4 to Schedule Two**. The Contractor is required to be on stand-by outside normal working hours (i.e. within HKSAR and contactable through dedicated mobile or pager) in order to comply with the response time. Remedial maintenance shall comprise the following services:
- (a) upon receipt of a request for remedial maintenance, unless it can be done remotely, the Contractor shall despatch its personnel to the specified location within the response time set out in Service Level Specification;
 - (b) the carrying out by the Contractor of such testing, diagnosis, repairs, adjustments and replacement of any defective or non-functional System hardware or parts thereof as may be necessary to restore the System hardware to proper working order; and
 - (c) rectify all faults or provide a workaround solution to sustain the normal operation of the System **within 4 hours** from the time of responding by the Contractor.
- 2.7. For replacing any part or entire unit of an item of System hardware which becomes defective or non-functional, the Contractor shall at its own expense provide the replacement that complies with the minimum requirements set out in the Specification, and is of the same brand and the same product line or series, and provides the same or better specification (in terms of performance, capacity, security, reliability and other functions and features) than the parts or unit to be replaced.
- 2.8. In the event that the Contractor proposes to modify the System hardware in such a way that the

performance of the System will be affected, the Contractor shall request the consent of the Welfare Council to the proposed modifications. If consent is given:

- (a) the Contractor shall carry out the work at a time convenient to the Welfare Council; and
- (b) the Contractor shall bear the cost of any such modifications.

- 2.9. In the event that the Contractor removes a System hardware item or such part thereof away from the Location for overhaul or repair, unless otherwise agreed by the Welfare Council, the Contractor shall bear all the costs, including but not limited to packing, carriage and insurance incurred in the dismantlement, removal, overhaul, repair, return and re-installation of the said item or part.
- 2.10. If workshop repair is required, the Contractor shall provide a piece of compatible loan equipment on a temporary and at no additional charge basis until the relevant System hardware under repair is fixed, reinstalled and functions normally on-site.
- 2.11. Any parts and units provided by the Contractor shall become the property of the Welfare Council. Parts and units removed shall become the property of the Contractor provided always that the Welfare Council shall be entitled to retain any part or unit which is to be replaced if the Contractor is unable to erase all the data stored therein.
- 2.12. The Contractor shall certify to the Welfare Council in writing that all information stored in such part or unit has been completely erased and shall be liable for any loss or damage caused by the possession or use of any information remaining in any part or unit of the System hardware so removed. The Contractor shall perform the data erasure either on-site or off-site as requested by the Welfare Council. For off-site data erasure, the Contractor shall allow the representative(s) of the Welfare Council to accompany the delivery to work site and to witness the process.
- 2.13. Unless the Welfare Council otherwise instructs or agrees, the Contractor shall perform the Maintenance and Support Services in respect of a System hardware item notwithstanding that the manufacturer or developer no longer manufactures or develops or supports such item. Alternatively, the Contractor shall at its cost replace the obsolete item with another compatible System hardware item which complies with the minimum requirements set out in the Specification and has specification which are no worse than the obsolete item to be replaced (in terms of performance, capacity, security, reliability and other functions and features).

3. Maintenance of Software

- 3.1. The Contractor shall maintain each item of the System software to ensure continuous compliance with the Specification.
- 3.2. The Maintenance and Support Services in respect of each item of the System software on error correction.
- 3.3. In relation to each item of the System software, the Maintenance Services shall cover the supply of, New Releases, updates, patches, service packs, technical maintenance support packages and other new or supplement releases issued or made available for subscription by the manufacturer/developer of the System software together with all manuals, Documentation and technical literature published by the manufacturer/developer in conjunction with such releases.
- 3.4. The installation and configuration of the New Releases, updates, patches, service packs, and technical maintenance support packages shall be performed as part of the Maintenance and Support Services, and shall not be limited only to those relating to the System software, but rather in relation to all software items covered in the Contract.
- 3.5. Unless the Welfare Council otherwise instructs or agrees, the Contractor shall perform the Maintenance and Support Services in respect of a System software item notwithstanding that the manufacturer or developer no longer manufactures or develops or supports such item. Alternatively, the Contractor shall at its cost replace the obsolete item with another compatible software which

complies with the minimum requirements set out in the Specification and has specification which are no worse than the obsolete item to be replaced (in terms of performance, capacity, security, reliability and other functions and features).

