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添付資料

添付資料

添付資料 1:作業工程実績

作業項目＼期間	2013				2014												2015												2016				
	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5
①事前準備																																	
①-1 スーダンにおける基礎情報の収集																																	
①-2 実証試験の実施計画の策定、評価方法の策定																																	
②実証試験導入機器の調達・輸送・据付																																	
②-1 車両・機器の発注／制作																																	
②-2 車両・機器の輸送																																	
②-3 実証設備の据付																																	
③実証事業の実施																																	
③-1 ドクターカーの運行																																	
③-2 運行データの記録																																	
③-3 運行関係者へのヒアリング実施／中間評価／計画修正																																	
③-4 現地適合性の分析																																	
③-5 Steering Committeeの開催																																	
④ 普及活動の実施																																	
④-1 普及啓発プログラムの計画策定																																	
④-2 普及啓発プログラムの実施																																	
⑤人材育成プログラムの実施																																	
⑤-1人材育成プログラムの計画策定・準備																																	
⑤-2 人材育成プログラムの実施（現地実習プログラム）																																	
⑤-3 人材育成プログラムの実施（本邦受け入れ活動）																																	
⑥事業性の評価・検討																																	
⑥-1 実証事業の評価／現地適合性の向上																																	
⑥-2 事業計画の策定																																	
⑥-3 事業性評価																																	
⑦ 現地政府との協議																																	
報告書の作成																																	
（報告書の提出）							△ 進捗報告書						△ 進捗報告書									△ 進捗報告書								△ DFR提出		△ FR提出	

凡例： ■ 現地作業期間　□ 国内作業期間

添付資料 2:要員投入実績

担当業務	氏名	所属	調査期間 2013 9	10	11	12	2014 1	2	3	4	5	6	7	8	9	10	11	12	2015 1	2	3	4	5	6	7	8	9	10	11	12	2016 1	2	3	4	5	合計 現地	国内
総括/ビジネスモデル開発、現地政府との協議	シバスンタランスハルナン	アクシオヘリックス株式会社	7	7			1	6 5	7 6	3	7	2	5	7 7	3	3	4	3	2	6		2	6					2	2		3	3	1	4		1.57	3.40
現地立ち上げ指導、車両の設計・施工管理、日本との調整	古江 基樹	アクシオヘリックス株式会社	7						7					7 6		3		3	6																0.20	1.35
業務管理（本社）、情報収集、研修の実施管理、現地政府との協議	内間 利菜	アクシオヘリックス株式会社	7				5			3	7	2					3		3	3																0.00	1.65
車両の設計・施工管理	岡村宏	アクシオヘリックス株式会社	7								7																								0.00	0.70
データベースマネージメント、認証処理システムの管理、メーカー窓口	興津哲也	アクシオヘリックス株式会社	7								7																								0.00	0.70
チーフアドバイザー／ビジネスモデル開発	佐々木美樹	テクノロジーシードインキュベーション株式会社	4														4																		0.00	0.40
業務調整、機材メンテナンス・据付指導、ビジネスモデル開発	河村哲	テクノロジーシードインキュベーション株式会社	4	7	5		4 6		6				3	7	7		3		9 3	3			7													1.45	0.75
ビジネスモデル開発、業務調整、報告書作成	徃西裕之	テクノロジーシードインキュベーション株式会社	4										4	5			4							2								5			0.17	0.95
実証試験実施計画・評価方法の策定、報告書作成	河村愛	株式会社エックス都市研究所	4	7										6	6					3				1			1				3				0.43	0.90
実証試験実施計画・評価方法の策定、報告書作成	伊藤 綾	株式会社エックス都市研究所	4				4 6		2				6	7	6		5		5		4	2	5	2	1	1	1	2	2 1	11	3	3	2	2		1.57	1.45
業務調整、報告書作成	金光紫乃	株式会社エックス都市研究所	3																																0.00	0.15
業務調整、報告書作成	田口圭子	株式会社エックス都市研究所							5						6				5																0.00	0.80
報告書等提出時期								△ 進捗報告書							△ 進捗報告書									△ 進捗報告書							△ DFR		△ FR			
																																			受注企業 人月	1.77	7.80
																																			外部人材 人月	3.62	5.40
																																			合計 人月	5.39	13.20

凡例： 現地作業期間（実績／見込） 国内作業期間（実績／見込） 自社負担（国内作業） 自社負担(現地作業)

添付資料 3:Dr.カー運営委員会議事録
添付資料 3-1:第 1 回運営委員会議事録

COMMENTS AND OPINIONS FROM THE FIRST STEERING COMMITTEE MEETING FOR THE PILOT SURVEY FOR DISSEMINATING SME'S TECHNOLOGIES FOR MOBILE CAR CLINIC (DR. CAR)

1. Welcome Address

Mr. Sivasundaram Suharnan, the President of Axiohelix as well as the Chair of the Steering Committee, made a welcome address to appreciate the attendance at the 1st Steering Committee Meeting (hereafter, the "Meeting") for the Dr. Car Project (hereafter referred as "Project"). Following that, the Chair explained that the objectives of the Meeting was to evaluate the operation achievement of the Dr. Cars every three months.

2. Self-Introduction of Attendees

All the attendees made self-introductions.
* The list of participants are as shown in the ANNEX 2.

3. Opening Remarks

Ms. Kiyoko Sandambatake, representing JICA HQ, made opening remarks and firstly mentioned her appreciation to the Khartoum State Ministry of Health (hereafter, "the Khartoum MoH") and the Gezira State Ministry of Health (hereafter, "the Gezira MoH") for their cooperation for organizing the hand-over ceremony which was held the day before, and all the participants for their attendance at the Meeting. She also mentioned that the Project was one of the first JICA's ODA projects for utilising the Japanese SME (Small and Medium Enterprise)'s technologies and expressed her expectation that the Project would contribute to improve the primary health care sector which was one of the most important areas in Sudan.

4. Presentations by the Four Operators and Open Discussions

4.1 Presentation 1: Alzaeim Alazhari University (AAU)

Dr. Ahmed Elsayed, from the Faculty of Medicine, Alzaiem Alazhari University (hereafter; "AAU"), made a presentation on their plan for Dr. Car operation based on the presentation material as summarised as below:

- Dr. Ahmed Elsayed briefly introduced the history and overview of AAU, and stated that the Faculty of Medicine would primarily be in charge of the Project implementation.
- He emphasised that the purpose of Dr. Car operation by AAU was not just to providing medical services to the communities, but more importantly, to bring students to the fields and develop human resources that could contribute to the rural community in the future for greater contribution.
- Operation plan was explained based on the presentation material. The brief summary of operation plan is as follows:
    - Objectives: Dr. Car operation by AAU aims to: i) Take social responsibility, ii) Develop capacity of the students as future contributors of rural primary health care, iii) Provide fields for students' research, iv) Conduct Cohort Studies, and v) Develop an educational model on rural medicine for medical collages.
    - Activities: The specific activities for AAU's Dr. Car operation include to conduct i) Pilot model of field education, ii) Health survey and monitoring, and iii) Awareness raising activities.
    - Location: The site for the Dr. Car operation, Alkadaro is located 15km north of Khartoum city centre. Alkadaro holds more than 10,000 people / 1000 households, and six schools.
    - Operation schedule and timeline: After completion of the operation plan in August 2014, the operation will start in September 2014 until March 2015. During the operation period, visits will be conducted three times per week, which will make a total of 60 to 70 visits. After finishing the operation in March, data collected during the operation will be analysed and a report will be produced.
    - Personnel: Each visit will be accompanied by 12 students, one staff and one driver
    - Additional information: Questionnaire forms and other materials are available for data collection during the operation.

<Open Discussion>

- The Chair introduced Dr. Norifumi Ninomiya from Nippon Medical School as the father of Dr. Car, and requested him to make comments.
- Dr. Ninomiya mentioned that he visited Sudan last year to observe the first Dr. Car project in Gezira State and was convinced that Dr. Cars would contribute to Sudan in the future. He also mentioned that he was so touched by the fact that the last year's activity was evolved into this ODA project and hoped this project would continue and further expand in Sudan. He also added his expectation to Dr. Ahmed Elsayed to collect and report the operation data of Dr. Car for successful implementation of this Project.
- Mr. Seiichi Koike, Chief Representative of JICA Sudan Office mentioned that he agreed to the idea that AAU's plan intended to show medical students the real situations of patients in the rural communities, while he suggested to utilise Dr. Car in a way to maximise the advantage of Dr. Car, rather than just to use it to convey students to the field for doing research.
- Dr. Ahmed Elsayed, in detailed explanation of their plan, stated that AAU was planning to utilise telemedicine to collect data, and where any treatment was considered to be necessary, patients would be immediately referred to the nearest hospitals. The important point, he emphasised, was the presence of support system where students could consult with doctors and expect assistance from them to treat the patients. He added that AAU had a rural program in which 600 students participated every year and there was an idea behind the programme that working in the fields was more important for the medical students than working in the hospital.
- Dr. Nuha Salheen, from the Khartoum MoH, questioned about the plan for their activities after the project completion, such as expansion of their activities to other villages.
- Prof. Tajalasfya answered that the rural program had been conducted in three fields (service, training, and research) and even after the completion of this Project, their activities would be continued.
- Dr. Ahmed Elsayed added that if this Project, as a pilot project, was successfully done, they would like to start expanding their programme to 37 villages in Khartoum State, adding 25 more cars from next year on, including involvement of nursing activities. He added that AAU also aimed to expand such educational programme to other medical schools in Sudan.
- Dr. Nuha Salheen mentioned that it would be a huge plan, but she hoped the Project would be implemented as efficient as possible and became a good model for its dissemination.
- The Chair concluded that AAU's plan would have an extensive contribution for JICA and the Government of Sudan to disseminate Dr. Car with life-long project model, as well as providing a good business model for Axiohelix.

4.2 Presentation 2: NPO Rocinantes

Mr. Hussain Sliman explained about mobile clinic activities of NPO Rocinates (hereafter; "Rocinantes") based on the presentation material as summarised below:

- Mr. Hussain Sliman briefly introduced their ongoing activities and overview of Rocinantes.
- He explained that mobile clinic or Dr. Car was necessary where little medical service was provided in the rural areas of Sudan. He also added that maternal and child health care was in particular need of improvement.
- Operation plan was explained based on the presentation material. The brief summary of operation plan is as follows:
    - Period: September 2014- March 2017
    - Location: Wad Abo Salih, Sheriq al Nile locality, Khartoum State which is 75 km south of Khartoum.
    - Purpose : Improving the primary health care services in Wad Abo Salih, Sheriq al Nile locality
    - Beneficiary: 21,172 residents living in 32 villages in Wad Abo Salih area, as shown in red points on the slide # 6.
    - Method: i) Providing on-the-job-training of Sudanese staff members, health visitors and village midwives, and ii) Checking health conditions of the villagers, as well as performing health promotion of residents.
    - Activities: i) Making a plan based on the existing data and improving mobile clinic, then giving feed-back to the Khartoum MoH, ii) Training and checking the mobile clinic staff for appropriate practice, iii) Providing health education and awareness raising with confirmation of their understanding, iv) Promoting cooperation with referral hospitals, and v) Sharing

experience with the Khartoum MoH.
  - Expected outcome: i) Provision of both preventive medicine and curative service, ii) Skill development of Dr. Car staffs, iii) Awareness raising of residents, and iv) Promotion of utilisation of health facilities by the residents.
- Finally, Mr. Hussain Sliman showed pictures of their past activities.

<Open Discussion>

- Dr. Osama Elnour from the Khartoum MoH made a question that how many cars Rocinantes were currently operating, and how many cars they were planning to operate during the operation of the Project.
- Mr. Hussain Sliman answered that currently the number of cars was not enough as they needed for both preventive medicine and curative service. He mentioned their idea to assign different cars for preventive medicine and curative service to expand the coverage of areas.
- Dr. Nuha Salheen asked Mr. Badr Eldeen of the Khartoum MoH about the areas to be covered by Dr. Car in five localities of the Khartoum State, not just by Rocinantes but as a whole.
- Mr. Badr Eldeen answered that the Khartoum State could be divided into nine areas with 309 villages to be covered by the mobile clinic services and Rocinantes had covered one village among these.
- Dr. Nuha Salheen mentioned that Dr. Car had unique features that could expand the coverage of services by utilising telemedicine, where addition of doctors were not necessarily needed but medical staff and assistants could replace the functions of doctors by utilising support from doctors through telemedicine system. She pointed out that if efficient use of such features of Dr. Car was not to be made, no intervention could be done. She asked about their opinion on the intervention to increase the efficient use of the Dr. Car.
- Mr. Hussain Sliman answered that a new medical doctor would be needed for operation of Dr. Car. He added that the structure such as effective use of telemedicine was needed to be considered in order to meet the objectives of Dr. Car.
- Dr. Nuha Salheen asked the reason why they planned to operate two cars for preventive medicine and curative service separately.
- Mr. Hussain Sliman answered two cars would be operated together. He explained that, for example, for preventive medicine (mobile clinic), many staff members such as a vaccinator, a nutritionist, a supervisor, a lab technician, a medical assistant and a driver as well as medical equipment had to be carried at the same time, therefore, these services could not be provided by only one Dr. Car but required two cars. He continued that the two separate cars would be needed for two different services (preventive and curative) but the both services would be combined as one team. He concluded that they would like to discuss with the Rural Health Department and the Khartoum MoH regarding how to utilise a new car efficiently.
- The Chair broke the discussion by mentioning that more detail discussions on the operation plan needed in other occasion due to the limitation of time.

4.3 Presentation 3: Gezira Family Medicine Project (GFMP)

Dr. Sameh Mohamed from Gezira Family Medicine Project (hereafter; "GFMP") gave a brief introduction of Dr. Car activity in 2013 and the operation plan of Dr. Car based on the presentation material as summarised as below:

- Dr. Sameh Mohamed introduced the history of GFMP that since the commencement of their activities in 2010, they had trained and allocated over 300 primary health care physicians in the rural areas to achieve their goals to improve health care services. He also added that during their course of pursuing the goals, geography issue had been a challenge to outreach in the remote areas.
- He further introduced their achievement since the arrival of Dr. Car in 2013, that they outreached 6,000 people, and expected to increase the number to 30,000 people per car with the new Dr. Cars provided in the Project.
- Operation plan was explained based on the presentation material. The brief summary of the operation plan is as follows:
  - Objectives: i) Improving access to primary care services, ii) Increasing public awareness about common health problems and chronic diseases, iii) Providing home care services to the elderly and home bound individuals, iv) Training family physicians and supporting their role in providing continuous care to their clients in all settings, v) Providing disasters management,

vi) Providing Screening programs, and vi) Providing research opportunities.
- Activities: i) Mobile clinics, ii) Home visits, iii) School health activities, and iv) Health education campaign.
- Interventions: i) Blood pressure check, ii) ICT (Immunochromatographic Diagnostic Test) for malaria, iii) RBC (Random Blood Sugar), iv) ECG (electrocardiograph), v) Ultrasound, and vi) Health education.
- Staffs: One team consists of two family physicians, two medical staffs, and a driver.

- He mentioned that their challenges would be geographical condition, fund raising, continuity of care, and referral system.
- He concluded his presentation by stating their future plan that GFMP would recruit eight teams to cover all localities in the Gezira State.

<Open Discussion>
- Dr. Ahmed Elsayed commented that one of the objectives of the Meeting could be to share the information and collaborate each other to enhance the service quality of each operation entity.
- Dr. Nuha Salheen asked if GFMP had telemedicine system to share patients' data, and how GFMP managed their telemedicine.
- Dr. Sameh Mohamed answered that GFMP's current services utilise the stand-alone PHR system which did not require internet connection, but for this Project, PHR system which enabled sharing of data through cloud system were developed in cooperation with Axiohelix.
- The Chair added that PHR system integrated with iris verification programme and cloud system had been developed based on GFMP's PHR system, however the development had been encountering difficulties due to the recent instability in Gaza, where development had been undertaken. He continued that, given the situation, Axiohelix was in the process of developing an original PHR system, with which demonstration was done in the hand-over ceremony and if there was no immediate response from Gaza, the original system would be provided for Dr. Car.

