

**For discussion on  
10 December 2018**

**Legislative Council Panel on Welfare Services**

**Redevelopment of the Client Information System and  
the Service Performance Management Information System of  
Social Welfare Department**

**PURPOSE**

This paper sets out the proposal to redevelop the Client Information System (CIS) and the Service Performance Management Information System (SPMIS) of Social Welfare Department (SWD). Members are invited to note and give their views on and support this proposal.

**BACKGROUND**

2. SWD provides social welfare services directly through its service units to meet multi-farious welfare needs of the public, while subvented and subsidised services are provided by non-governmental organisations (NGOs). SWD has, based on a set of well-defined Service Quality Standards and Funding and Service Agreements (FSAs) / Service Documents (SDs), built a service performance monitoring mechanism to monitor the service performance of the services provided by departmental units and NGOs.

***CIS***

3. Launched in 2010, CIS is a mission-critical, service-user-centred case management system for the recording and consolidation of information of service users. This system is currently used by around 3 000 staff of SWD with information shared among different service units/offices on a need-to-know basis for the purposes of case management, handling of case referrals, and processing of service applications to facilitate the delivery of social services to members of the public in need. CIS has

currently incorporated 24 end-user computing systems serving different business areas such as waitlisting applications and registries of cases for specific services. It also provides data exchange functions with other SWD application systems to facilitate case management and delivery of services. The current reporting function in CIS serves to monitor service progress and compile management information reports for service monitoring and planning. Through CIS, approximately 150 000 referrals, 100 000 intake records and 200 000 cases are processed each year.

### ***SPMIS***

4. Launched in 2005, SPMIS is used by staff of SWD's Subventions Branch to collate and consolidate the performance management information of subvented NGOs and service units of SWD. Information captured includes those from performance return forms, on-site assessment and complaint handling records to facilitate SWD's monitoring of these service units. Subvented service units of NGOs and departmental service units are required to submit service performance data by mail, email or fax on a regular basis for the purpose of service performance monitoring in accordance with the outcome and output standards set out in the FSAs/SDs. These returns will be manually processed, with the key statistics transferred to SPMIS. Service units with underperformed service outcome and output will be requested to submit action plan for improvement. SPMIS currently captures the service performance returns of 1 838 service units operated by 169 subvented NGOs as well as 140 departmental service units, based on the 375 types of statistical form for various services.

### **THE NEED FOR REDEVELOPING THE EXISTING SYSTEMS**

5. The existing CIS and SPMIS have been used for close to eight and 13 years respectively, and the technologies adopted at the time of their development are outdated. Due to the rapid advancement of technology, these systems are technically backward in today's standard and are deficient in the following areas: –

- (a) limited interface or integration with other systems of SWD and external parties;
- (b) outdated system architectures which cannot fully adopt cloud computing

technology, thus limiting further system expansion to cater for new functionalities and data exchange with other systems; and

- (c) lack of functionalities for the provision of e-services to the public.

6. Apart from the above, both systems are also operationally inefficient to cope with the changes driven by the significant expansion of social services in recent years, the adoption of new service delivery modes and the introduction of a large number of new initiatives. Feasibility studies of the two systems have been conducted respectively and the findings are set out in the following paragraphs.

### *CIS*

7. The existing CIS will have reached the end of its serviceable lifespan of ten years by December 2020. Despite the implementation of a number of piecemeal upgrades and enhancements on CIS in the past years, the rapid IT development has rendered the key components of CIS obsolete. SWD conducted a feasibility study in 2017 to review the existing system and identify further room to enhance the system in meeting new policies or business initiatives of SWD. The findings of the study revealed that the existing CIS is incapable of meeting SWD's growing business needs for the following reasons: –

- (a) With the core system components in service since 2010, both the hardware and software of CIS are becoming obsolete and approaching the end of their life-span which may bring risk of service interruption or even suspension;
- (b) With limitation in the system architecture and design, the system is inflexible to include new functions or cater for changes in workflow and business rules brought about by new policies or business initiatives, including the inability to support mobile computing for use in performing outreaching duties outside office / after office hours;
- (c) The non-cloud design of the existing system is costly in system enhancement and inflexible in adopting the changing technologies;
- (d) All referrals and applications for services from other bureaux/departments

(B/Ds), government related organisations (GROs) and NGOs are currently received through post, fax or email. With the lack of an electronic submission platform, case information received is to be input to CIS manually by the case workers of the concerned service units which is time consuming and inefficient; and

- (e) The existing CIS has limited capacity to have further interface with other SWD systems or incorporate other systems to achieve better integration, which may compromise efficiency in case management.