- 3.6. The Contractor shall provide Maintenance and Support Services for the System software. The maintenance services shall be provided within the response times as specified in the Service Level Specification in the Contract. The Contractor is required to be on stand-by outside normal working hours (i.e. within Hong Kong and contactable through dedicated mobile or pager) in order to comply with the response time.
- 3.7. Upon receipt of notification from the Welfare Council that there is any defect or error in the System software that affects normal user service, the Contractor shall correct such defect or error or provide a workaround solution to resume the operation of the faulty System software according to Service Levels Specification in **Attachment 4 to Schedule Two**.

4. Installation of Software Updates and New Releases

- 4.1. The obligations specified in this Clause shall apply to an Update and/or New Release (collectively "Update") of each Software item.
- 4.2. The Contractor shall assess the impact of any new Update on the System.
- 4.3. If the impact on the operation of the System is assessed to be acceptable and not adverse, the Contractor shall install the Update after seeking the written agreement from the Welfare Council's Representative.
- 4.4. In reasonable time prior to the installation of an Update, the Contractor shall make available to the Welfare Council all amendments to the System software's specification, manuals and technical literature as necessary for describing the facilities and functions of the new Update.
- 4.5. The Contractor shall ensure that the installation of any software Update to the System shall not affect the services of the System during the operating hours. The rollout of any Update shall be arranged at such time and such manner to minimise impact on user service and subject to agreement by the Welfare Council.
- 4.6. The Contractor shall upon the rollout of an Update, amend and supplement all Documentation and Deliverables which are necessary or consequential following an Update.

5. Maintenance of Custom Programs

- 5.1. The Contractor shall perform bug fixing and provide on-site support, if necessary, to solve all problems related to the Custom Programs in the System (including the interfaces which connect the System to other existing and future systems provided that the Contractor was or will be the supplier of the Custom Programs for such interfaces).
- 5.2. Upon request by the Welfare Council and without prejudice to the obligations of the Contractor specified in Clause 5.1, the Contractor shall provide information, assistance and support to the Welfare Council in relation to any interface or connection or integration issues of other systems with the System.
- 5.3. If the Welfare Council discovers any defect or error in the Custom Programs, the Welfare Council will send a request to the Contractor to fix the defect or error in question.
- 5.4. Upon such request by the Welfare Council, the Contractor shall correct such defect or error by developing a fix for the Custom Programs and prepare a revised version of the Custom Programs incorporating such fix. The fix shall be subject to the acceptance by the Welfare Council before the revised version of the Custom Programs is prepared. If the Welfare Council withholds acceptance, the Contractor shall be obliged to continue to work on the fix until it is accepted by the Welfare Council. If a fix is urgently required, the Contractor shall provide a revised version of the Custom Programs

incorporating the fix within 24 hours after the request from the Welfare Council.