4.4 Presentation 4: Makkah Eye Complex and Hospital (Makkah Hospital)

Mr. Amir Abugroun gave a brief introduction of Makkah Eye Complex and Hospital (hereafter; "Makkah Hospital"), and the operation plan of Dr. Car based on the presentation material as summarised below:

- Mr. Amir Abugroun explained about Al Basar International Foundation, the mother body of Makkah Hospital established in 1989, that it covered 48 countries, having seven eye hospitals
- He introduced their objectives were to i) Combat blindness, ii) Provide eye care services at free camps, iii) Establish eye hospitals, iv) Encourage research for eye treatment, v) Develop and rehabilitate the ophthalmic medical cadres, and vi) Cooperate with the societies and organisations concerned with health education.
- Operation plan was explained based on the presentation material. The brief summary of the operation plan is as follows:
  - Aim: Free eye camps are conducted aiming to combat blindness and eye diseases.
  - Activities: Makkah Hospital will provide eye camps, where an eye camp consists of screening of 5,000 patients, provision of 500 operations, distribution of 1,500 glasses, and distribution of 2,000 medicines and drops. One camp continues for seven days, and five camps will be held for each location, including follow-up visits.
  - Locations: Eight locations (State) including; En Nuhud (North Kurdufan), Daling (South Kurdufan), Damar (River Nile), New Halfa (Kassala), Shwak (Al Qadarif), Abu-Hajar (Gezira), Al-Musalmeia (Gezira), and Damazin (Blue Nile) are to be covered in the Project.

<Open Discussion>
- Dr. Nuha Salheen requested further explanation on the operation plan as the presentation mainly focused on the areas other than Khartoum State although the operation area prescribed under the MOU was within the Khartoum State. She also asked if Makkah Hospital required any special equipment for eye treatment.
- Mr. Amir Abugroun answered that Makkah Hospital planned to operate Dr. Car in and outside of Khartoum state. He added that Makkah Hospital had been doing school screening for all the primary schools in Khartoum State, and there had not been any major problem operating with small cars that

had been used by the Hospital. He further explained that they found that Dr. Car would be more valuable in areas such as unelectrified areas other than Khartoum, since Dr. Car was equipped with medical instruments and able to carry more equipment, such as surgery tools. He also added that the new facilities including telemedicine would enhance the services and there would be more new ideas for improving Dr. Car in the future for its better use.

- Dr. Nuha Salheen mentioned her appreciation to Makkah Hospital for conducting primary school screening.
- Mr. Shigeru Arai from JICA Sudan office asked whether iris verification system could properly function with persons with cataract or not.
- The Chair answered that there were several options for biometric identification systems alternative to iris verification, such as finger print verification and vein verification which Axiohelix could provide, and the suitable combination of the systems to satisfy the special needs such as Makkah hospital had, would be met after further consultation.
- Ms. Kanako Nakayama from JICA HQ commented that the operation entities needed to remind that the operation plan had to be completed within the project period which was until May 2015.

5. Approval of the Operation Plan

- The Chair stated that three members of the Steering Committee; Khartoum MoH, JICA Sudan Office, and Axiohelix, would take responsibility of approving the operation plans in the absence of Gezira MoH in the Meeting, and requested the Committee Members for their comments or any objection regarding approval.

1) Mr. Seiichi Koike (JICA Sudan)

Mr. Seiichi Koike requested each operation entity to remind that this project was not a donation but a project that requires commitment from each entity to properly operate Dr. Car to achieve the two objectives. He stated that one was to improve the primary health care and universal health coverage in Sudan, and another was to verify the functionality and specifications, and finding new use of Dr. Car through the experience of operation during the project period. He mentioned his expectations that he would be more than welcome to hear problems, defects and suggestion for improvement of Dr. Car in the next Meeting so modifications of Dr. Car would be discussed.

2) Dr. Nuha Salheen (the Khartoum State Ministry of Health)

Dr. Nuha Salheen mentioned her expectations to the operation entities to conduct smart and safe operation of Dr. Cars that could be the basis of future dissemination of Dr. Car throughout the country. She also commented to remind the operation entities to take care of maintenance and repair, as prescribed in the MOU.

3) Mr. Sivasundaram Suharnan / The Chair (Axiohelix)

The Chair mentioned his expectation that Dr. Cars would be operated based on the pre-set rules in the MOU, while appreciating the utilisation of Dr. Car for the wider services by Makkah Hospital. He added that he would further discuss on the detailed use of Dr. Car in the training session scheduled in the afternoon.

The Chair asked the Committee Members to confirm their decision to approve the operation plans presented by the four operators in the Meeting of the day, and all the Committee Members present in the Meeting responded in agreement.

6. Closing Comment

In closing the Meeting, the Chair expressed his special gratitude for the Ministry of Foreign Affairs of Japan for their support in realising the Project, and invited Mr. Masayuki Sorimachi, Head of Culture and Information Section of the Embassy of Japan in Sudan to make a closing comment.

Mr. Masayuki Sorimachi remarked that he was very grateful for attending the Steering Committee, and the presentations by the operation entities convinced him that Dr. Cars would be fully utilized in Gezira and Khartoum State. He added particular note that the hand-over ceremony of seven Dr. Cars was successfully done with the attendance of the Ministers and the large number of press, TV and Radio stations, which would be a good coverage for promotion of Dr. Cars in the country. He also quoted the remarks of the Ambassador of Japan, H.E. Mr. Ryoichi Horie that Sudan and Japan was equal partners, and therefore, as mentioned by

Mr. Koike, Japanese assistance was not a charity but required a collaborative work and the start of the process of achieving the ultimate objective of the project. He lastly mentioned that JICA and the Embassy of Japan, despite the difficulties, always tried to promote the SMEs to make an investment in Africa including Sudan and hoped that the presence of Axiohelix in Sudan would be a success story of recent investment from Japan.

The Chair commented that, as mentioned by Mr. Koike and Mr. Sorimachi, this project was not a donation, but required efforts and collaboration of all the participants including communications and financial matters. He added that Axiohelix, which already established a subsidiary company in Khartoum, was just a messenger and provider of their systems and services, however, efforts from each operation entity would be the must to achieve the goal of this Project.

The Chair closed the Meeting by expressing appreciation to all the attendees for their active participation in the Meeting, as well as collaboration made for preparation of the hand-over ceremony and the Meeting.

End

Appendix1: Programme of the 1st Steering Committee Meeting

Agenda for the First Steering Committee Meeting for the Pilot Survey for Disseminating SME's Technologies for Mobile Car Clinic (Dr. Car)

■ Date and time: 12, August 2014　10:00 - 12:20
■ Venue : Meeting room, Khartoum MoH,

■ Purposes
- Committee will check and evaluate the activity by the operators. Committee will be held every 3 months, total of 3 times, during the operation period
- In the 1st committee, 4 operators will present their operation plans, and the committee members will evaluate and approve the plans.

■ Programme

Time	Mins.	Contents	Note
10:00 - 10:05	5	Opening address	
10:05 - 10:10	5	Address by JICA Sudan office	
10:10 - 10:20	10	- Selection of Chair person - Introduction of participants	
10:20 - 10:30	10	Presentation 1	Makkah Eye Hospitals
10: 30 - 10:45	15	Q&A 1	
10:45 - 10:55	10	Presentation 2	Alzaeim Alazhari University
10:55 - 11:10	15	Q&A 2	
11:10 - 11:20	10	（Short break）	
11:20 - 11:30	10	Presentation 3	NPO Rocinantes
11:30 - 11:45	15	Q&A 3	
11:45 - 11:55	10	Presentation 4	Gezira State Family Medicine Program (GFMP)
11:55 - 12:10	15	Q&A 4	
12:10 - 12:15	5	Address by Embassy of Japan	
12:15 - 12:20	5	Wrap-up and closing comment	

ANNEX2: List of members and participants of the 1st Steering Committee Meeting

Organisaiton	Name	Title	Remarks
Committee members			
Khartoum MoH	Dr. Nuha A. A Salheen	Mother and Child Health Director	
	Dr. Osama Elnour Abdaiah	Local Health System Director	
	Mr. Badr Eldeen Elbushra Mohammd	Rural Health Director	
Gezira MoH	--	--	absent
JICA Sudan office	Mr. Seiichi Koike	Chief Representative	
AXIOHELIX	Mr. Sivasundaram Suharnan	President	
Operators			
Alzaeim Alazhari University	Prof. Tajalasfya	Associate Director	
	Dr. Ahmed ElSayed	Faculty of Medicine	
Rocinantes	Mr. Hussein Suliman	Program Officer	
	Dr. Takeshi Utsunomiya	Country Director	
Makkah Eye hospital/BIF	Mr. Amir Yousif S. Abugroun	Planning and Project Director	
	Mr. Hussam Al-Din Bagher	Secretary	
Gezira Family Medicine Program	Dr. Sameh Mohamed	Assistant Director	
Observers			
Federal Ministry of Health	--	--	absent
Embassy of Japan	Mr. Masayuki Sorimachi	Political and Economic Officer	
JICA Headquarter	Ms. Kiyoko Sandanbatake	Citizen Participating promotion Division	
	Ms. Kanako Nakayama	Citizen Participating promotion Division	
JICA Sudan office	Mr. Shigeru Arai	Project Formulation Advisor	
	Mr. Kunikazu Akao	Project Formulation Advisor	
	Ms. Halima Abdeen	Programme Officer	
Nippon Medical School	Dr. Norifumi Ninomiya	Professor	
East Nile Locality	Dr. Taha Omer AlSheekh	Director of PHC	
AXIOHELIX Japan / Sudan	Mr. Motoki Furue	Director	
and survey team for Dr. Car Peoject	Mr. Hiroyuki Ohnishi		
(Secretariat)	Mr. Tetsu Kawamura		
	Ms. Ai Kawamura		
	Ms. Aya Ito		
	Mr. Osman Sinada		
	Ms. Mika Sinada		
	Ms. Amirah Abd Elmoumin		

添付資料 3-2:第 2 回運営委員会議事録

COMMENTS AND OPINIONS
FROM THE SECOND STEERING COMMITTEE MEETING FOR
THE PILOT SURVEY FOR DISSEMINATING SME'S TECHNOLOGIES FOR MOBILE CAR CLINIC (DR. CAR)

1. Opening address:

The welcome address was given by Mr. Sivasundaram Suharnan, the Chair of the Steering Committee (hereafter "SC"), thanking the participants for their attendance and welcoming Prof. Mamoon Humeida Minister of Health, Khartoum State.

The Chair pointed that there are many issues facing the Dr. Car operation and that these issues will be addressed during this 2nd Steering Committee. He also explained that NGO Rocinantes will no longer continue their work on this project and that a new partner must be appointed to take their place.

Prof. Mamoon Humeida expressed that the Khartoum State Ministry of Health (hereafter, "KMoH")'s interest in the Dr. Car project and the outcome of this SC. He also mentioned that he would like to see whether this car will do better for general medical check-ups or a more specific type of checkups, such as "Eye Checkups". The minister also addressed NPO Rocinantes operations and that the KMoH is ready to have the Dr. Car operate in school health programs and left the arrangements of this to Dr. Nuha Salheen (Head of mother and child health KMoH).

Mr. Koike, Chief Representative of JICA Sudan Office, noted that the objectives of the Project were to verify the effectiveness of Dr. Car, and also to identify even issues and problems of Dr. Car to improve the product better. Therefore, he requested all the participants of the SC to share their honest opinions without hesitation.

The Chair confirmed that although the Gezira Ministry of Health (hereafter, "GMoH") is absent today, Gezira Family Medicine Project would provide information regarding the status of Dr. Cars as much as they could.

2. Confirmation of the Meeting Minutes of the 1st SC meeting

The Chair asked the participants to raise comment and points to be modified regarding the Meeting Minutes of the 1st SC if there were any. All the participants had no comments, therefore, the 1st SC committee Minutes was approved herein.

3. Agenda 1: plan for the final evaluation of the 1st SC

The Chair requested to take time and go through the Evaluation Sheet for Dr. Car Operation (draft) for 5 minutes and to raise comments or opinions if there was any. First, he asked all the operators for their comments.

- Alzaim Alazhari university mentioned that;
  a) To achieve the target of 10,000 AAU would have to expand their operation area to the area nearest to the Alkadaro area.
  b) AAU would use different system for data collection, but all data would be available for Axiohelix.
  - The Chair responded that if the data items requested would be covered, there would be no problem with using their original system for data collection.
- Makka had no comment.
- Rocinantes had no comment.
- Dr. Abdelnasir representing Gezira Family Medicine Project (hereafter "GFMP") raised a question to confirm that 10,000 of target patient number applied to each car, which meant GFMP need to achieve 40,000 patients in total. The Chair responded that it was 10,000 per car, however, SC would discuss what we would do with the 4 cars under GFMP's operation, given that GFMP was facing certain issues.

- Dr. Nuha recommended that the management and maintenance description should be in more details in the evaluation sheet.

4. Agenda 2: Presentation reports by the four operators and Agenda 3: Interim evaluation by the committee members

4.1. Alzaim Alazhari Univirsity

(1) Presentation

Dr. Ahmed Elasayed, Faculty of medicine at Alzaim Alazhari University (hereafter, "AAU") presented AAU operation plan. Their presentation can be summarized as follows:

- Dr. Ahmed started with a briefing about the university objective and their objectives regarding the Dr. Car project.
- He then gave an overview of AAU previous operation plan.
- AAU have made changes in the staff working on the Dr. Car; increasing of the senior consultants number, 28 medical students, 7 junior doctors, 2 X-Ray technician instead of one, one statistician, and two IT personnel.
- For AAU it is not one project but 20 different projects and it is not just awareness but awareness and an extended health survey.
- Now the questionnaire is 11 pages with more details, each questionnaire needs 30-40 minutes to finish per individual. Children under 16 years old are excluded from the target at home visit survey.
- The details in the questionnaire caused a problem because some individuals give wrong or inaccurate answers to questions they think private, to counter that AAU spent a lot of time to validate these answers.
- There is a difference between the projected and the actual time table. Licensing, ownership, Budget, and scientifically validating the questionnaires had led to considerable delay.
- The current time table is;
  - May 1st, Operation started.
  - October 31st, finish
  - November, QC and review
  - December, doing the analysis

- Activities: a junior youth committee inside the village goes two days before the operation to the houses and acquire their verbal consent to the questionnaires. The doctors go to the houses in a team of two and fill in the questionnaires and at the same time they give some awareness to the individuals.
- Two kind of brochures are distributed; the first one is about non-communicable diseases and the other about breast cancer. After the questionnaire each individual goes to Dr. Car with his/her name and information for checkups of 6-7 items, including ECG, Blood pressure, Blood sugar screening, height and weight, etc.
- Done to date: So far 6 visits have been done with 15 households/visits, those who are recruited to the study are people who are 16 or above. About 200 people were investigated so far.
- Future plan: On the October 1st AAU is planning to do another 29 days house visits which will provide another 2,000 recruits to the study with a total of 5000/households. People who will not give their consent will be revisited again.
- There will be no operation in Ramadan period, so phase 2 will begin after Ramadan whereby the household survey will be continued and added to that going once or twice a week to the schools.
- Problems:
  a) The car is very good for transport but it is too narrow for the patients to go inside.
  b) The steps attached on the back of the car is quite high for the older people to go up and down.
  c) The largest problem is the high fuel consumption due to the continuous use of the car air-conditioner even during the checkups. The solution is buying a portable air-conditioner and put it inside the car and have it work by the generator provided with Dr. Car.
  d) The fridge is not usable because it is too small for keeping the drinking water, so they will either return it or use it in one of their offices.
  e) The plug shape is all in Japanese, and requires adapters.
  f) The ECG cannot be used because the patients need printing as a documentations for future checkups or referral. Also the ECG takes time to be done (40 patients/day).
  g) The ultrasound is not being used because the ECG takes long time and leaves no time for ultrasound. The solution is to do the ultrasound inside the house by a female X-Ray technician for pregnant women only.

h) The IRIS identification has been found unacceptable.

- Budget: Their biggest issue which caused the delay in starting their operation was the budget; printing the questionnaire alone requires 22,000 SDG. AAU had allocated some part of the required budget for supporting the research using the Dr. Car, but not the car itself because it was uncertain if the car can still be available next year. For the rest of the budget, now the university is applying to two grants; one is by the Ministry of Higher Education and the other is by the University of Cambridge.
- AAU is not doing awareness only but also a survey, and that any emergency case will be treated at the university settings.

(2) Evaluation and comments

- Dr. Nuha commented that KMoH highly evaluate AAU's work, as such basic data based on scientific research had been lacking in the Khartoum state. She mentioned KMoH would be happy to provide support to the university's research, although she cannot say anything about financial one. She also expressed her concerns about children under the age of 5 who will not go to school and expressed her wishes for them to be included in the survey sample. She also recommended a separate questionnaire for each topic.
- Dr. Nuha asked why it takes one hour to do an ECG. For the Ultrasound, she asked Dr. Ahmed whether they have tried training midwives in the area.

- Dr. Ahmed respond:
  The questionnaire needs to be validated by topics through specific advisor abroad.
  For the ECG, it was wanted by the patients and it take them time embarking to the car, taking off their clothes and lie down for the ECG, The solution is the university now have a donation for a tablet that can help doing the ECG inside the house.
  The issue with children under 5 was that the local committee was not allowing the touching of the children so they do not infected; the idea was to give the children awareness through in schools.