### ***SPMIS***

8. SWD conducted a feasibility study cum business process re-engineering study on the redevelopment of SPMIS in 2017 with a view to automating and streamlining the processes of collation and consolidation of service performance returns so as to facilitate SWD's service performance monitoring and data analysis in a comprehensive manner. The findings of the study concluded that the existing SPMIS needed to be redeveloped in order to attain higher effectiveness and efficiency to cater for the evolving needs in service performance management for the following reasons:

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- (a) The design and the technologies adopted at the time of the development of the existing SPMIS are outdated, and are inflexible to incorporate new business needs and has low propensity for further system expansion;
- (b) The existing SPMIS lacks an electronic communication platform for receiving the performance returns from subvented NGOs which generates much manual effort in data input and validation, and impacts on efficiency in timely service monitoring and formulation of remedial actions, while the monitoring of subsidised services provided by NGOs is currently outside SPMIS; and
- (c) The existing SPMIS lacks business intelligence tool for generating comprehensive statistical data and alert function to facilitate service monitoring.

## **PROPOSAL AND ANTICIPATED BENEFITS**

9. SWD needs to redevelop CIS and SPMIS to respond to the problems faced by the existing systems. The proposed new systems, i.e. CIS-II and SPMIS-II, will be built based on new system framework and design and adopt cloud computing technology. The modular design of the new systems will also support efficient deployment of system enhancements to cater for changing operational requirements as well as new service and policy initiatives.

### ***CIS***

10. The system will be redeveloped to achieve the following benefits: –
- (a) to provide an electronic submission platform for other B/Ds, GROs and NGOs to submit referrals and information updates to SWD which will streamline the operations by minimising manual work on data entry and increase efficiency;
  - (b) to facilitate the provision of e-services to the public, such as electronic submission of enquires on, applications and requests for various services by the public;
  - (c) to integrate or build interface with other standalone SWD systems, such as the Clinical Psychological Services Information System, Integrated Vocational Training Centre System, Community Care Service Voucher for the Elderly and Residential Care Service Voucher for the Elderly, which are currently independently operated, into CIS-II so as to streamline the operation workflows and increase efficiency in case management; and
  - (d) to support mobile access to CIS-II by SWD workers in performing outreaching duties outside office / after office hours.

### ***SPMIS***

11. The system will be redeveloped to achieve the following benefits: –

- (a) to provide an electronic platform for use by NGOs<sup>1</sup> in order to reduce manual data input, ensure data accuracy and facilitate timely receipt of service performance data for more comprehensive monitoring of service performance and service planning;
- (b) to allow senior management of SWD and NGOs to obtain comprehensive service performance information about subvented and subsidised services, including underperformed service areas, thereby facilitating them to take prompt remedial action when situation warrants;
- (c) to enable the generation of more useful service performance management information / reports of welfare services with a view to ensuring proper use of public resources; and
- (d) to facilitate data exchange with other systems of SWD for speeding up the processing of performance data in SPMIS-II.

## FINANCIAL IMPLICATIONS

### *Non-recurrent Expenditure*

12. It is estimated that the implementation of redeveloping CIS-II will incur a non-recurrent cost of \$316,877,000 from 2019-20 to 2023-24, while the implementation of redeveloping SPMIS-II will incur a non-recurrent cost of \$65,424,000 from 2019-20 to 2022-23. The cost breakdown of the non-recurrent expenditure of the two systems is at **Annex 1**. A project team will be set up in SWD for implementation of the redevelopment of CIS and SPMIS, including tendering, project management, supporting system analysis and design, conducting user acceptance tests, etc. The project team will entail a total non-recurrent staff cost of about \$93,841,000 from 2019-20 to 2023-24. The cost will be largely absorbed from within existing resources.

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<sup>1</sup> NGOs operating subvented services and subsidised services, including those of pilot nature, will be covered by SPMIS-II.

### ***Recurrent Expenditure***

13. It is estimated that the recurrent expenditure for maintaining and supporting CIS-II is \$30,488,000 per annum from 2024-25 onwards, while that for SPMIS-II is \$13,113,000 per annum from 2023-24 onwards, which will be partly met by the realisable savings mentioned in paragraphs 14(a) and 15(a) below. The cost breakdown of the recurrent expenditure of the two systems is at **Annex 2**.

### ***Cost Savings / Avoidance***

#### **CIS**

14. It is estimated that the proposed redevelopment of CIS will generate annual savings of \$62,327,000 from 2024-25 onwards, comprising: –

- (a) Realisable savings of \$21,022,000 per annum – This represents the maintenance and support cost of existing CIS and other end user computing systems to be incorporated in CIS-II. The savings will be ploughed back to cover part of the maintenance and support costs of the new system;
- (b) Notional savings of \$32,875,000 per annum – With the improvements brought about by the new system, notional savings will be achieved mainly through reduction in staff effort required for various activities, such as handling of service recipients' enquiries and manual efforts in data input and checking; and
- (c) Cost avoidance of \$8,430,000 per annum – The additional recurrent cost for upgrading and enhancing the existing CIS will be avoided with the implementation of the new system.

#### **SPMIS**

15. It is estimated that the proposed redevelopment of SPMIS will generate annual savings of \$4,731,000 from 2023-24 onwards, comprising: –

- (a) Realisable savings of \$61,000 per annum – These are the recurrent system maintenance costs of the existing SPMIS. The savings will be ploughed back to cover part of the recurrent costs of the new system; and
- (b) Notional savings of \$4,670,000 per annum – With the improvements brought about by the new system, notional savings will be achieved by automating and streamlining the processes of submission of service performance returns on the electronic platform, more efficient retrieval of performance data and reports generation; and the reduction of paper consumption.