- 5.5. Forthwith upon a fix being completed, the Contractor shall deliver to the Welfare Council the source codes, object codes and command codes of the fix and the revised Custom Programs incorporating the fix in hardware-readable form and install onto the System hardware together with appropriate amendments to the Deliverables and other Documentation specifying the nature of the correction and providing instructions for the proper use of the revised version of the Custom Programs on the System hardware.
- 5.6. If and to the extent requested by the Welfare Council, the Contractor shall as soon as reasonably practicable after producing a revised version of the Custom Programs incorporating a fix, provide such additional training as shall be necessary to enable the Welfare Council to make proper use and where necessary maintenance of the revised version of the Custom Programs.
- 5.7. If and to the extent the Welfare Council retains ownership of the Intellectual Property Rights in the Custom Programs, the Contractor may during the continuance of the Maintenance and Support Services period, retain a copy of the source code of the Custom Programs and all other Materials necessary for the proper maintenance of the Custom Programs in the Deliverables. The Contractor shall ensure that such source code and other Materials shall be held in confidence, shall only be used by the Contractor for the purposes of the Contract and shall be returned (together with all copies thereof) to the Welfare Council forthwith upon request by the Welfare Council or the termination of this Contract (howsoever occasioned), whichever is the earlier.
- 5.8. The Contractor shall seek the prior written consent of the Welfare Council if it wishes to revise or replace the Custom Programs or any part thereof. If the Welfare Council's consent is given, the Contractor's obligations under this Contract with regard to the Custom Programs shall also apply to any such new version or replacement thereof. If the Welfare Council withholds its consent, the Contractor shall continue to be obliged to provide the same Services to the existing version of the Custom Programs.
- 5.9. The Contractor shall provide technical services to install the fixes, version control and modification of the Custom Programs.
- 5.10. The Contractor shall provide and perform the Maintenance and Support Services for the Custom Programs according to the Service Level Specification.
- 5.11. If any amended or modified version of the Custom Programs is made by the Contractor pursuant to this Contract then the Contractor shall promptly deliver to the Welfare Council all materials necessary for the proper maintenance of the amended or modified version of the Custom Programs.
- 5.12. The Welfare Council shall be entitled to alter or modify the whole or any part of the Custom Programs in any way whatever and/or to cause the whole or any part of the Custom Programs to be combined with or become incorporated in any other programs.

6. Service Desk

- 6.1. The Contractor shall operate the Service Desk to receive and log support calls relating to all kinds of reported incidents relating to the System. The Contractor shall provide a hotline phone number and email address for call logging. Voice mail shall be provided for hotline phone calls.
- 6.2. The Contractor shall respond to the support calls, keep track of the progress, problems, activities and results of the calls and ensure that the calls are followed up properly with fault diagnosis and resolutions and in accordance with the Service Level Specification.
- 6.3. The support staff shall be reachable by phone and email according to the Service Level Specification. In addition, the support staff shall conduct site inspections and rectifications as and when required according to the response time stipulated as part of the aforesaid service levels.
- 6.4. All necessary equipment for system diagnosis and electronic record management and reporting system shall be provided by the Contractor.

- 6.5. The Contractor shall provide monthly service reports to the Welfare Council. The service reports shall at least contain information such as part of the System affected, number of calls, scope of services, level of impact to users, achieved service levels including time taken to solve each reported incident, follow up issues and allocation of support staff.
- 6.6. The Contractor shall provide Service Desk services to the Welfare Council including but not limited to the following:
- (a) answer queries and handle incidents raised by the callers and perform on-site trouble shooting, and fixing application incidents, and notifying user on service interruption related to the System whenever appropriate;
 - (b) contact, co-ordinate and collaborate with relevant parties to solve the incident in case it is still unresolved after carrying out on-site investigations, and to take appropriate follow-up actions to ensure that the incident shall be resolved within the shortest reasonable time frame;
 - (c) escalate unresolved incidents to the Welfare Council;
 - (d) coordinate incident reporting and keep track of the progress by updating the latest status of resolved/unresolved incidents to the Welfare Council, following up with the callers and any other concerned parties;
 - (e) produce problem logs and statistics for inspections by the Welfare Council; and
 - (f) provide up-to-date System information such as application usage, incidents and solutions/workarounds to the Welfare Council regularly.
- 6.7. The Contractor shall provide the Service Desk services in accordance with the Service Level Specification.

7. Incident Management

7.1. Scope of Incident Management

- (a) The Contractor shall implement stringent incident management procedures that are commensurate with the procedures as stipulated in Clause 7.2 and strictly follow the time requirements in incident handling and reporting specified in the Service Level Specification.
- (b) The incident management shall cover any incidents that present an unplanned interruption to the Services or a reduction in the quality of the Services. Failure of a configuration item that has not yet impacted service shall also be counted as an incident. For example, failure of one disk from a mirror set is an incident.
- (c) The Contractor shall take ownership for an incident and act as an interface towards the Contractor's sub-contractors, the Welfare Council, other contractors, and any relevant third parties.
- (d) The Contractor shall identify, investigate, co-ordinate, handle, report, escalate and resolve reported and detected incidents and service interruption.
- (e) The Contractor shall handle all suspected incidents and any incidents that lead to service degradation, partial service outage, and total service outage.
- (f) The Contractor shall provide frequent updates of service status following schedules given by the Welfare Council during specific periods designated by the Welfare Council.