- The Chair expressed his desire to promote Japanese technology in Sudan and asked AAU to give their advice on how to make the ECG device more effective. He also requested having more communications to promote the Japanese private sector to the health care scheme in Sudan.

4.2. NPO Rocinantes

(1) Presentation

Dr. Taha Omer, project manager from Rocinantes gave their presentation; the presentation can be summarized as follows:

- Number of expected beneficiaries and area of operation is same as the previous plan.
- The PHR is being used along with a hard copy format filled in the field.
- For the maintenance they use regular checkups.
- The fuel costs is high, which is more than 3,000SDG/ month.
- Operation progress: In the month of January 2015 the Dr. Car saw 1,960 patients as trial, but in the following months, only the equipment was used since it had become clear that the Dr. Car cannot be operated efficiently in off-road areas where Rocinantes had selected as their target areas.
- Details of activities:
  a) Improvement of primary health services preventive and curative in wad Abu Salih area.
  b) Provide primary health care.
  c) Raise the awareness of community to importance of health.
  d) Capacity building for mobile clinic staff.

- The PHR system has being used.
- Self-evaluation: The achievement of beneficiaries is the same as in the plan, but no use of ultrasound machine because of lack of trained staff. Other equipment work as planned.
- Issues and challenges:

a) Unpaved roads, the suggestion is to use the Land Cruiser and find another plan for the Dr. Car as a referral.
b) Absence of qualified staff.

- Evaluation of Dr. Car
  a) Small capacity of the Dr. Car; the health team takes with them a lot of luggage.
  b) Short height of the Dr. Car, which cause tires stuck in the unpaved areas.
  c) High fuel consumption.
  d) High running cost, it takes 19 days to complete the target area.

- Equipment in Dr. Car
  - The Ultrasound has limited performance without color Doppler, the image is not clear, and there is only 5 minutes for a patient.
  - The ECG has no patient general information, no serial number, limited use to only rate and rhythm, and cannot connected to computer directly.
  - As for the PHR system there is no place for patient complains and some figures in the investigation are limited.

- Future plan:
  - 15 days every month in the same Wd Abu Salih area.
  - Number of beneficiaries is 5,000 patients.

- Details of planned Activity:
  a) To support the mobile clinic project by referral system through Dr. Car.
  b) It will be done every month according to the list of referred patients.
  c) The time will vary from month to month according to the number of patients referred to Dr. Car.
  d) PHR and operation data collection system will be used.

(2) Evaluation and comments:

- The Chair, refereeing to his previous meeting with Dr. Kawahara, informed that Rocinantes was closing their activity using Dr. Car, and he agreed with the idea that they would return the Dr. Car back to KMoH to be used in a more effective way. He requested the SC attendees to give their comment on this issue.
- Dr. Nuha asked the reason for the difference where they had 1,960 patients/month in January, while they had only 100-200 patients/month after February. She also asked what type of diseases they had found during their operation.
- She also commented that Rocinantes' idea to use Dr. Car as a referral clinic can be done in the rural hospitals and health centers nearby.
- Mr. Kunikazu Akao, Project formulation advisor at JICA Sudan office, commented that Rocinantes had problems using the Dr. Car in the unpaved roads and whether he had any ideas for KMoH when they use the car.
- Dr. Taha responds
  In respond to the type of diseases Dr. Taha's respond was that in January the car was used as a routine mobile clinic so 1,900 patients treated with vaccination, antenatal care and the patients seen by the medical assistants. Other months only includes the patients seen by the medical assistant using the Dr. Car equipment.
- Rocinantes is trying to do alternative plans which are to be supportive to the mobile clinic. The idea of referral is that the Dr. Car equipment, ECG and Ultrasound, can be used in the referral.
- The Dr. Car is not only suitable for unpaved roads but the capacity of the car is another problem and capacity to take the luggage. Even fuel and time consumption.
- The Chair commented that this was a very unique report because it explained the good and the bad features of the car for future use. He also mentioned that this car was not to carry the staff but to be used as a health unit so it might not be suitable for Rocinantes's activities.
- He then requested KMoH that a new operator must be found to run the Dr. Car by 4th June 2015, and their budget and operation plan ready by 17th June 2015 (before the beginning of Ramadan period) to start operation by the new operator right after the Ramadan period (around 20th July 2015).

- Dr. Nuha suggested using the Dr. Car for school health in remote areas and assured that there would be no problems in the budget for the school health as KMoH allocated a set of budget for such kind of activities every year.
- She also suggested using the car for the camps for people coming from South Sudan would be useful. The specific plan would be decided after the internal discussion within KMoH.

4.3. Makkah Eye Hospital

(1) Presentation

Makkah Eye Hospital (hereafter, "Makkah Hospital") presentation was given by Mr. Hassan Abdullah IT department at Makkah Hospital. The presentation can be summarized as follows:

- Mr. Hassan started with an introduction to Albasar International foundation.
- He then summarized operation and activities since the beginning of operation to include 32 health days and one eye camp in Khartoum and 3 health days at North Kordufan state.
- The difference between an eye camp and a health day is that an eye camp is an integrated medical convoy ophthalmology camp contains detection, diagnosis and treatment, Including eye surgeries, while health days is a medical convoy to detect, diagnose, meet ophthalmologists (eye doctors) and treatment.
- The total number of beneficiaries is 10,399 people until May 4th, and the operation costs were a total of 1,308,131 SDG.
- Issues and challenges of operation is that not all information is being registered in the PHR system because it will be time consuming due to the large number of patients.
- Evaluation of the Dr. Car: the Air-conditioner in the passenger's back seat, the doors center lock and electric window, the wood cover in the back needs to be stronger, and that the car needs a front panel to increase the air flow.
- Evaluation of the Dr. Car equipment: The ECG and Ultrasound is not being used but other eye check up related equipment is being used instead.
- Evaluation of the PHR system: It is difficult to register all the medical information for patients because it is time consuming.
- Future operation plan: Makkah will be holding three health days/week with an average number of 200patients/day. No detailed plan can be presented because health days are held upon request, however, they expect they can achieve double the number of beneficiaries they have achieved so far until the end of operation.

(2) Evaluation and comments

- The Chair pointed that only Makkah Hospital had achieved the target so far, and that their experience can be used to help other operators to achieve the goal as well. While, he expressed his concern about the Dr. Car being used only for eye checkups and that he would like to add more medical checkups in the next phase.
- Dr. Nuha commented that it was a great job, but adding one medical doctor in their operation could make it more useful. She asked Makkah hospital if that could be done.
- Dr. Abdelnasir suggested Makkah Hospital could do a preventive clinical work like endoscopy by using telecommunication medicine technology.
- Mr. Amir Abugroon from Makkah Hospital responded:
- Makkah Hospital would collaborate with the KMoH as well as the GMoH for the specialist units and instruments that is required for the car and that they can also use Tele-medicine instead of hiring family medicine doctors.

- The Chair commented that system for telemedicine was already available in the Dr. Car, and requested them to try to consider using ECG and Ultrasound, and if not, to transfer to the other operators.

4.4. Gezira Family Medicine Project

(1) Presentation

Dr. Rana Samir, Physician at GFMP gave their presentation, it can be summarized as follows:

- Dr. Rana started with the operation progress and that the goal was not achieved because of lack of fund and a shortage in staff.
- She then gave a briefing about the activities and summarized it into three points, health services, training, and the research and planning activity, where health services activities include mobile clinics, home visits, school health activities and health education as follows:
    a) The concentration is currently to home visits; GFMP is conducting a program for the elderly above 75years old and have difficulties in reaching the health centers (Geriatric program).
    b) Mobile clinics: GFMP is doing health campaigns in coordination with the local health department. The activity is carried out at local health centers since the one-by-one home visits costs a lot.
    c) Health education campaign: Up until now it has not be done in a formal way but it will be included in the activities.
    d) School health activities: GFMP want to do school health through their family physician, but it did not go as planned due to budget difficulties. Now they are providing health services through the mobile clinic.

- Training: scholarships is provide as GFMP program where doctors are trained for 2 years and given degrees; one part of the training is home visits.
- Dr. Rana then mentioned that there was some program that was to be done with Gezira University Medicine School, but it failed due to budget issues.
- Research and Planning: To get a good idea from the data collected about the most common problems in a geographical area of Gezira state.
- The telemedicine is not used because of network problems; there are also some issues with the Ultrasound machine.
- Dr. Rana showed some photos of their activities.
- She then showed the details of their budget and that running the Dr. Car was costly with a total cost of around 90,000 SDG and that the bulk of the budget goes as staff incentives.
- Proposal for covering these expense, Dr. Rana proposed:
    a) Use of tickets for doctor's appointment which was approved by the GMoH.
    b) Selling the drugs except the drugs provided by the GMoH.
    c) Collaborate with other organizations.

- Evaluation of the Dr. Car, equipment and PHR:
    a) They are having problems with the air-conditioner which is very loud and interferes with the doctor work.
    b) With the slightest movement of the patient and the car, the reading of ECG changes to irregular heart rate.
    c) The Ultrasound has low resolution.
    d) For the blood pressure machine having a device that can work on battery will be more convenient.
    e) The PHR is very easy to use.
    f) The doctors who are working in the Dr. Car are not trained to use the Ultrasound device, so making an online training course or having manuals on the use of Ultrasound would be necessary. For the online course, Next Generation University is suggested.

- Future operation plan: The number of beneficiaries was reduced to make it more realistic, and the working areas will be the same with some addition to work with the Disaster Department in the GMoH during the rainy season.
- Finally she mentioned that a committee was formed in coordination between GFMP and GMoH to support the project.

(2) Evaluation and comments

- The Chair pointed that because of the budget problem the car is not fully functioning and having only 1000 patients would not be good enough, and that the important thing was not whether the activity itself would the success or fail, but that the activity would be carried out properly so the effectiveness of Dr. Car is verified.

- Dr. Abdelnasir responded that they had planned for utilization of Dr. Car to do a comprehensive work and train the medical staff, however, they could not make the plans into a reality due because they failed to acquire necessary budget from the GMoH and other organizations.

- Dr. Nuha mentioned that GFMP is a model case to mobile clinic activities in Sudan, and they had plenty of experiences and know-how. She recommended that GFMP should consider partnerships with other organization and suggested that the involvement of the Federal Ministry of Health (hereafter, "FMoH") would be useful to support the project with the budget issue.

- The Chair asked how many Dr. Cars could be operated with the current budget.
- Dr. Abdelnasir responded that the estimated budget is more 100,000 SDG (≒ 10,000USD) to operate the 5 cars for one month, which meant USD 2,000/Car/Month.

- Dr. Nuha explained that the need for PHC services was large all-round the country, and that the Dr. Car could help in providing PHC to people who need it, and she assure that during the meeting with FMoH later that day she would discuss this issue with them.
- The Chair emphasized that this budget issue should be solved so that the Dr. Cars could be utilized.

- Ms. Mai Suzuki from JICA headquarters asked how many Dr. Cars could be operated by GFMP with the limited budget and staff they could allocate. She also suggested that transfer of operation responsibility to other operators might have to be considered to ensure result within the 7 months left, and asked GFMP to raise ideas on that.
- Dr. Abdelnasir responded that they had no issues regarding the personnel but budget, and that they could operate only 2-3 cars with the current budget. He referred to the State Insurance Fund and schools of medicine as possible candidate to operate the Dr. Cars. The rest of the cars can be run under GFMP to prevent the misuse of the Dr. Car.
- The Chair suggested Makkah Hospital as they also had hospital in Gezira State, and asked Makkah Hospital about their idea about the suggestion.
- Mr. Amir responded that large Dr. Car (Mitsubishi Canter-based car) could be used for their activities.
- Dr. Nuha recommended for Makkah using the Dr. Car for eye camp.

- Ms. Suzuki suggested finding alternative operator for the Dr. Cars in Gezira State, and set a deadline until the 4th of June 2015 and the operation plan by alternative operators as well as revised operation plan by GFMP should be sent to Axiohelix and Cc to JICA Sudan office. She also requested GMoH that the operation should start by around 20th July, after the month of Ramadan.

.1. Finally she requested that a letter to be sent by Axiohelix to GMoH concerning this decision as GMoH was absent from the meeting.

The Chair invited Mr. Koike to give his comments.
Mr. Koike thanked all the operators for their presentations then he pointed that some operators mentioned problem of operating cost but it was not related to evaluation of Dr. Car product itself. He requested them to be more concerned about management and cost efficiency and that each operator must decide which activities would be suitable.

5. Agenda4: Extension of the operation period

The Chair explained that the project period would need to be extended until the end of December 2015, and asked the operators of their will to operate the extended period.

- Makkah Hospital, represented by Mr. Amir Yousif Abugroon responded that they would operate the extended period.
- AAU, represented by Dr. Ahmed Elsayed responded that they would operate the extended period, and asked whether it was possible to add more services.
  - The Chair answered that it was no problem as long as it matches the goals, but commented that the Dr. Car was not suitable for surgeries; if AAU wants to do something it should be done outside the responsibility of the project.

- The Chair asked GFMP to confirm that at least two cars will be reallocated to another operators as budget of GFMP is limited for three (two under this project) cars, but GFMP would operate the rest of the Dr. Cars during the extended period, and Dr. Abdelnasir responded with no correction.
- The Chair asked Rocinantes to confirm that they would no longer continue this project, and Dr. Taha responded with no correction.

The Chair finally confirmed that all the participants' agree to the extension of the project.

6. Comments by the participants

The Chair invited all the participants to give any comment they had.

- Dr. Nuha thanked all the operators for their presentations and suggested to have the reporting done on monthly bases by E-mail to everyone in the steering committee so issues could be dealt in timely manner.
- Mr. Koike commented that he had found out that utilization of Dr. Cars for school health would be a reasonable way in terms of efficiency and cost effectiveness.
- Dr. Rana commented that GFMP needs partnership to run the Dr. Car and if there would be another partner to run the Dr. Car, it should be under GFMP umbrella because GFMP had the experience to run the cars.
    - The Chair responded that this could be taken into consideration but GMoH would have to give the proposal to the SC and SC cannot respond with this comment at this moment.
- Mr. Kawamura, member of Axiohelix survey team and also the representative of the Dr. Car's medical equipment supplier company, commented that he would take into account of the comment raised by the operators today in providing better equipment.
- Dr. Ahmed emphasizes that AAU focus was not just rural areas but to give health awareness and prevent diseases.
- Dr. Kawahara commented that unfortunately Rocinantes could no longer operate the Dr. Car, but that he believed the concept of the Dr. Car to be very important for Sudan and other areas in Africa.
- Mr. Tatsuhiko Tokuboshi from JICA Japan thanked the operators for their presentations and commented that the Dr. Car was needed by the people and he expressed his hopes in the Dr. Cars would be used effectively.

7. Other business

- The Chair added that the draft of Meeting Minutes of this SC would be sent to all the participants for confirmation, and would be signed accordingly.

- The Chair asked the SC members and they agreed that the Meeting Minutes between KMoH, GMoH and the government of Japan would not be physically amended regardless of project period extension, and the approval of this SC would substitute the amendment.

8. Closing

The Chair closed the meeting by saying that even though there were issues being faced, the experience would help in improving the quality of Dr. Car, and that the opportunities would be created to expand Dr. Car by presenting the good practice of Dr. Cars. He then requested the operators again to make sure that this project brings good value, and prove that the money spent on this project would lead to good results.