## IMPLEMENTATION PLAN

16. The planned implementation schedules of the two redevelopment projects are as follows: –

Activity	Target completion date	
	CIS-II	SPMIS-II
(a) Setting up of Project Development Office and project preparation work	Q3 2019	Q3 2019
(b) System analysis and design	Q4 2020	Q3 2020
(c) Phase 1 <sup>2</sup>		
• Development	Q4 2021	Q1 2021
• Testing	Q2 2022	Q2 2021
• System rollout	Q3 2022	Q3 2021
(d) Phase 2 <sup>3</sup>		
• Development	Q1 2023	Q1 2022
• Testing	Q2 2023	Q2 2022
• System rollout	Q2 2023	Q3 2022

<sup>2</sup> Phase 1: CIS – re-development in modular design and with electronic submission; SPMIS – system development for subvented services with electronic submission.

<sup>3</sup> Phase 2: CIS – development of new interfaces with other systems, new reports, etc.; SPMIS – system development for subsidised services, interface with other systems, etc.



## **ADVICE SOUGHT**

17. Members are invited to note and give their views on this proposal. After consulting the Members, we plan to seek funding approval from the Finance Committee in the first quarter of 2019.

**Labour and Welfare Bureau**  
**Social Welfare Department**  
**December 2018**

## Annex 1

### **Non-recurrent Expenditure of the Proposed Redevelopment of CIS and SPMIS**

I. The cost breakdowns of the non-recurrent expenditure of redeveloping the two systems are stipulated in the following table: –

Items	CIS-II (\$'000)						SPMIS-II (\$'000)				
	2019 -20	2020 -21	2021 -22	2022 -23	2023 -24	Total	2019 -20	2020 -21	2021 -22	2022 -23	Total
(a) Hardware	1,481	1,885	22,452	38,583	8,052	72,453	---	1,601	3,750	1,044	6,395
(b) Software	---	---	29,891	8,636	6,477	45,004	---	4,332	9,549	2,070	15,951
(c) Implementation	14,143	39,688	42,893	44,058	21,264	162,046	4,984	10,297	10,297	7,084	32,662
(d) Others	692	1,602	1,889	2,742	1,642	8,567	---	1,334	1,425	1,709	4,468
<i>Sub-total:</i>	<i>16,316</i>	<i>43,175</i>	<i>97,125</i>	<i>94,019</i>	<i>37,435</i>	<i>288,070</i>	<i>4,984</i>	<i>17,564</i>	<i>25,021</i>	<i>11,907</i>	<i>59,476</i>
(e) Contingency						28,807					5,948
<b>Total:</b>						<b>316,877</b>					<b>65,424</b>

II. On paragraph I(a) above, the estimates of \$72,453,000 and \$6,395,000 are for the acquisition of computer hardware, including servers, storage, security appliance, network equipment, desktop and notebook computers and other miscellaneous hardware.

III. On paragraph I(b) above, the estimates of \$45,004,000 and \$15,951,000 are for the acquisition of system software, including operating systems, database management systems, application server software, virtualisation software, document management software, business intelligence / reporting tool, anti-virus software, etc.

IV. On paragraph I(c) above, the estimates of \$162,046,000 and \$32,662,000 are for the implementation of the project including proof-of-concept, system analysis and design, development, site preparation and system configuration.

V. On paragraph I(d) above, the estimates of \$8,567,000 and \$4,468,000 are for security risk assessment and audit, communication lines, setting up of facilities for staff training on new system functions, consumables and service charge for hosting the electronic submission platform. For CIS-II, an additional cost for privacy impact assessment is required as personal data will be stored in the system.

VI. On paragraph I(e) above, the estimates of \$28,807,000 and \$5,948,000 for contingency are 10% of the sum of items (a) to (d) in paragraph I.

**Recurrent Expenditure of the Proposed Redevelopment of CIS and SPMIS**

The annual recurrent expenditure covers the cost for hardware and software maintenance, on-going system support services, communication network and consumables. Such requirements will be reviewed nearer the time when the system is commissioned and the breakdown is as follows: –

***I. Recurrent Expenditure for CIS-II***

Items	(\$'000)	
	2023-24	2024-25 and onwards
(a) Hardware and Software Maintenance	4,750	18,197
(b) On-going System Support	2,371	9,485
(c) Communication Network and Hosting Services	592	2,367
(d) Training	51	206
(e) Consumables	58	233
<b>Total:</b>	<b>7,822</b>	<b>30,488</b>

***II. Recurrent Expenditure for SPMIS-II***

Items	(\$'000)	
	2022-23	2023-24 and onwards
(a) Hardware and Software Maintenance	0	4,671
(b) On-going System Support	2,952	7,084
(c) Communication Network and Hosting Services	0	1,276
(d) Consumables	0	82
<b>Total</b>	<b>2,952</b>	<b>13,113</b>

*Note: Training on SPMIS-II will be conducted with existing in-house resources.*