7.2. Incident Management Procedures

- (a) As part of the Implementation Services, the Contractor shall propose for the Welfare Council's approval, and upon such approval, develop the incident management procedures for the System, which shall include handling, reporting, monitoring and escalation when incidents occur, classification of incidents according to severity of their service impact, restoration of service from incidents, incident investigation and identification of root causes,

implementation of resolution for any identified problems, and progress monitoring of resolution implementation.

- (b) Any failure that results in service interruption shall be resolved from the end-to-end user perspective. The Contractor shall proactively confirm the status of service resolution with users after recovery actions have been taken and the service monitoring tool reports service resumption.

7.3. The Contractor shall escalate any reported and detected incidents to the Welfare Council based on the contact list for incident resolution and escalation. The Contractor shall maintain the contact list and procedures for incident resolution and escalation.

7.4. The Contractor shall ensure the prompt resumption of the System within the Service Level requirements.

7.5. Incident Alerts

- (a) The Contractor shall issue an automatic alert immediately that a service incident is detected.
- (b) The recipients of the incident alerts shall depend on the alert levels and the Approved incident handling procedures, which may include the Contractor, the Welfare Council's Representative, and relevant third parties authorised by the Welfare Council's Representative.
- (c) The alert mechanisms shall include at no additional charge to the Welfare Council short message service (SMS), email, phone and any appropriate means that the situation warrants.

7.6. Incident Report

- (a) The Contractor shall provide incident reports on all service incidents, including description of the incident, the impact, time and duration of the impact and recovery, root cause, activity logs, recovery actions taken, findings, recommendations according to the time requirements specified in the Service Level Specification in **Attachment 4 to Schedule Two**.
- (b) The Contractor shall seek the Welfare Council's Representative's approval before distributing any incident report to other relevant parties.

7.7. Incident Investigation

- (a) The Contractor shall attend meetings including incident investigation meetings and incident review panel meetings when requested by the Welfare Council.
- (b) The Contractor shall provide copies of logs, access records, and any other pertinent information when requested by the Welfare Council's Representative.
- (c) The Contractor shall implement measures recommended in incident reports, subject to the Approval of the Welfare Council's Representative, to prevent similar incidents from occurring again at its own costs and expenses.

8. Service Level Management

8.1. The Contractor shall manage service levels in accordance with the service level requirements as set out in the Service Level Specification in **Attachment 4 to Schedule Two**.

8.2. The Contractor shall provide to the Welfare Council monthly reports in the format prescribed by the Welfare Council on the actual attained service levels in respect of each month of the Maintenance and Support Services.

9. Change Control

9.1 Change Procedures

- (a) The Contractor shall design and implement a set of change procedures to ensure that all planned and ad hoc changes affecting the System are reviewed, approved by the Welfare Council, and

documented properly.

- (b) The Contractor shall provide a mechanism for recording, tracking and progress monitoring of all requests for a change ("Change Request").

9.2 Assessment of Change and the need to obtain the Welfare Council's Representative's approval:

- (a) The Contractor shall assess the feasibility and impacts of Change Requests for addition, modification or removal of any hardware, or in respect of the scope of the Services, the Contractor's personnel and the documentation that could have an effect on the Services. Unless initiated by the Welfare Council, the Welfare Council shall approve, in writing and in advance, all the aforesaid changes.

9.3 The Contractor shall provide the following information to facilitate the Welfare Council's Representative's assessment of a Change Request:

- (a) reason and purpose of change;
- (b) proposed solution/approach for change;
- (c) a high level changing plan including activities and milestones for implementing the Change Request;
- (d) any assumptions made;
- (e) any contingency/fall-back plan;
- (f) any acceptance criteria for the Welfare Council to confirm completion of the change;
- (g) Welfare Council resources required, if any;
- (h) an impact assessment;
- (i) any licence cost change in relation to software that are acquired by the Welfare Council and installed on the System; and
- (j) any other information as requested by the Welfare Council.