END

Appendix 1: Agenda of the meeting

Agenda for the Second Steering Committee Meeting for the Pilot Survey for Disseminating SME's Technologies for Mobile Car Clinic (Dr. Car)

1. Date, time and venue

09:00~ 13:20 on 21st May 2015 at a meeting room in Khartoum State Ministry of Health

2. Programmes

Time	Content	Note
08:30 ~ 09:00	Registration	
09:00 ~ 09:10	Opening	KMoH, GMoH, Axiohelix
09:10 ~ 09:15	Confirmation of the Meeting Minutes of the 1st SC meeting	
09:15 ~ 09:45	**Agenda 1 Plan for final evaluation of operation**	
09:45 12:15	**Agenda 2: Report by the 4 operators**	Including 10 mins. Q&A for each presentation
(09:45 ~ 10:15)	Alzaeim Alazhari University	
(10:15 ~ 10:45)	NGO Rocinantes	
10:45 ~ 11:15	(30min: Snack break)	
(11:15 ~ 11:45)	Makkah Eye Hospital	
(11:45 ~ 12:15)	GFMP	
12:15 ~ 12:45	**Agenda 3: Interim evaluation by the committee members**	
12:45 ~ 13:00	**Agenda 4:Extension of the operation period**	
13:00 ~ 13:15	Comments by the participants	
13:15 ~ 13:20	Closing	

3. Documents to be distributed

- ✓ Evaluation sheet (draft) (Agenda 1,3)
- ✓ Report by the operators (agenda 2)

Appendix 2: List of participants

Name	Organization	Title
Committee members		
Khartoum Ministry of Health	Prof. Mamoon Humeida	Minster of Health KMoH
	Dr. Nuha A. A. Saliheen	Mother and Child Health Director
	Mr. Bdr Eldeen Elboshra	PHC Khartoum state
	Dr. Asim Omer Mohamed	PHC Khartoum State
Gezira Ministry of Health	--- (Absent)	----(Absent)
JICA Sudan office	Mr. Seiichi Koike	Chief Representative
AXIOHELIX Japan (The Chair)	Mr. Sivasundaram Suharnan	President
Operators		
Alzaeim Alazhari University	Dr. Ahmed Elsayed	Faculty of Medicine
Rocinantes	Dr. Naoyuki Kawahara	President
	Dr. Taha Omer Alsheekh	
Makkah Eye Hspital/ BIF	Mr. Amir Yousif S. Abugroon	Head of the department of Planning and Projects
	Dr. Abd Elmonim Seesy	General Directorate of Hospitals
	Mr. Hassan Abdallah Hussein	Programmer, IT department
Geizra Family Medicine Project	Dr. Abdelnasir A. Abuzeid	Director of GFMP
	Dr. Rana Samir Mohammed	Physician, GFMP
Observers		
Federal Ministry of Health	---(Absent)	----(Absent)
Embassy of Japan	Ms. Midori Nakata	Second Secretary
JICA Headquarters	Ms. Mai Suzuki	Officer, Domestic Strategy and Partnership Department
	Mr. Tatsuhiko Tokuboshi	Human Development Department
JICA Sudan office	Mr. Kunikazu Akao	Project Formulation Advisor
AXIOHELIX Japan/ Sudan team	Mr. Tetsu Kawamura	
	Ms. Aya Ito	
	Mr. Osman Sinada	
	Ms. Mika Sinada	
	Ms. Amirah Abd Elmoumin	
Total	23 participants/ 10 organizations	

添付資料 3-3:第 3 回運営委員会議事録

COMMENTS AND OPINIONS

FROM THE THIRD STEERING COMMITTEE MEETING FOR

THE PILOT SURVEY FOR DISSEMINATING SME'S TECHNOLOGIES FOR MOBILE CAR CLINIC

(DR. CAR)

1 Opening Comments

Mr. Sivasundaram Suharnan, the Chair of the Steering Committee (hereafter SC) thanked the participants for their attendance in the final SC and noted that this time all the team members came from Gezira state and all the way from Japan, he then expressed his pleasure that H.E. Prof. Mamoon Humeida Minister of Khartoum State Ministry of Health is attending and requested him to give his comments about the project.

Prof. Mammon suggested that each member to give a short summery of what were the usefulness and the problems with the Dr. Car and how it can be improved.

- Khartoum Ministry of Health

Dr. Azza, director of School Health-Khartoum Ministry of Health (hereafter "KMOH") started by explaining that the car was used for school health activities in Jabal Awlya-Mayo camp area from August till now and covered 3,900 students, and noted that the ultrasound and ECG devices were used and even though the ultrasound had done a good service so far it needs more improvements. She then commented that the car is well equipped, fast and much better than the regular car they used to have for the school health activities.

- Prof. Mamoon asked questions as ;
  - The target population that school health program has been targeting
  - The functional ability of the car
  - What else has been utilized other than Ultrasound
  - Who has been benefiting from the service and why are they not doing the service in the health center, for instance
- Dr. Azza responded that the car is used for school health activities to do examination for the 1st, 4th, and 7th grades targeting 64 schools and in addition to the other school heath activities they used the ultrasound and ECG on the students who needed further investigation. She also pointed that the car can be used in immunization camps as well as for the reproductive health activities.

- Prof. Mamoon asked whether the size of the car is prohibiting its entrance anywhere
- Dr. Azza responded that the size of the car is not prohibiting its entrance anywhere and that even during the muddy weather the car reached all the schools easily. Even though it used little bit access of gallons than the rented car but it was well equipped and fitted all the staff.

- Prof. Mamoon asked about the citizen's acceptability of the car, whether they accepted it as something positive or are they suspicious of the car.
- Dr. Azza responded that the team in the car is their team and they are very happy to see the car enter all these areas and they were very happy with the car.

- Makkah Eye Hospital:

Mr. Amir, director of planning at Makkah Eye Hospital reported that they have done around 84 days and that the car have been very productive for them with a total of 23,900 people been screened so far, 8,992 referred to hospitals, 52 places in Khartoum have been covered by the car with a cost of 1,265,000 SDG.

- Prof. Mamoon asked if there were any limitation so for the Dr. Car.

- Mr. Amir answered that with the Dr. Car everything is properly set in the car and that the medicine and people are properly transported.

➢ Gezira Family Medicine Project

Dr. Abdelnasir, Director of Gezira Family Medicine Program (hereafter "GFMP") reported that they worked for campaigns in villages organized by several partners with a total number of approximately 10,000 patients in the lat year. He then gave a brief description about the difficulty that faced GFMP with the lack of funds and the attempts to get funds from other organizations and the public.

- Prof. Mamoon inquired about what was actually done to which Dr. Abdelnasir responded that home visits were done.
- Prof. Mamoon asked about how GFMP received the requests from the patient for home visits and whether they advertized the Dr. Car for home visits so they can phone and request the service.
- Dr. Abdelnasir explained that usually the doctor or the people from the local health committee contact them for home visits. He added that they have a free phone line in Gezira state to deal with all the requests from patients. He also explained that some of their Dr. Cars were given to Makkah hospital in Gezira, Alsaim hospital, and an Oncology hospital.

Prof. Mamoon added that he is interested in what is the practical job of the car so far, and recommended that during this meeting the focus should be on how the car was useful. He also suggested the following questions to be considered during the SC:

a) Do the operators need such a big car with the attached facilities for the services they have been providing?
b) Is there a need for special modification for ophthalmology activities, or should a standard car be used to be more economic.
c) Did GFMP utilize all the services in the car or not, and how often were this services used?
d) If the special services of ophthalmology were expanded to ENT[1], dermatology for example, is the full package of the Dr. Car needed or not.
e) What are the constraints? One of the constraints that appeared in post presentation is petrol, can the car be modified to have less petrol consumptions or change the gasoline to another form that is cheaper.

Prof. Mamoon concluded his comments prior to his leaving of the meeting, by pointing out that these cars are commercial, so there is a need to propagate and advertise them for other foundations, universities, ministries to purchase these cars. He also asked whether the company is willing to give another test and another year of these cars in the same area or with different foundations.

Ms. Ohno, senior representative of JICA Sudan office thanked Prof. Mamoon for his observations and mentioned that the Dr. Car is very useful specially in a country like Sudan, she also commented that the frank comments are welcome to verify the effectiveness of this car and expressed her hope that this car will be utilized to have health services delivered to all over the country specially in the hard reached areas.

2 Confirmation of the meeting Minutes of the 2nd SC meeting

The Chair asked the corresponding operators to answer how they have addressed the four issues raised at the last SC:

a) The transfer of the Dr. Car from Rocinantes to KMOH.
- Dr. Iman explained that the Dr. Car was used by KMOH in school health program.

b) Suggestion for Makkah hospital to incorporate general practice
- Mr. Amir explained that they had an agreement with GMOH and they did work as a team on several areas and have also agreed with KMOH that the same thing can be done in Khartoum.
- The Chair asked about what kind of problems they are facing by using the Dr. Car for eye camps and general practice together.

[1] ear, nose, and throat

- Mr. Amir responded that they do not have any problem and that they believe that it increases the chance of their activities to serve more patients.
- The chair noted that in Makkah's activities the number of patients each day is 300-400 people/ day but for the general screening activities the number will be between 50-60 people/day so there is an unbalance and expressed his hope that Makkah can cooperate more with Khartoum school health to make use of their experience in Gezira state.

c) Utilization plan for GFMP Car, during the 2nd SC it was suggested that two Dr. Cars to be given to another institute such as Makkah hospital.

- Dr. Abdelnasir explained the difficulties they have faced with the budget and how they have overcome the problems by having two cars operated by Makkah hospital, one by Alsaim hospital and one by the Oncology hospital. He then commented that they tried to organize the service and coordinate with those three partners.
- Dr. Widad, Director General at Gezira Ministry of Health (hereafter GMOH) commented that she requested Dr. Sameh, Assistant Director at GFMP to prepare their plan for the coming year to finance it so as to utilize the car as much as possible, and that they have no problem to facilitate the programs or plans for the Dr. Car by those who are responsible of it.
- The Chair gave a brief history about the financial problems the project faced in utilizing the Dr. Cars and emphasized that the communication and information the operators provide is very critical for earliest consultation.

d) Utilization of the Ultrasound equipment not used by Makkah hospital

- The Chair mentioned that the Ultrasound is one of the valuable devices provided with the Dr. Car but may not be very useful for some services, such as the eye services.
- Dr. Iman commented that they used the Ultrasound on some of the students, but according to the technician it does not give good information so the referred student needs to take another better Ultrasound image at the hospital.
- Dr. Sameh commented that they are using the ultrasound for antenatal care and renal problems, and expressed their need of more devices to reach all the health centers in Gezira state.
- Mr. Amir commented that for the Ultrasound device if more experience can be given it can be useful and used in a proper way especially for patients who will undergo surgery. He recommended the device to be used at the hospital if possible.
- The Chair suggested that during Makkah collaboration with GFMP the device can be used by their doctors, while Khartoum team will not have chance to use the Ultrasound.
- Mr. Amir responded that they can collaborate with KMOH if they require it.
- The Chair emphasized on the need to know how Makkah is going to use the device and the necessity of having an acceptable plan since the cars belongs to KMOH and GMOH.
- Mr. Seki suggested that if Makkah could consider cooperating with KMOH, there will be no need to remove the Ultrasound from Dr. Car to another hospital. He added that JICA wants to utilize the whole set of the Dr. Car because by dividing it maybe at some point no one will know where the original equipment is.

3 Agenda 1 Presentation by the operators

3.1 Presentation by Alzeim Alazhari University

The presentation was given by Dr. Ahmed Elsayed, Faculty of Medicine Alzaim Alazhari University (hereafter "AAU") the presentation is summarized as below:

- Dr. Ahmed started by pointing the objectives of the Dr. Car at AAU to include, social responsibility, students rural exposure, student research projects , consultant Cohort studies , and pilot for Sudan wide spread.
- Students will be supervised in health surveys, health monitoring, awareness and referral for treatment.

- Activities done included questionnaire, BMI, waist Hip, hypertension, Diabetes, atrial fibrillation, and spirometry and added that they are planning on doing Ultrasound for pregnant ladies.
- 15 different projects for the consultants and the students.

- The awareness materials were concentrated on non-communicable disease and breast cancer.
- There was a difference between the original timetable and the actual timetable. The final timetable was that the operation started on May 2015 and will finish on December 2015, while the data analysis will be done in January.
- The activities were summarized as follow:
  - 1 preparatory visit.
  - 32 household visits.
  - 1 school visit.
  - Total of 495 houses visited.
  - 1183 recruited.
  - 320 students in school health.
  - Total of around 1500 people.
- The interview based on a questionnaire takes about 40 minutes per household, and after the questionnaire, people directed to the car for the different medical checkups. One of the benefits of using the Dr. Car is that the car itself is an effective advertisement to show the trustworthiness of the team for village and encourage them to come and have check-ups.
- For the school campaign AAU is interested in children hypertension, diabetes, and obesity, lack of physical exercise, healthy eating habits and smoking. But for the younger students they concentrate on one thing which is giving them awareness about rheumatic heart diseases.
- The school activities are done by Description having between 2-3 medical students enter each class and give out the materials and a lecture for about half an hour to an hour, then another half an hour for the test and finally sometime to review again.
- Another 6 household visits left and 10 school visits and they are considering extending the operation for five days in January. The total number visits will be 50 visits, 39 screening visit, 1 preparatory visit.
- One of the most serious problems which hindered the commencement of the activity was collection of data in paper since it caused the budget problems but fortunately the university covered this cost.
- Smart phones and tablets with an application works on such mobile devices for data collection is now ready, which AAU will be piloting at the end of December, and from now on all the data will be collected on the devices.
- The problems with the Dr. Car were, the car is good for transport but not completely appropriate for doing checkups, a need of steps for the elders, the petrol consumption, the generator is not usable so as the fridge and all the connector are in Japanese.
- The problems with the equipment, ECG with printing capacity is desired for this usage so another ECG with printing capacity was used, and the IRIS detector is not just applicable for the activity.
- The alternative ECG machine that AAU is now using gives paper results but it is time consuming so they are cooperating with a British company for a tablet-based ECG machine that gives the ECG results by placing the patients hand on it.
- For the Ultrasound the second version of the probe was excellent and now they have an agreement with Prof. Mori, a family medicine doctor from US University to provide a three month diploma for Ultrasound all their family medicine residents at AAU. They now trained some midwives on the ultrasound but have some modification about the calculations and the parameters are necessary.

- For the future plan Dr. Ahmed mentioned that they are planning to perform a rural residency program and health days. He added that they have an agreement with KMOH to concentrate on Sharq-Alneel area and that it will take their five faculties of health in the university about five years to completely cover this area.

<Open discussion>

- Mr. Akao, from JICA Sudan office, asked about the ECG that was provided from Japan and if they have a chance to utilize it. He also requested that AAU provide the information after the completion of their survey.
- Dr. Ahmed responded that the ECG from Japan is very useful but it needs modifications by adding 12 leads to it and emphasized the need of a paper based ECG results. He confirmed that they will be providing the results of their survey when it's published.

- Mr. Akao asked about AAU plans on how to utilize the ECG device and whether it was any problem to bring the device back to KMOH.
- Dr. Ahmed responded that they can return the ECG and IRIS devices.
- The Chair noted that it is not possible to return the devices because the equipment have to be kept with the car according to the comments already given by JICA, and added that maybe some improvements can be made to the devices.
- Dr. Ahmed requested the IRIS be kept inside the hospital. .
- The chair asked Dr. Ahmed to give his comment whether or not the Dr. Car is really needed for household surveys.
- Dr. Ahmed responded that the Dr. Car:
  - Creates a sense of trust for the patient (looks like a "mobile clinic").
  - Is very good for transportation of personnel and equipment.
  - Is a very good central point for survey.
  - Is a good advertisement for their activities.
  - Is a safe place to keep and carry the equipment instead of going around house by house carrying them in hands.

3.2 Presentation by Khartoum Ministry of Health:

The presentation was given by Dr. Azza, director of school health at KMOH. The presentation can be summarized as follows:

- The Dr. Car is being used in school health for mass-screening focusing on Jabal-Awlya locality, Mayo area which involves 68 primary schools and approximately 17,256 students.
- The activities done includes:
  - Medical examination for students in 1st, 4th, and 7th grade (every 3 years).
  - General examination that includes Cardiac and chest, central nervous system, gastrointestinal exam, and gentile urinary system.
  - Distribution of drugs for the needed students.
  - Measurement of weight and height.
  - Examination of the eyes and distribution of glasses to students with refractory error.
  - Mental school health services to discover and manage cases like learning disabilities, nocturnal enuresis, and behavior difficulties.
- The operation started in August, total of 43 days till the end of October we covered with 3,691 students.
- The car consumed a 180 Gallons of fuel that cost 2,520 SDG.
- Evaluation for the operation is that during last year, school health activities covered 16 schools throughout the academic year from July to February but with the Dr. Car 12 schools were covered from August to November with a total of 3,961 students examined. In addition to 1,206 units of medicine distributed to students.
- The issues and change experienced during operation is that the Ultrasound and ECG were used later than August due to the lack of technician with them until then. Another issue is that the PHR is complicated and time consuming.
- Evaluation of the Dr. Car equipments is that the Ultrasound machine gives poor imaging resolution, when the technician examined some of the pregnant teachers he could not determine the gestational age or the expected date of delivery which a common Ultrasound should give him.
- The case in which the ultrasound was used was for students who complained of Anemia, past history of Jaundice, and Urinary tract infection.
- Suggestions for the improvement of the Dr. Car :
  - Adding lab equipment for investigation of hemoglobin and urine in general.
  - Increasing the length of the tent so the health education lecture can accommodate more students.
  - Improving the Ultrasound equipment.

- The advantage of the Dr. Car is that it is fast and well equipped, rooms for examination is available using the inside of the car, the tent is useful for health education and in term of cost efficiency it is better than the car (rental car) which was used earlier for school health programs.

- Suggestion of using the Dr Car for immunization campaigns that can be done all over Khartoum state, and since the car have ECG and Ultrasound devices it can be used for reproductive health service.

<Open discussion>

- Mr. Akao asked whether the Ultrasound and ECG were useful or not.
- Dr. Azza responded that with these devices the students are given written diagnoses instead of having "further investigation" written in their health cards to be referred to hospitals with such equipment, as they used to do.
- Mr. Akao commented that now with these devices an added value is provided to the students to which Dr. Azza concurred.
- Dr. Abdelnasir recommended that when the car goes for school health activities it can also be utilized for other purposes, for example, doing antenatal care and home visits.
- Dr. Iman, Director of Mother and Child Health in KMOH added that during the school holidays the Dr. Car can be used for antenatal care and that if there are improvements in the Ultrasound and ECG it can be a useful mobile clinic.
- The Chair asked how much budget is being used for school screening in Khartoum state.
- Dr. Azza responded that for the school health everything is provided to patients for free. Service costs and operating cost including the gasoline was covered by the budget given by the KMOH. The total yearly budget is 100,000 SDG, for the 7 localities in Khartoum state.
- Dr. Ahmed added that they are doing school health activities in Port sudan and requested an Ultrasound for their activities there after this project finishes.
- The Chair asked KMOH that in order to give a full service in Khartoum, how many more cars will be needed.
- Dr. Azza responded that a total of three cars are needed for special areas that are far from health centers and hospitals. For the rest of the area, they can utilize local clinics and the team can rent a car to the schools.
- The Chair noted that for those areas KMOH does not need the Dr. Car and a normal car is enough to which Dr. Azza concurred.

3.3 Presentation by Makkah Eye Hospital

The presentation was made by Mr. Hassan from Makkah Eye hospital. The presentation can be summarized as follows:

<Khartoum state>

- Total number of days was 84 days, 32,900 patients, total number of glasses was 6,672, and the total of medicine provided was 13,308
- The referral cases were; cataract 375, glaucoma 118, squint 232, and other that include infections 8,244 patients.
- The overall result of operation from January-October 2015
  - Total number of days: 84 Days.
  - Total number of locations: 57 Locations.
  - Total number of Health days: 81 Health days.
  - Total number of Eye camps: 3 Free Eye Camps.
  - Total number of patients: 23,900 Patients.
  - Total cost of operation: 2,682,404.00 SDG.

<Gezira state>

- The referral cases, cataract 1910, glaucoma 69, squint 106 and others 8,126.
- Result of operation:
  - Total number of days : 29 Days
  - Total number of locations : 11 Locations
  - Total number of Health days : 8 Health days
  - Total number of Eye camps : 3 Free Eye Camps
  - Total number of patients : 10,614 Patients
  - Total number of Glasses : 5,810 Glasses
  - Total number of medicine : 13,838 Medicine
  - Total cost of operation : 1,205,397.5 SDG

<Kassala state>

- Total number of referral was 6,133 cases.
- The results of operation from Jul-Nov 2015
  - Total number of days : 28 days
  - Total number of locations : 74 Locations
  - Total number of Health days : 28 Health days
  - Total number of Eye camps : 0 Free Eye Camps
  - Total number of patients : 10,871 patients
  - Total number of Glasses : 7,330 Glasses
  - Total number of medicine : 12,295 Medicine
  - Total cost of operation : 1,177,957.00 SDG

<Total>

- The result of operation for all the cars in Khartoum, Gezira and Kassala:
  - Total number of days : 141 days
  - Total number of locations : 142 Locations
  - Total number of Health days : 117 Health days
  - Total number of Eye camps : 6 Free Eye Camps
  - Total number of patients : 45,385 patients
  - Total number of Glasses : 19,812 Glasses
  - Total number of medicine : 39,441 Medicine
  - Total cost of operation : 5,065,758 SDG
- Evaluation of the Dr. Car is that the car itself is useful and effective but there are four issue that need some modifications:
  - The Air conditioner in the passenger's back seat.
  - The doors canter look and Electrical windows.
  - The wood cover in the back room need to be stronger (some cracks on the surface).
  - The car needs a front panel to increase the air flow.
- Evaluation of the Dr. Car equipments is that is useful but in our field we need the following devices:
  - Auto chart Project.
  - Auto Refractometer.
  - Handheld Ref/keratometer.
  - Autolensmeter.
  - Retina scope.
  - Ophthalmoscope.
  - AB-Scan.
  - Trail set
- The PHR is very difficult to use on the site due to the large number of people. To substitute, a form was made to register patients' names, address, phone, gender…etc to be added later to the PHR.
- The telecommunication feature is very useful but in Sudan all the villages have a network problem, if the car has a modem to make the network stronger this feature can be used anywhere.

<Open discussion>

- Ms. Ohno asked about how they decide the places for eye camps and in what kind of locations the cars were more useful, and if there are any specific criteria that they decide to go to an area. She also asked if they have any findings about the kind of places the Dr. Car is more efficient.
- Mr. Hassan responded that the Dr. Car is useful in remote villages that are very hard to reach due to bad roads and no medical attention.
- Mr. Amir commented that there are three levels for the services they offer; one is the primary eye care which they provide in eye camps and health days with Dr. Cars, the secondary level is where the patients are sent to the hospitals in their local area and the tertiary level is where they have the hospital in Khartoum state.
- Dr. Iman pointed that they have reports from some areas that needs eye screening so we will collaborate together with Makkah hospital on that.

- Dr. Widad mentioned that it is necessary to be aware that Makkah hospital can provide their service for free because of the fund from Al-Basar International Foundation, but the local contribution is needed otherwise.
- Mr. Amir commented that success of their activities is depending on the people who support their activity, and that they as Al-Basar are only the executers, therefore it is their policy to provide the service for free.
- The Chair inquired about the difference they have noticed by using the car in rural areas, he also asked why they choose Kassala and not used the car in Gezira, and whether they have any other contract with GMOH to use it in Kassala.
- Mr. Hassan responded to the Chair's first inquiry by stating that the Dr. Car were very helpful in keeping the work going during one of the eye camps where the electricity was out for two days.
- Mr. Amir added in response to the Chair other question by stating that in addition to having one of their main hospitals in Kassala, the state requires a lot of work in health services.

3.4 Presentation by Gezira Family Medicine project:

The presentation was given by Dr. Rana, Physician at GFMP. The presentation can be summarized as follows:

- GFMP started as a training program in collaboration with the Gezira University. It has two years residency program for family medicine and its main goal is to improve the quality of health services in Gezira state at the primary health care level.
- Due to the problems faced, the original plan for the Dr. Car had to be changed on the second SC to be more practical.
- The locations worked on were 58 location, and the bulk of the activities were done at the center of great Wad-Madani area to operate with the limited resource actually available.
- For the summary of the operation progress from Nov 2014- Nov 2015, 58 locations were covered with a number of 4,616 people; the main activity area was the center of great Wad-Madani, East Gezira, South Gezira and Alhasahisa area.
- Activities involved mobile clinics, home visits, health education campaigns, school health, and screening program for the emergency department at GMOH. Unfortunately not all of these activities were done and the concentration was on mobile activities and home visits plus other activities.
- Three types of mobile clinics: GFMP mobile clinics, Alsaim eye care clinic, and joint clinics. The joint clinics are which GFMP worked in collaboration with eye care clinics like Alsaim hospital and Makkah hospital.
- The services offered included Ultrasound, ECG, lab activities, Malaria tests, glucose tests and eye checkups.
- The home visits in the beginning was a part of a running program in GFMP for geriatrics care program but new partners had to be added like the National Cancer Institute (hereafter NCI) to provide primary palliative care for cancer patients at home to reduce the overload on the cancer hospital, minimize the costs and reach the people at home.
- In order to make the services more comprehensive, a social worker was added to the team for home visits activities.
- Other activities include school health, blood donation campaigns, screening and blood sample collection.
  - The blood donation campaigns were conducted by NCI to collect blood especially rare blood type for cancer patients which they managed to get from 48 donors.
  - Screening and blood donation activity is a new service added and it was in collaboration with the Mycetoma hospital.
- Summary of conducted activities:
  - Number of Geriatrics patients was 131 in 19 days.
  - Home visits for cancer patients had 10 patients in 3 days.
  - Blood donation campaigns had 48 donors in 2 days.
  - School health had 55 students in 1 day in collaboration with local health department and it was mainly to test for Malaria and give free medication and prevention messages.
  - Eye care clinics had 1,287 people in 5 days conducted mainly by Alsaim Hospital
  - Medical fitness checkup for pilgrim had 1,600 people in 8 days.
  - Mobile clinics had 1,465 people in 19 days.
  - Screening for Mycetoma had 20 people in 1 day.

  - The total number of people was 4,616 in 58 days.
- Looking at the data collected by GFMP in mobile clinics the majority of the diseases are Diabetics and Hypertension which is an important indicator and the MOH can use this to build their policies regarding the non-communicable diseases.
- Looking at the data collected by GFMP in mobile clinics most people had diabetes and hypertension and stroke which were expected in older people.
- Self-evaluation of the operation, there is a lot of parameters to be considered:
  - Quantity; it might not look successful but a lot of people were helped and saved and many unreachable people were reached.
  - Quality; the diversity in the services which was provided.
  - Collaboration and partnership.
  - Experience in planning services and even though there have been problems 4,616 people were reached without an allocated budget.
- The challenges:
  - Lack of fund but in the future it will be overcome.
  - Lack of political support due to the changes that have been happening in the past few months in the government.
  - The high expectations from the community to get the services for free which is not possible because at least the minimum cost has to be covered.
- Evaluation of Dr. Car is that the vehicle itself is useful, GFMP have two models of the car and were able to have the cars work in the areas they can fit in.
- Evaluation of the equipments:
  - For Alsaim hospital who works in eye care services they think that some equipment have to be added.
  - For the NCI they said there is a lot of equipment for terminal patients that have to be added like Oxygen.
  - The ECG is not clear; it was observed that if the patient hand is shaking or if the car is moving the reading in the ECG gives an irregular heart rate.
  - For the PHR; the doctors working in the field cannot enter the patient data while they are serving the patients. To solve this, one person can be added to the team who is only responsible for entering the data. The other issue with the PHR is that the system is not following the doctors medical file format.
- Suggested improvement:
  - The Blood Pressure machine; in home visits sometimes they don't have electricity, so there is a need for a machine with battery to be used inside the car and for home visits.
  - For the school health activities the weight and height have to be measured for the students so a weighting scale and height measurement has to be added.
  - Oxygen is needed for the NCI.

<Open discussion>

- The Chair asked about why GFMP selected another eye hospital when they already had Makkah hospital as a partner.
- Dr. Rana responded that regarding the selection of Alsaim hospital, it was to catch up with their operation; another reason is that Alsaim hospital has been doing a wonderful job in preventing blindness among the people of Gezira state, the third reason is that Alsaim hospital is where GFMP students get their ophthalmic training.
- Dr. Sameh commented that Makkah's in Kassala is working properly but the one in Gezira is not working. He also added that they joined Alsaim hospital because they are doing a good job
- Dr. Abdelnasir added that Alsaim hospital is not fully governmental but partially charity, so working with local partners helped them overcome the problem of funding
- Ms. Ueki asked if they use the TV conference system in the Dr. Car.
- Dr. Rana responded that they tried to use the TV conference in the Dr. Car but they had a problem that most of the areas have no good internet connection, to overcome this they doctors discuss the cases with the consultant at GFMP office by the phone.

- Dr. Sameh commented that there is 162 health centers that are using telemedicine in Gezira state, some areas don't have good connection so another option is using the phone and that they already made an agreement with the telecommunication company (Polycom) to cover all Gezira state to be started on 2016.
- Mr. Akao asked if the health center have telecommunication system, why is the internet not working in the Dr. Car.
- Dr. Sameh responded that some areas have good connection while other areas bad and that now every car has its own phone.
- Mr. Akao asked if there is a difference between the telecommunication system at GFMP office and the one in the Dr. Car to which Dr. Sameh replied that there is no difference.
- The Chair noted that he will answer this further on during his presentation then gave the chance to NCI to give their comments.
- Dr. Ali from the NCI gave a briefing about their activities and how their home care unit duty is to go to the terminally ill patients who cannot come to the institute at their homes. He noted that the patients are still not comfortable with leaving their units to receive home care service so the number of patients is not high and that due to their team not being well organized yet they couldn't achieve their target numbers but expressed his hope that in the future their work will be established in a better way.
- Dr. Widad commented on the lack of fund for GFMP and assured that there should be no problems in that aspect and with regard to the political support GMOH have introduced the project to the legislative council of the state.

4 Agenda 2: Concluding presentation of Dr. Car project by Axiohelix

The presentation was given by the Chair who is the president of Axiohelix Company. The presentation can be summarized as follows:

- The Chair started by thanking the Japanese government and JICA for giving this opportunity to do a promotion program for their private company, he then thanked the operators for putting their effort, time, and money on this project and giving valuable feedback for the next stage. He then pointed this is the not the final report since it is until the end of December and that some of the data are missing or mismatching but will be working on fixing them in coming few months.
- Purpose of the survey:
  Sudan as well as the countries in Africa are lacking in the infrastructure, human resources in terms of health care and lacking in medical information. The reason for this pilot project is to find how Dr. Car can support, how the different models of mobile clinic respond to the issues in the health sector, and what are the resources needed.
- Summary of the operation:
  - Rocinantes ended their survey in the time of the 2nd SC as they concluded that the Dr. Car is not appropriate for their activities and handed the car to KMOH to be used for school screening.
  - AAU, Makkah hospital, and GFMP did a wonderful job. The numbers are not that important but how the service is done, whether the service reached the people from the operators' viewpoint, and whether the right tools were given to help reaching those people.
  - There are some errors in the data but it will be fixed later when all the information is provided.
- Results of each operator:
  - Rocinanates have not completed their report but they are still working on it.
  - KMOH achieved more schools that they could not achieve last year. Currently they are using the ECG and Ultrasound.
  - For AAU their survey may change some things in the Sudanese health system, which is a use that was not expected when the concept of the Dr. Car was first come up.
  - GFMP had a lot of collaboration and did a lot of training, they had some problems in relation to their finances, but they have been putting as much effort as they can. Although the archived number of the beneficiaries is no large, they have been succeeding in providing services to vulnerable and minority people, which has to be appreciated in terms quality of service. The main challenge was the budget but given the remarks by the director general of GMOH, hopefully they will have a much better operation in the future.

  - Makkah did a wonderful job in increasing the number of patients and the problem with the PHR not being practical with the large number of people.
- Overall evaluation of operation:
  - The numbers of patients are close to what we first aimed – 70,000 patients in total, the car is well equipped but there are some issue like the air conditioning, the space of the car for old patients and the funding problems. All this is valuable information for the next stage of the Dr. Car.
- Evaluation of the Dr. Car, equipment and ICT system:
  - Regarding the fuel being costly in the Hi-Ace, the small space, and not being suitable for rural roads; some changes can be made like adding more tents and more chairs.
  - The canter car is good for rough area usage. Regarding the AC in the backseat, it will be hard to change but extra fans can be added. The engine being too loud is a great observation; maybe using a generator for air conditioning during the service and keeping it at a long distance might solve this problem.
  - The ECG's main concept was to be used for primary health care. A three electrode model can be developed or more types of ECG may be added.
  - The ultrasound biggest issue is the resolution and the other issue is training, the other project for the ultrasound will be working on these issues. In the meantime a cloud based knowledge system for the training will be available to be accessible for all people.
  - The PHR problems are not only in Sudan but it is common everywhere. As a solution to these issues, we added a feature where the doctors can attach a hand written document to each patients ID on the data system. After examining the IRIS identification system, now we have idea to use other identification options such as IC card.
  - Regarding the T.V conference system; the access of the internet in Sudan is very week, a solution is to use peer to peer voice sending system, which is more capable under the weak internet connection.
- Findings:
  - Although in calculation, for KMOH's activity, around 60 Dr. Car can cover 1time/year/student school check up for all students (6-13 years) in Khartoum but KMOH already said that only 3 cars will be enough to cover Khartoum. However, if 11 SDG for each student can cover the cost of fuel, labor and other costs we can say that it is sufficiently cost-effective.
  - For Makkah even though the overall cost is large, cost for each patients was only 9-13 SDG/person which is reasonable considering the remote areas where patients are living.
  - For AAU they are giving a wonderful service, and the car helped them gain the trust of the people in the area. Using the car for health survey was not what we expected in the beginning but they have demonstrated a new possibility of Dr. Cars to be used in a way that has great contribute to the improvement of health sector.
  - For GFMP they are going to extreme places and marginalized people giving various services to people who are not properly treated otherwise. Therefore, the number is not the important aspect of their activity when we evaluate, but the quality and the outreach of the services.
- Cost analysis based on the results:
  - The fuel cost and car maintenance cost is not that high unlike the human resources and it can be changed depending on the type of service provided. Also the initial cost for the car is high. Using a second hand can be the solution instead of a new car, although we have to examine the aspect of maintenance cost.
- Dr. Car PHR system:
  - The analysis of GFMP data shows that the number of females is more than the number of male patients, so the car in useful in giving services to these females.
- Future plan:
  - From the operator's reports various uses for the Dr. Car were found, so the next step is going to the Sudanese government and international organization in order to promote the Dr. Car. Also the Dr. will be improved to give a better service for the people of Sudan as well as other countries.