9.4 The Contractor shall submit the Change Request with the assessment information to the Welfare Council, whereas the Welfare Council will either approve or reject the Change Request with reasons whose decision shall be binding on the Contractor.

9.5 Execution of Change

- (a) The Contractor shall schedule, manage and co-ordinate testing and implementation of approved changes.
- (b) The Contractor shall ensure that all changes made are properly planned, tested and clearly documented.
- (c) The Contractor shall perform backup before and after any changes applied to the system configurations.
- (d) Whenever there is the need of changing the setup of any part of the System, the proposed changes shall have the prior written approval from the Welfare Council.
- (e) The Contractor shall not perform any change in a frozen period defined by the Welfare Council unless otherwise instructed by the Welfare Council's Representative.
- (f) The Contractor shall be responsible for the communication of change details to all relevant parties.

10. Particular Requirements

The Contractor shall also provide the following services as part of the maintenance and support services: -

- App Store and Google Play account management and App upload/updates;
- Necessary application updates and bug fixing subject to the consent of the Welfare Council;
- Back-up functions for restoring data in the event of a failure or upon request;
- Regular on-site strategic review and analysis;
- Up-to-date documentation e.g. manual, required for the support of the System;
- In-System alert for version upgrade / force upgrade;
- 24/7 call-in number;
- Direct contact to local technical support team;
- A dedicated account manager receiving on-going and unlimited calls and emails;
- Telephone and remote guidance and troubleshooting;
- On-going technical and system facility support services;
- On-going bug-fixing service;
- Free warranty for repairing and replacement of hardware; and
- Continuous enhancement on System compatibility (both OS and device hardware), deliverability and security standard.

The expected response time for incidents of each severity level is stated in the **Attachment 4 to Schedule Two**. The Contractor should propose for and develop a detailed incident management procedure, including handling, reporting, monitoring and escalation of incidents, with approval from the Welfare Council.

In case of unexpected system failures or suspected security incidents, the Contractor should report to the Welfare Council immediately. After rectification of the problems, the Contractor shall report the case in detail to the Welfare Council, indicating the incident, findings, root cause identification, actions and solutions applied and recommendations for long term rectification and pre-emption of repetition of the incident.

If it is planned to cease operation of or to replace a system, the Contractor shall plan for the system retirement and arrange the system cutover where a new system is to replace an existing system.

ATTACHMENT 4 TO SCHEDULE TWO

SERVICE LEVELS SPECIFICATION

**PROVISION OF SYSTEM DESIGN, DEVELOPMENT AND
IMPLEMENTATION SERVICES
(WTSDHC)**

Service Levels Specification

1.1 General

1.1.1 The “Service Levels” of the System comprises the following:

- (a) Committed Availability Level
- (b) Serviceability Levels as defined in Clause 1.2 of this Attachment - Serviceability Levels for the System.

1.1.2 In Clause 1.1.1, “Committed Availability Level” and “Serviceability Levels” shall be determined as follows: -

“Availability” means the monthly percentage availability compared to plan, calculated as follows:

$$\text{Availability} = \frac{(\text{Scheduled Uptime} - \text{Unscheduled Downtime})}{\text{Scheduled Uptime}} \times 100\%$$

“Committed Availability Level” means **95%** of the Scheduled Uptime.

“Scheduled Downtime” is the duration, measured in minutes per month, that the System is intentionally made unavailable as agreed between the Welfare Council and the Contractor

“Scheduled Uptime” is the duration, in minutes per month, excluding the Scheduled Downtime that the System or part of the System in respect of which the availability level is to be measured.

“Unscheduled Downtime” is the duration, in minutes in the relevant month that the System or part of the System in respect of which the availability level is to be measured is/are unavailable except for the Scheduled Downtime.

“Resolution Time” is the duration, in minutes from the time that the issue is raised by Welfare Council representative until the problem is resolved.