<Open discussion>

- Dr. Rana asked if there are any possibilities of making changes in the PHR system and if after the project Axiohelix will be giving technical support to them.

- The Chair responded that even after the project finishes the company's office in Khartoum will ready to give their support to GFMP. He then added that a modification of the PHR and telecommunication system can be done on request on business basis but not for free.
- The Chair responded that unfortunately Makkah hospital has no access to Japanese technology because of the restrictions they have as an organization and that they are working on it.
- Dr. Sameh thanked the Chair for the idea of the peer to peer telecommunication system and that it is useful and they would be interested to use it in their system.

5 Agenda 3: Final evaluation by the committee members

- Dr. Iman mentioned that having four mobile clinics cars in the future will be very useful to be used by the four teams in school health for unreachable areas. In the meantime the operation in Mayo area will continue. She added that for the other two cars it is an official decision for KMOH to collaborate with Makkah hospital and AAU.
- Dr. Widad commented that GMOH would like to put the Dr. Car to work in two parts, first the existing system for providing health services where there is a lack of health facilities as a mobile clinic, and the other part is for campaigns in school health, donation of blood in addition to the home visits.
- Ms. Ohno commented that even though some difficulties were faced at the beginning but the outcome was a good one and different ways to utilize the Dr. Car were discovered. She then thanked all of the participants for their contribution and commitment, and requested them to keep utilizing the Dr. Cars and emphasized on the responsibility of KMOH and GMOH to make sure that the cars will be properly managed and utilized. Then she announced that JICA Sudan office is to prepare MOUs signed between them and KMOH/GMOH regarding the use of Dr. Cars after the project, which would include KMOH's and GMOH's responsibilities to continuously keep track of how the Dr. Cars are utilized, and report to JICA Sudan office periodically.

5.1 Agenda 4: Presentation by KMOH and GMOH about how to use the Dr. Cars after the project

<KMOH>

- Dr. Azza mentioned t their plan on how they will utilize the cars after the project, which is to continue with the current operators, Makkah hospital, AAU and the school health program of theirs.
- The Chair responded by stating that he expect KMOH to keep good communication with AAU and Makkah hospital to continue the project.

<GMOH>

- Dr. Widad made a presentation which can be summarized as follows:
  - All the four cars will be used at primary health care level in Gezira state according to the health map.
  - Operators and activities:
    - Currently Dr. Car operators and conducted activities will remain the same.
    - The operators are expected to work in collaboration with each other and in harmony as partners to deliver more comprehensive and/or specific health care services to the target population at Gezira state.
    - For effective and proper use of Dr. Car we plan to establish an outreach unit by GMOH to plan, organize and supervise the cars Operation.
  - Suggested operators:
    - GFMP and PHC department at GMOH (1 Canter)
    - Makkah and Alsaim eye hospital (2 Canter one car for each hospital.)
    - National Cancer Institute (1 HI-ACE)
  - Activities:
    - Mobile clinics inside and outside the capital and the urban area.
    - Geriatric care/ Home visits to the elderly (GGCP).
    - PHC Department Campaigns e.g. Vaccination campaigns, Health education, and School health.
    - Mobile eye care clinics and camps (by Makkah and Alsaim hospitals)
    - Cancer Patients Home care Program.
    - Others (health days conducted by local NGOs and local community, rural areas residency program conducted by medical schools).

- Budget and cost coverage:
  - Dr. Car is included as separate item in 2016 GMOH budget
- Evaluation
  - Reports of operation progress and activities will be submitted to GMOH weekly. Activity reports will be evaluated on monthly basis at the regular DG Monday meetings of the ministry of health.

- The Chair asked if Makkah hospital have anything to comment.
- Mr. Hassan responded that they will follow the decision by GMOH, and they would be ready for discussion for detailed decisions.
- Mr. Seki added that he have no objections and that JICA always respect the decisions and JICA will keep in touch through JICA Sudan office for monitoring because it is JICA's accountability given that the project is based on the contribution of Japanese people.
- The Chair asked how the other car given two years ago will be utilized.
- Dr. Sameh responded that the car can only be used for home visits in geriatrics programs, school health, medical schools and blood donation, and confirmed that will be used by GFMP.
- Mr. Akao requested GMOH to submit periodical reports to JICA, for example, every six months after the project ends. The details will be decided and informed later.
- Dr. Ahmed suggested an idea that Axiohelix build a website for continuing Dr. Car activity report in which every operator is given a table to report in their activities every month.
- The Chair and Mr. Seki mentioned that it will be a good idea and consider to do it.

The Chair closed the meeting by saying that although there have been challenges in implementing the project, he would evaluate the project as a whole to be a successful one thanks to the courage and the ability to overcome these problems and he once again thanked everyone for being partners in this project and expressed his hope to work together again in the future.

The End

Appendix (1): Agenda for the Steering Committee

Agenda for the Third Steering Committee Meeting for the Pilot Survey for Disseminating SME's Technologies for Mobile Car Clinic (Dr. Car)

1. Date, time and venue

9:00~ 13:30 on 8the December 2015 at a meeting room in Khartoum State Ministry of Health

2. Purposes

The third (final) steering committee meeting is held to share the results of Dr. Car operation and evaluate the results (Agenda 1, 2 and 4). Based on the results and the evaluation, how to utilize the Dr. Cars will be decided (Agenda 3).

3. Program

Time	Content	Note
08:30 ~ 09:00	Registration	
09:00 ~ 09:10	Opening comments	
09:10 ~ 09:15	Confirmation of the Meeting Minutes of the 2nd SC meeting	
09:15 ~ 11:15	**Agenda 1: Final report by the 4 operators**	Including 10mins. Q&A for each presentation
	Alzaeim Alazhari University	30mins
	Khartoum Ministry of Health PHC School Health	30mins
	Makkah Eye Hospital (Khartoum, Gezira, Kasala)	30mins
	GFMP	30mins
11:15 ~ 11:45	(30min: Snack break)	
11:45 ~ 12:15	**Agenda 2: Final evaluation by the committee members**	30mins
12:15 ~ 12:45	**Agenda 3: Concluding presentation of Dr. Car Project by the Axiohelix**	30mins
12:45 ~ 13:05	**Agenda 4:Presentaion by KMoH and GMoH about how to use the Dr. Cars after the project**	10mins each
13:05 ~ 13:30	Closing comments	20mins

Appendix (2): List of Participants

Name	Organization	Title
Committee members		
Khartoum Ministry of Health	Prof. Mamoon Humeida	Minster of Health KMoH
	Dr. Ibrahim Mohamed	Primary Health Care Director
	Dr. Iman A. Bashier	Mother and Child Health Director
Gezira Ministry of Health	Dr. Widad Yousif Mohamed	Director General of GMoH
JICA Sudan office	Mr. Ohno Furue	Senior Representative
AXIOHELIX Japan (The Chair)	Mr. Sivasundaram Suharnan	President
Operators		
Alzaeim Alazhari University	Dr. Ahmed Elsayed	Faculty of Medicine
Khartoum Ministry of Health	Dr. Azza Abbass	School Health director
	Dr. Zuhra A. Fattah	Curative Medicine Director
	Dr. Wefag Abdelgadir Elkhatim	Ophthalmologist-School Health
	Dr. Asma Khider Mohamed	School health
Makkah Eye Hospital/ BIF	Mr. Amir Yousif S. Abugroon	Head of the department of Planning and Projects
	Dr. Abd Elmonim Seesy	General Directorate of Hospitals
	Mr. Hassan Abdallah Hussein	Programmer, IT department
Geizra Family Medicine Project	Dr. Abdelnasir A. Abuzeid	Director of GFMP
	Dr. Sameh Aiash	Assistant Director of GFMP
	Dr. Rana Samir Mohammed	Physician, GFMP
National Cancer Institute,Wad-Madani	Dr. Ali A. Galil	
Alsaim Hospital	Dr. Abelrafie Ibrahim	
Observers		
Federal Ministry of Health	Dr. Abdelrahman Eltahir	Bilateral Relation Director
JICA Headquarters	Mr. Tetsu Seki	Senior Assistant Director, Operation for Supporting Japanese SMEs Division
	Ms. Yuko Ueki	Officer for Supporting Japanese SMEs, Operation for Supporting Japanese SMEs Division
JICA Sudan office	Mr. Kunikazu Akao	Project Formulation Advisor
	Ms. Halima Abdeen	Program Officer
AXIOHELIX Japan/ Sudan team	Mr. Tetsu Kawamura	
	Ms. Aya Ito	
	Mr. Osman Sinada	
	Ms. Mika Sinada	
	Ms. Amirah Abd Elmoumin	
Total	29 participants/ 11 organizations	

Final Report of Dr. Car Operation

For

Pilot Survey for Disseminating SME's Technologies for Mobile Car Clinic (Doctor Car)

September 2015

Prepared by: NPO ROCINANTES

Table of Contents

Person in charge of this report preparation:
Name, title Dr. Taha Omer Al-sheekh
Organization name Rocinantes International Organization
Contact information

NPO ROCINANTES

1. Operation Plan

Items	1st version (approved in the 1st Steering Committee)	Revised version
1. Basic Information		
Date of plan draft	2014/06/18	2015/1/16
Name of organization	NPO Rocinantes	
Prepared by	Name and the contact of the person who prepared this plan Name and title: Masaaki Takeshige,Project Manager	Name, title Dr. Taha Omer Al-sheekh
Name and contact of persons in charge	• Project manager: Masaaki Takeshige : • Project Advisor: Takeshi Utsunomiya, • Staffs 1:Hussein Suliman, Project Officer • Staffs 2:Imad Eldin, Project coordinator	• Project manager: Taha Omer Mustafa Al- Sheekh • Project Advisor: Takako Tanaka • Project Officer: Intisar Mohammed • Project coordinator Imad Eldin Khairy
Location of Dr. Car Storage after hand-over and person in charge	Address or name of location where Dr. Car will be stored when not used: Rocinantes office - Khartoum • Name of person in charge of : Hussei Suliman, Project Officer	Same
2. Operation and management of Dr. Car		
Purpose of Dr. Car use	Provide primary health care services in Wad Abo Salih area - Sharg El-Neel Locality – Khartoum State of 32 villages by mobile clinic	Same

Items	1st version (approved in the 1st Steering Committee)	Revised version
Expected period of operation	- Starting data: 15th September2014. - Ending data: 30th March 2015.	- Starting date:16th Jun 2015 - Ending date :16th September 2015
Frequency and coverage of operation	15days per month, 32villages per month,	5-10 days per month 32 villages per month
Number of expected beneficiaries	21,172 persons	same
Description of expected members of staff	1medical assistant + 1health visitor+ 1nutritionist+ 1driver +1statistician+2vaccinator+1labo technician	1medical assistant +1labo technician +1 Doctor + 1driver
Area of operation	WAD ABO SALIH AREA, SHARG AL-NEEL LOCALITY, KHARTOUM STATE	Same
Participation to training	- Candidate 1: Masaaki Takeshige - Candidate 2: Hussein Suliman - Candidate 3: Takeshi Utsunomiya	Candidate 1: Taha Omer Candidate 2: Takako Tanaka Candidate 3: Intisar Mohammed
Utilization of PHR system *Use of other alternative recording system is acceptable if there is any difficulty in using PHR. The data items collected using either way, should covered at least the below; ✓ Number of patients treated/screened ✓ Diagnosis of each patient ✓ Dosage with the name of medicine, cost and amount		we will use the PHR system plus the hard sheets in the field

NPO ROCINANTES

Items	1st version (approved in the 1st Steering Committee)	Revised version
✓ Referral to distant doctor or hospital (use of ICT communication system)		
Maintenance method of Dr. Car		• Method of maintenance: Regular check • Person in charge: Esmat Eljak
Collection method of operation record *The below are the items should be covered ✓ Number of location visited (village names etc.) ✓ Number of patients at each visit ✓ Distance of drive between each visit ✓ Number of doctors and medical staff served ✓ Expenses of operation (fuel, staff cost, mobile internet, car maintenance, medicine, etc.) ✓ Findings		We use the two record software + Excel sheet.

NPO ROCINANTES

Items	1st version (approved in the 1st Steering Committee)	Revised version
Budget plan		• Expected cost required for operation: 81270SDG

Purpose	Rocinantes	Comment
Running Cost	3000	For fuel, oil, ice and small maintenance
Pre-payment for food	1800	200SDG ×9 People(Wad Abo Salih Staff)
PHC staff	4020	670SDG×6People
Clinic staff	3510	1170SDG×3People
Total	9030×9	81270SDG

2. Operation results

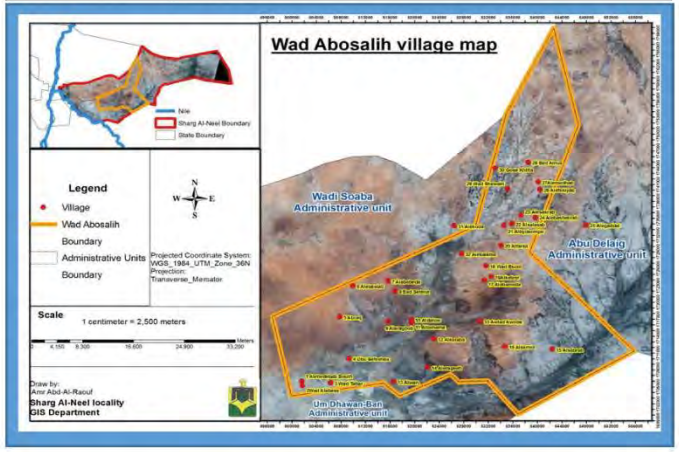
2.1. Summary of operation

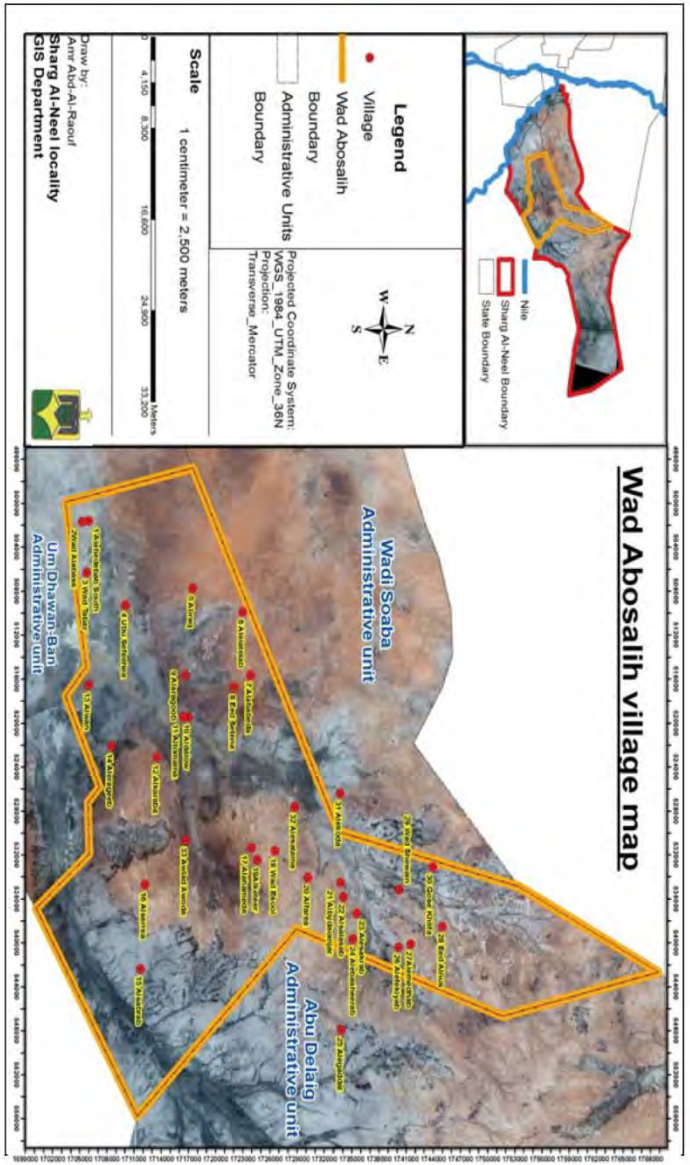
- Duration: January 2015 – April 2015
- Total days of operation: 60 days
- Total number of patients seen: 2400 patients
- Places of visits: Wad Abu Salih

Data	Operation area	Number of beneficiaries	Activity
January	Wad Abu Salih	1960	Doctor car and equipment
February	Wad Abu Salih	120	Doctor car equipment only
March	Wad Abu Salih	170	Doctor car equipment only
April	Wad Abu Salih	150	Doctor car equipment only
Total days	60 days	Total number of beneficiaries	2400 patients

2.2. Overview of the activity area

Name	32 villages in, Wad Abu Salih, Sharg Al-Neel locality, Khartoum
Population (2008 census)	Male: 451,466, Female: 416,681
Location	About 100 km to the center of the locality from Khartoum center
Characteristics	Village area





2.3. Details of Activities

1- Improvement of primary health services preventive and curative in wad Abu Salih area by medical assistant, laboratory and drug service.

2- Provide primary health care services vaccination, nutrition, reproductive health and health promotion according to geographical location and number of population.

3- Raise the awareness of community to importance of health.

4- Capacity building for mobile clinic staff.

2.4. Operation Record

(1) Number of patients treated/screened 2,400

1) Number of patients

Date (day/month)	Operation area	Number of beneficiaries	Activity
January	32 villages	1,959	Doctor car and equipment
23February	Alahamda Village	8	Equipments
24 February	Alahamda Village	34	Equipments
25 February	Basheerab Village	27	Equipments
26 February	Basheerab	10	Equipments
26 February	Eid Alnus	14	Equipments
27February	Wd Shwein	8	Equipments
28 February	Wd Shwein	13	Equipments
17 March	Alhidebab	25	Equipments
18 March	Aleretlab	16	Equipments
19 March	Aldalu	17	Equipments
21 March	Aldalu	27	Equipments
21 March	Alhidibab	23	Equipments
23 March	Alahamda	23	Equipments
25 March	Albisherab	9	Equipments
26 March	Eid Alnus	10	Equipments
26 March	Wd Shwein	13	Equipments
17 April	Alhidebab	7	Equipments
18 April	Aleretlab	16	Equipments
19 April	Aleretlab	17	Equipments
19 April	Aldalu	4	Equipments

19 April	Albumbonab	5	Equipments
21April	Alsabrab	16	Equipments
22 April	Alsabrab	4	Equipments
22 April	Alahamda	25	Equipments
24 April	Albishirab	15	Equipments
25 April	Eid Alnus	13	Equipments
26 April	Wd Swein	12	Equipments
17 May	Alhidebab	22	Equipments
18May	Alhidebab	17	Equipments
18 May	Aleretlab	20	Equipments
19 May	Aldalu	11	Equipments
20 May	Aldalu	12	Equipments
20 May	Abu zuleig	8	Equipments
21 May	Alhidebab	21	Equipments
22 May	Alhidibab	16	Equipments
22 May	Alahamda	2	Equipments
23 May	Alahamda	27	Equipments
24 May	Albeshirab	9	Equipments
25 May	Albisherab	10	Equipments
25 May	Eid Alnus	16	Equipments
25 May	Wad Shwein	26	Equipments
Total	60 days	2400 patients	

2) Number of patients by kind of service they received

Service type	Number of patients	Number of days
Vaccination	351	19 days
Nutrition	717	19 days
Antenatal Health	352	19 days
Laboratory	127	19 days
Delivery	28	19 days
Postnatal Checkup	28	19 days
Examined by the Medical assistant	272	19 days
Total	1875 patients	19 days

3) Patients attributes

Age group	Male	Female	Total number
0-10	80	100	180
10-20	25	69	94
20-30	16	75	91
30-40	10	70	80
40-50	15	41	56
50-60	12	43	55
60-70	17	17	34
70-80	12	9	21
80-90	1	2	3
90-100			
>100			
	188	426	614

(2) Diagnosis of patients

N/A

(3) Referral cases to distant doctor or hospital

N/A

2.5. Operation cost

(1) Distance of drive and fuel usage for each visit

Date (day/month)	Visit location	Total running distance	Fuel consumption (21SDG/gallon)
January16-Feb4	32 villages	2400km	92 Gallon
March 23	Alahamda Village	338	13 Gallon
Total	20 days	2738km	105 Gallons/ 2205 SDG

(2) Personnel cost

1) Typical operation team composition

Staff	Number	Average cost/day	Total
Medical assistant	1	95SDG/day	1400SDG/month
Laboratory technician	1	95SDG/day	1400SDG/month
Driver	1	60SDG/day	900SDG/month

vaccinator	1	60SDG/day	900SDG/month
nutritionist	2	120SDG/day	1800SDG/month
Health visitor	1	60SDG/day	900SDG/month
Lab technician	1	95SDG/day	1400SDG/month
tactician	1	95SDG/day	1400SDG/month
total	8	960SDG/day	9200SDG/month

2) Actual cost for staffing

N/A

(3) Dosage and other consumables used

1) Monthly

	Medicine / Vaccine	Consumables	Other cost	
January	3,000	500	300	
February	3,000	500	300	
March	3,000	500	300	
April	3,000	500	300	
May	3,000	500	300	

2) Medicine / Vaccine

N/A

3) Other consumables

N/A

(4) Other cost

1) Car maintenance

Data (day/month)	Maintenance	Cost
January	Oil	450 SDG
February	Oil	450 SDG
March	Oil	450 SDG
April	Oil	450 SDG

2) Other (Internet, staff lunch etc.,)
N/A

2.6. Self-evaluation of operation

- The achievement of beneficiaries is the same as in the plan. But no use of ultrasound machine because of lack of trained staff. Other equipment work as planned.

3. Issues and Challenges of Operation

3.1. Issue 1: Unpaved roads.

(1) This situation make the need of special car to be fit for unpaved roads

(2) To use Land Crouser Toyota car and make another plan for doctor car to work as referral car and for screening survey

3.2. Issue 2: Absent of qualified staff and rapid turnover of health staff

(1) Need for medical doctor to operate the advanced equipment's

(2) To look for qualified personnel medical doctor or other health workers capable for operating the equipment

4. Evaluation of Dr. Car Equipment/ Facility

4.1. Dr. Car (the vehicle itself)

The advantages is the new equipment ultrasound and ECG and the new designe of the car to be suitable for health staff

The added value is the respect of the health staff and patients and the trail of improving the quality of service to remote areas.

- Small capacity of the vehicle.

- Short height of car make it unstable and stuck in unpaved roads.

- High fuel consumption.
- High running cost it takes 19 days to complete the target area.

4.2. Equipment in Dr. Car (Ultrasound, ECG)

Ultrasound machine

- Has limited performance no color Doppler.
- Bad resolution commented by Dr. Mohammed Nagm Eldeen - Fidail Hospital.
- The image not clear.
- There is time limit for patient.

ECG machine

- No patient general information data.
- No serial number.
- Limited use only rate and rhythm.
- Cannot join the computer directly.

4.3. System (PHR, operation record)

- No place for patient complain
- Some figures in investigation is limited.

5. Conclusion / Recommendations

The Conclusion is the Doctor car is good idea and very useful service to remote area Please redesign the care to be suitable for unpaved roads. And upgrade the ultrasound machine and ECG machine.

Final Report of Dr. Car Operation

For

Pilot Survey for Disseminating SME's Technologies for Mobile Car Clinic (Doctor Car)

November 2015

Prepared by: Alzaeim Alazhari University

Table of Contents

Person in charge of this report preparation:
Dr Ahmed ElSayed
Organization name Faculty of Medicine AlzaeimAlazhari University
Contact information

AlzaeimAlazhari University

1. Operation Planed Operation summary

Items	1st version (approved in the 1st Steering Committee) and Revised version	Actual operation
1. Basic Information		
Date of plan draft	01/08/2014 Revised on 14/05/2015	Same
Name of organization	AlzaeimAlazhari University	
Prepared by	Name and title: Dr Ahmed ElSaye	Same
Name and contact of persons in charge	• Project manager: DrAhmedElSayed • Staff 1:Dr Ahmed ElSayed • Staff 2: Prof Tajelasfya <Revised version> • Project manager: DrAhmedElSayed • Staff 1:Dr Ahmed Saad • Staff 2:DrIsmatMutwali	Same
Location of Dr. Car Storage after hand-over and person in charge	Location : Driver Khalid Hassan AlzaeimAlazhari University main campus	Same
2. Operation and management of Dr. Car		
Purpose of Dr. Car use	Mass screening in Alkadaro village in Khartoum North involving • Approximately 1000 houses • At least 10 schools	500 houses 6 schools

AlzaeimAlazhari University

Items	1st version (approved in the 1st Steering Committee) and Revised version	Actual operation
Expected period of operation	- Starting data: 01/09/2014 - Ending data: 31/01/2014 <Revised> - Starting date: 01/05/2015 - Ending date : 31/10/2015	- Starting date: 31 Jul 2015 - Ending date : 31/12/2015
Frequency and coverage of operation	Saturday Household survey with complete coverage of village 2 days per week Awareness campaigns in schools <Revised> Saturday and Friday Household survey with complete coverage of village 1 days per week Awareness campaigns in schools	Same
Number of expected beneficiaries	• Total household population of > 10,000 aprox • Schools = aprox 5,000 <Revised> • Total household population of > 6,000 aprox • Schools = aprox 5,000	Household = 2000 Schools = approx 3000
Description of expected members of staff	Each visit is by 1 doctor + 10 medical students + 2 X-ray technology student+ 1 driver <Revised> Each visit is by 5 doctors + 10 medical students + 1 X-ray technology student+ 1 driver	Each visit is by approx. 2 doctors + 5-20 medical students + + 1 driver

Items	1st version (approved in the 1st Steering Committee) and Revised version	Actual operation
Area of operation	Alkadaro village is 15 kilometers north of the Khartoum city center on the main Nile. Surveyed villagers found to have disease will be offered confirmatory check of their disease by University consultants in a main hospital	Same
Participation to training	• Candidate 1:Dr Ahmed ElSayed asaelsayed@hotmail.com 0912309149 • Candidate 2:Dr Ahmed Saaddrasibrahim@hotmail.com 0912375954	Same
Utilization of PHR system *Use of other alternative recording system is acceptable if there is any difficulty in using PHR. The data items collected using either way, should covered at least the below; ✓ Number of patients treated/screened ✓ Diagnosis of each patient ✓ Dosage with the name of medicine, cost and amount ✓ Referral to distant doctor or hospital (use of ICT communication system)	We arising are collecting the data manually but are in the process of devising a full digital system for data capture and storage	Same

Items	1st version (approved in the 1st Steering Committee) and Revised version	Actual operation
Maintenance method of Dr. Car	• Method of maintenance: University guidelines • Person in charge: Khalid Hassan	Same
Collection method of operation record *The below are the items should be covered ✓ Number of location visited (village names etc.) ✓ Number of patients at each visit ✓ Distance of drive between each visit ✓ Number of doctors and medical staff served ✓ Expenses of operation (fuel, staff cost, mobile internet, car maintenance, medicine, etc.) ✓ Findings	We are using the Excel paper sheet which is then transferred to the software	We are using the Excel paper sheet which is then filed
Budget plan	Attached budget	Same

2. Operation Results and Conducted Activities

2.1. Summary of operation results

- Period of operation: 31 Jul 2015~ 31 December 2015
- Total days of operation:approx 50
- Total number of beneficiaries (patients):4000 to 5000
- Main service:Detection, surveillance and awareness
- Main activity areas:Alkadaro village

Maps of operated locations

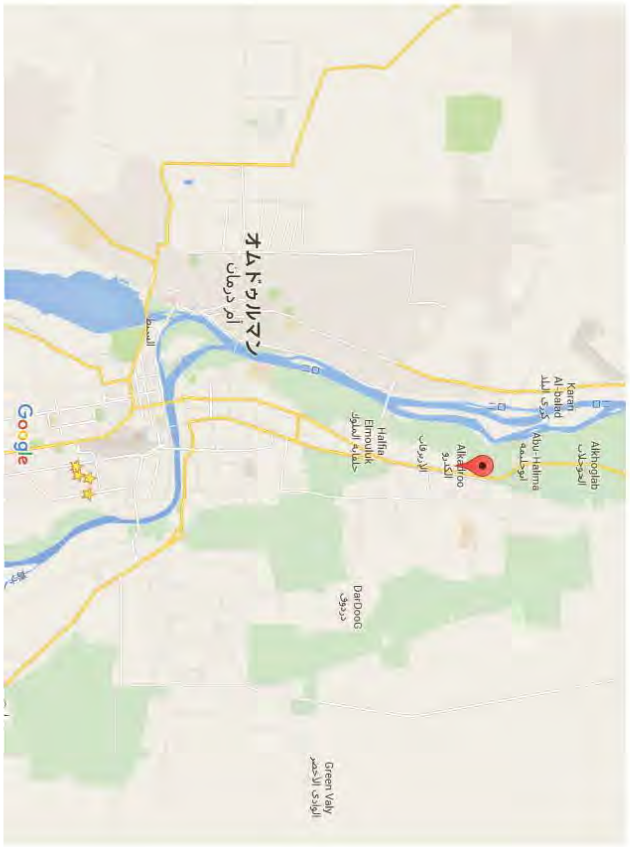
2.2. Overview of the activity area

Name	Alkadaro village
Population	Male: 1500 , Female: 1500 children:4000
Location	15 km from Khartoum center, 0.5 hours by car
Characteristics of the area	Semi urban

2.3. Details of Activities

We are doing a complete household survey in Alkadaro are where we enter all the consenting households and fill in a questionnaire for all the consenting household adult members. At the same time we provide them with awareness about non communicable diseases and breast cancer and self-examination for it. After that we do Blood pressure, random blood sugar + spirometry +

Map of operation



AlzaeimAlazhari University

6/ 16

ECG + Height and weight + BMI + Waist/Hip calculation. At the end we give each enrollee a personal card with his/her data

To do the above the staff was transported using the car and after reaching Alkadaro the students went from house to house to do the questionnaire and waist & hip measurements whilst the consultant with two student would stay in the car and do the Blood pressure, random blood sugar, spirometry, Height and weight in the canopy outside the car and then the ECG inside the car
The car was moved from block to block in each visit as can be seen in the below map for the first few visits

This movement provided visibility, ease of patient participation and data collection
The awareness campaign was done during administration of the questionnaire by highlighting specific issues, this was culminated by giving the participants two brochures one on non-communicable diseases and the other on breast cancer and self-examination of the breast as shown below - we are showing the cover pages only

2.4. Operation Record

(1) Number of patients treated/screened

1) Number of patients' `

Month	Operation area	Operation days	Number of beneficiaries	Activity
April	Alkadaro	1	0	Advertisement
May	Alkadaro	8	304	Household survey + awareness

June	Alkadaro	1	17	Household survey + awareness
July	Alkadaro	1	32	
August	Alkadaro	8	342	Household survey + awareness
September	Alkadaro	5	229	Household survey + awareness
October	Alkadaro	2	44	Household survey + awareness
November	Alkadaro	2(13/11)	77	Household survey + awareness
December	Alkadaro			Household survey + awareness
		Total days 28 days		Total beneficiaries 1045 patients

2) Number of patients by kind of service they received

Service type	Number of patients	Number of days
Awareness	2500	28
Surveillance	1045	28
Total	3545	28 days

3) Patients attributes

We are going to finish the total coverage of the schools by 31/12 and hope to do so for the houses also although we might need two weeks more

We are going to start inputting data in the end of December and hope to have it all analyzed by January

(2) Diagnosis of patients

Study finish is as explained above

(3) Referral cases to distant doctor or hospital

None to date – as agreed upon with local medical committee – a lot of consultations given by consultants on site however

2.5. Operation cost

(1) Distance of drive and fuel usage

Month)	Total running distance	Operation days	Fuel consumption (XX SDG/L)
April	km	1	L
May	335 km	8	87 L

June	0 km	1	0 L
July	26 km	1	22 L
August	189 km	8	132 L
September	110 km	5	88 L
October		2	
November		2	
December			
Total	XXX km		XXX Gallons/ XXX SDG

(2) Personnel cost

1) Typical operation team composition

Staff	Number	Average cost/day	Total
Doctor	0–5	0 SDG/day	0 SDG/month
Consultants	0–2	0 SDG/day	0 SDG/month
Students	3–20	0 SDG/day	0 SDG/month
Driver	1	100 SDG/day	400 SDG/month
Total	4-25	100 SDG/day	400 SDG/month

2) Actual cost for staffing

Month	Number (person-days)						Total cost (SDG)
	Doctor	Consultant	Student	Driver	Other		
April	NA	NA	NA	1	NA		100
May	1	NA	NA	8	1		1250
June	NA	NA	NA	1	NA		100
July	NA	NA	NA	1	NA		100
August	NA	NA	NA	8	NA		800
September	NA	NA	NA	5	NA		500
October	NA	NA	NA	2	NA		200
November	NA	NA	NA	2	NA		200
December							
Total							3250

(3) Dosage and other consumables used

1) Monthly

	Medicine / Vaccine	Consumables	Other cost	

April	-	-	-	
May	-	1344	1040	
June	-	610	2860	
July	-	10	-	
August	-	2895	2620	
September	-	300	1050	
October	-	-	1000	
November	-	-	-	
December				
Total		5159	8570	13,729

2) Medicine / Vaccine

Not applicable

3) Other consumables

Consumables	For	Unit price	Used quantity	Total
Gloves		SDG		SDG
Bandage				
ECG paper				
Diabetes strips				
Total cost			SDG	

(4) Other cost

1) Car maintenance (University covers)

Month	Maintenance	Cost
April		SDG
May		
June		
July		
August		
September		
October		
November		
December		
Total cost		

2) Other (Internet, staff lunch etc.,)

Month		Cost (SDG)
April	-	
May	2948	2948
June	-	-
July	60	60
August	-	-
September	500	500
October	609	609
November	-	-
December		4117
Total cost		

2.6. Self-evaluation of operation

- We had a slow start because of different logistical issues. However we are now well started and plan to achieve our original targets
- We are on our way to achieve the targeted number of visits by the end of December?
- The results in terms of achievements are more then what we expected since our primary aim was proof of concept as opposed to the data collection itself
- At the end of our pilot the expected number of beneficiaries will be approximately half of what we expected. The main reason for this is the fact that a lot of the inhabitants are either working or on visits when we go to the area

3. Issues and Challenges experienced during the Operation

3.1. Issue1 : Budget

(1) Description of issue

The money needed is much more than we expected.