“Response Time” is the duration, in minute from the time of problem reporting until vendor support team contacts the representative for initial investigation.

1.1.3 If there is a failure to meet the Service Levels, the Contractor shall:

- (a) immediately investigate the cause of the problem;
- (b) take all actions necessary to rectify the problem and resume performance in accordance with the Service Levels as soon as practicable;
- (c) deploy all additional resources and take all remedial action that is necessary to prevent the failure in the Service Level from recurring;
- (d) advise the Welfare Council of the status of the remedial efforts being undertaken with respect to the problem;
- (e) promptly prepare a report identifying the cause of the problem and the measures to rectify the problem and prevent a recurrence;
- (f) report that failure to the Welfare Council as a monthly report Deliverable; and
- (g) make available for meetings and consultation with the Welfare Council those personnel within the Contractor who are the recognised experts with respect to the problem.

1.1.4 All Serviceability Levels that are specified in number of working days in Clause 1.2.3 shall exclude the day of the giving of notices.

1.2 Serviceability Levels for the System

1.2.1 Production Support

	Task Description	Service Level Requirements
1	Provide a single point of contact, via a hot-line or email for reporting application and technical problems of the System	100% of calls will be answered by a support staff.
2	Log, monitor and report on progress of all calls in the monthly incident/problem report.	Provide monthly incident/problem report by the first week of each month.
3	Conduct quarterly analysis of incident report to identify recurrent issues and recommended remedial action.	Conduct analysis, prepare and submit quarterly report on the incident/problem report, which should include the following information, by the 5 th working day of the reporting month: <ul style="list-style-type: none"> - any occurrence of recurrent issues and its level of impact on user's satisfaction - recommendation of remedial action for incident/problem with high level of impact to user satisfaction
4	Discuss, coordinate, liaise and consult with Welfare Council team, other contractor(s) on all maintenance and support matters.	Coordinate and work with other related parties to handle all maintenance/support and keep the Welfare Council or the Welfare Council's Representative informed of the progress.
5	Produce/maintain all user and support documentation to facilitate utilisation and maintenance of the System; and maintain documentation of the System.	Log all amendments to the System within 2 weeks following the amendments.
6	Provide service performance reports monthly or as required, which should contain: <ul style="list-style-type: none"> - Progress report; - Call register statistics; - Change statistics; - System activity statistics; and - Security control activity statistics. 	Provide progress report by the first week of each month with detailed breakdowns on: <ul style="list-style-type: none"> - Tasks completed; - Tasks in-progress; and - Tasks not started.

1.2.2 Service Level Requirements

Task Description	Service Level Requirements
Support hour	From 10:00am to 8:00pm for Monday to Saturday by Email / Hotline; Response Time <= 4 hours

Performance Parameters	Resolution Time ^{#1}
Key Functions <ul style="list-style-type: none"> - online booking for 1st visit - issue membership card - DHC APP (member area) - health class enrollment 	3 days or less
Security Issue	24 hours or less
Other Issue	4 days or less

#1 it is required to provide Workaround solution if failure to meet the resolution time

If the Contractor repeatedly fails to meet the Service Levels, the Welfare Council may terminate the Contract in accordance with Clause 14 of the **General Conditions of Contract in Part Four**.

ATTACHMENT 5 TO SCHEDULE TWO

SCHEDULE OF MILESTONES AND DELIVERABLES

PROVISION OF SYSTEM DESIGN, DEVELOPMENT AND IMPLEMENTATION SERVICES (WTSDHC)

The Contractor shall commence the Services immediately after the award of the Contract and deliver the Deliverables in accordance with the Target Schedule as below.

Target Schedule	Deliverables / Milestones
Feb 2022	<ul style="list-style-type: none"> • Project kick-off
June 2022	<ul style="list-style-type: none"> • 1st SRAA and PIA completed
June 2022	<ul style="list-style-type: none"> • Systems Soft Launch
Oct 2022	<ul style="list-style-type: none"> • Systems Official Launch
May of Year 2025	<ul style="list-style-type: none"> • End of Defects Liability Period (DLP) • Start of Ongoing Maintenance and support upon Welfare Council agreement