The fact that the car engine was continuously running and the scarcity of the required ECG paper were the main factors in the cost increase

(2) How to deal with the issue

We have decided that each of the participating consultants will pay and we are applying to 2 grants. We did not succeed in getting the grant but the university helped us by supplying all the petrol and maintenance cost of the car and printing all our required questionnaires. This in addition to the above balanced our budget

3.2. Issue2: ECG

(1) Description of issue

The supplied ECG does not give a copy to the participant. The interviewees want to keep a record for themselves for future reference

(2) How to deal with the issue

We are using another one which gives us paper copies

3.3. Issue 3: ECG time

(1) Description of issue

The ECG takes time to do and does not allow us to do the number we want to do per day

To do our ECG the interviewee has to get in the car and take his clothes off so this takes time especially for old people who take time to enter the car

(2) How to deal with the issue

We are planning to get a handheld electronic one with printing capacity

3.4. Issue 3: Generator

(3) Description of issue

The generator does not supply the car air-conditioning

(4) Plan on how to deal with the issue

We have to keep the car running all the time to allow the staff to work inside it. We are looking at different solutions eg buying a standalone AC to be powered by the generator

Unfortunately the available ones in the market were too big so we just resorted to keeping the car running and using its AC

4. Evaluation of Dr. Car Equipment/ Facility

4.1. Dr. Car (the vehicle itself)

Very good and reliable

- The car was used for transportation of staff and on arrival as an examination area for interviewees
- The car was very useful as a focal point to collect attention and people
- The car needs some steps to allow staff and patients to enter more easier
- The car needs 4 folded chairs and 2 folding tables
- The car needs a water container
- There must be a solution to have the car AC running without the car running
- There is no need for the folding beds
- There is no need for the water cooler
- There in no need for the generator

4.2. Equipment in Dr. Car (Ultrasound, ECG)

- ECG as mentioned above
- We are not using the ultrasound in the car as it will slow us down with the ECG
- BP monitor acceptable
- Iris detector – not practical for our survey
- Water cooler too small to be useful

We first tried the ultrasound as supplied by giving it to a master's degree student in our university. He has tried it for several times doing x patients after which his final report was that it was fine for basic examinations but could not compete with the normal machines in the market

When we were supplied the new probe it was definitely better but at the time at least one new cheap reliable machine was on the market so we decided to attach the probe to a tablet (see below picture) and we are now training midwives to use it for basic functions

Below is a picture of the new Ultrasound setup

4.3. PHR System

- Additional labour for our small staff

We used a paper system as our electronic system is taking time to develop, we still hope to trial the latter before the study ends

4.4. Other

We did not use the conference system as there was always a consultant with the team. However we envisage it will be useful when the students go alone for a long period in the future

5. Conclusions and Recommendations

5.1. Usefulness of Dr. Car for Research programme / Educations

The results are yet to be collated, we plan to start doing so in early December

We think this pilot was very successful and already we have discussed with the Non Communicable disease (NCD) department in the Federal Ministry of Health and the WHO to roll this out once we have finished to other areas and medical schools. This will be part of the multisectoral plan to combat NCDs in Sudan

The 3 meeting I had with the FMOH and WHO representatives were opportunistic on the sidelines of other meetings. One of these was on the multi sectoral approach to combating NCDs in Sudan and they all agreed that this approach was ideal for using medical students to raise awareness and to collect data.

5.2. Improvement

Mentioned above

5.3. Application for other usage

As mentioned above we think this can be replicated in some of the 33 medical schools in Sudan to discover cases specially in rural areas and to raise awareness

Attachment: Total Budget

1. Driver bonus = 36 x 100 =		3,600
2. 2 sandwich+ 2 water+ soft drinks=SDG30x20peoplex36=		10,000
3. 1000 Brochure 1=		1,000
4. 1000 Brochure 2 =		1,000
5. 10,000 enrolee card =		8,000
6. 10000 Glucose strips =		25,000
7. 10000 Lancets =		2,000
8. 150 ECG paper = 150 x25 =		3,750
9. 500 Spirometry mouthpieces =		2,500
10. 2 Blood sugar machines =	464	
11. Registration book =		25
12. Weight scale =		790
13. Measuring tapes =		30
14. 10 Clipboards =		230
15. Pens =		60
16. Name book =		30
17. Calculator =		150
18. Car petrol (oil and check) = donated by University		
19. 10,000 Questionnaire = donated by University		
20. ECG machine = Dr Ahmed ElSayed		
21. Blood pressure = Drs Car		
22. Spirometry machine = Dr Ahmed Saad		
23. Miscellaneous=		5000

Total = 63,629

Final Report of Dr. Car Operation

for

Pilot Survey for Disseminating SME's Technologies for Mobile Car Clinic (Doctor Car)

February 2016

Prepared by: Khartoum Ministry of Health

Primary Health Care School Health

Khartoum Ministry of Health
Primary Health Care School Health

Table of Contents

Person in charge of this report preparation:
Name, title Dr. Azza Abbas Attia
Organization name Ministry of Health .Primary Health Care. School Health

1. Operation Plan

Items	1st Version (May 2015)	Actual
1. Basic Information		
Date of plan draft	May/2015	May/2015
Name of organization	Ministry of health Primary Health Care School Health	Ministry of health Primary Health Care School Health
Prepared by	Dr.Nuha Abdel faltah (MCH Director) DrAzza Abbas (SH Director)	Dr.Eman Ahmed Bashir (MCH Director) DrAzza Abbas (SH Director)
Name and contact of persons in charge	· School health manager: DrAzza Abbas	School health manager: DrAzza Abbas
Location of Dr. Car Storage after hand-over and person in charge	· Location : Khartoum State JabalAwalilocalaity.Mayio area.	Location : Khartoum State JabalAwalilocalaity.Mayio area
2. Operation and management of Dr. Car		
Purpose of Dr. Car use	Mass screening in school health services in Khartoum state Jabalawalyia locality Mayio area involving • 68 primary schools • Approximately 17256 students The school health services contains:- • **General Screening and health education done by family physician for the students in 1st,**	Mass screening in school health services in Khartoum state Jabalawalyia locality Mayio area involving • 68 primary schools • Approximately 17256 students The school health services contains:- • **General Screening and health education done by family physician for the students in 1st,**

Items	1st version (May 2015)	Actual
	4th, and 7th grades . And including The cases that need more tests and investigations e.g. Ultra sound,ECG. • **Free medication for all needed cases (45 items):-** 1-A analgesics and antipyretic. 2-Iron supplement and multivitamins. 3-Antibitiotics. 4-Opthalmic drugs. 5-Dermatological drugs. 6- Gastrointestinal drug. 7-antimalarial drugs. **E ye services done by technical Optometrist, includes:** **1-** Discovery and treatment of refractive errors. **2-** Discovery and treatment of eye diseases **3-** Provide free medication for eye diseases **4-** Provide free eye glasses for the needed students **5-** Health education about the eye health **Nutrition school health services done by nutrition adviser** **Includes:-**	**4th, and 7th** grades . And including The cases that need more tests and investigations e.g. Ultra sound,ECG. • **Free medication for all needed cases (27 items):-** 1-A analgesics and antipyretic. 2-Iron supplement and multivitamins. 3-Antibitiotics. 4-Opthalmic drugs. 5-Dermatological drugs. 6- Gastrointestinal drug. 7-antimalarial drugs. **E ye services done by technical Optometrist, includes:** **1-** Discovery and treatment of refractive errors. **2-** Discovery and treatment of eye diseases **3-** Provide free medication for eye diseases **4-** Provide free eye glasses for the needed students **5-** Health education about the eye health **Nutrition school health services done by nutrition adviser** **Includes:-**

Khartoum Ministry of Health
Primary Health Care School Health

Items	1st version (May 2015)	Actual
	1-measure height and weight for the students 2-distruation of Vitamin A capsules for the students in all grades. 3-health education about the importance of the school health nutrition. 4-there was a mass survey on the students done by MCH in Mayio area in 2013.and the result was The complications of the malnutrition are A)Serious infection especially septicemia B)Hypoglycemia due to loss energy stores C) Heart failure D)Iron deficiency anemia **Mental school health services done by psychologists to discover and management of cases like:-** A)Learning disability. B)Nocturnal enuresis . C) Behavior difficulties like theft. lying.	1-measure height and weight for the students 2-distruation of Vitamin A capsules for the students in all grades. 3-health education about the importance of the school health nutrition. 4-there was a mass survey on the students done by MCH in Mayio area in 2013.and the result was The complications of the malnutrition are A)Serious infection especially septicemia B)Hypoglycemia due to loss energy stores C) Heart failure D)Iron deficiency anemia **Mental school health services done by psychologists to discover and management of cases like:-** A)Learning disability. B)Nocturnal enuresis . C) Behavior difficulties like theft, lying.
Expected period of operation	- Starting data: 21/6/2015 - Ending data: 31/12/2015	- Starting date: 17/8/2015 - Ending date : 31/12/2015

Khartoum Ministry of Health
Primary Health Care School Health

Items	1st version (May 2015)	Actual
Frequency and coverage of operation	School working days. Approximately 1 schools per day	School working days. Approximately 1 schools per day
Number of expected beneficiaries	• Total school students = 17,000 aprox • Schools = 68	• Total school students = 17,000 aprox Schools = 68
Description of expected members of staff	Each visit is by 1 doctor + psychologist + nutrition advisor optometrist+ 1 driver	Each visit is by 2 doctor + psychologist + nutrition advisor optometrist+ 1 driver
Area of operation	Mayio area Jabalawalyia Locality, Khartoum State.	Mayio area Jabalawalyia Locality, Khartoum State
Participation to training	• Candidate 1-Nuha Abdelfatah • Candidate 2-Azza Abbas	• Candidate 1-Eman Bashir Candidate 2-Azza Abbas
Utilization of PHR system *Use of other alternative recording system is acceptable if there is any difficulty in using PHR. The data items collected using either way, should covered at least the below: ✓ Number of patients treated/screened ✓ Diagnosis of each patient ✓ Dosage with the name of medicine, cost and amount ✓ Referral to distant doctor or hospital (use of ICT communication system)	The school health system will be used, Each student will have a record file will be filled by the team after they finished the examination. 1- Number of the students screened> 17,000 aprox 2- Diagnosis of each student will be by the family physician. 3- Cost and amount of the medicine will be offered by the MOH. 4- Referral of students will be to the Alakademihospital or the school health clinic.	The school health system will be used, Each student will have a record file will be filled by the team after they finished the examination. 1- Number of the students screened> 17,000 aprox 2- Diagnosis of each student will be by the family physician. 3- Cost and amount of the medicine will be offered by the MOH. Referral of students will be to the Alakademihospital or the school health clinic

Items	1st version (May 2015)	Actual
Maintenance method of Dr. Car	• *Method of maintenance:- regularly by MOH* • *Person in charge:- MOH*	• Method of maintenance: regularly by MOH • Person in charge:MOH
Collection method of operation record *The below are the items should be covered ✓ Number of location visited (village names etc.) ✓ Number of patients at each visit ✓ Number of patients at each visit ✓ Number of doctors and medical staff served ✓ Expenses of operation (fuel, staff cost, mobile internet, car maintenance, medicine, etc.) ✓ Findings	Excel sheet will be used "Axhiohelix's"	Number of location visited :- 9 ✓ Number of patients at each visit:-3155 ✓ Number of doctors and medical staff served

Items	1st version (May 2015)	Actual
Budget plan	• Expected cost 56400 pounds approximately • Cost coverage by MOH, range 110000 Pounds Per year • Expected cost required for operation: • Method of cost coverage, budget plan: Expected cost required for operation : 56400 SDG	• Expected cost required for operation: • Method of cost coverage, budget plan: Expected cost required for operation : 56400 SDG

purpose	costs	Comment
Running cost	3000	For fuel. Oil. and small maintenance
Pre -payment for food	1400	200 SDG ×7 people (mayio area)
PHC staff	3000	600 5 × people
Clinic staff	2000	1002 ×0 people
Total	94006×	56400 SDG

2. Operation Results and Conducted Activities

2.1. Summary of operation result

- Period of operation: 17 August 2015 31 December 2015
- Total days of operation:**61 days**
- Total number of beneficiaries (patients):4730 students
- Main service:
  - 1-GeneralScreening and health education done by family physician for the students in 1st, 4th, and 7th grades
  - 2- Free medication for all needed cases (27 items)
  - 4- E ye services done by technical Optometrist, includes:
  - 5-1-Discovery and treatment of refractive errors.
  - 5-2Discovery and treatment of eye diseases
  - 5-3Provide free medication for eye diseases
  - 5-4Provide free eye glasses for the needed students
  - 5-5Health education about the eye health
  - 5- Nutrition school health services done by nutrition adviser
  - 6- Mental school health examination done by psychologists
- Main activity areas: Khartoum state Jabala Awlia locality Mayio area

2.2. Overview of the activity area

Name	Mayio area
Population	122,290 persons
Location	17 km from Khartoum center, half an hours by car
Characteristics	Previously camps area and was plotted recently

Map of operation

2.3. Details of Activities

1- Medical examination of target students

A- General examination for the student. Includes:-

- Cardiac and chest

-Central nervous system.

- Gastrointestinal examination.

- Gentile urinary system.

2- Distribution of drugs for the needed students.

3- Examination of weight and high for the students.

4- Examination of the eyes by optometrists and distribution of the glasses for the students with refractory error.

5- Mental school health services done by psychologists to discover and management of cases like:-

A)Learning disability.

B) Nocturnal enuresis.

C) Behavior difficulties like theft, lying

2.4. Operation Record

(1) Number of patients treated/screened

1) Number of patients

	Operation area	Operation days	Number of beneficiaries	Activity
July				
August	Primary Schools in Mayio ・ BadrAlkubra girls school(2days) ・ Alkubra boys school(2days) ・ Amro Ibn Alaas boys school (1.5 day) ・ Alwihda East boys school(1.5 day) ・ Dar Alhijra school(1day)	8	813	
September	Primary Schools in Mayio ・ Dar Alhijra school(3days) ・ MamoonBuhairi boys(3days) ・ Alwihda girls school (3day) ・ Dar Alnaieem girl school(4day)	13	1,294	
October		6	384	
November		15	885	
December		19	1354	
	Total : 23schools	61days	4730 students	

2) Number of patients by kind of service they received (Until Dec.)

Service type	Number of patients	Number of days
General screening	4730	61 days
Ultrasound	45	61 days
ECG	10	61 days
Free medicine	1206	61 days
Eye service	4730	61 days
Health education	1206	61 days
Height and weight	4730	61 days
Mental counseling	4730	61 days
Total	4730	61 days

Ultra sound and ECG will started from mid-November.

*All the students received most of the checkups.

3) Patients attribute

1st year --→ 5-7years old

4th year -→ 7-10 years old.

7th year → 10-14 years old

Age group	Male	Female	Total number
5-7	XX	YY	1413
7-10			1708
10-14			1609
Total	XXX patients	XXX patients	4730 patients

(2) Diagnosis of patients (Until Dec)

Diagnosis	Number of patients	Note
Acute ear infection	34	
Refractory error	15	Glasses will be provided by KMOH
Tonsillitis	303	
Asthma	15	
Upper respiratory system infection	293	
Cardiac diseases	36	
Umbilical Hernia	45	
schistosomiasis	238	
Urinary tract Infection	73	

Dermatological diseases	28	
Psychological problems	710	e.g. learning disabilities, enuresis (bed wetting), Fear, violence.
Mental retardation	13	
Anemia	40	
Total	1744	

(3) Referral cases to distant doctor or hospital

Date (day/month)	Diagnosis	Number of cases	Referral to	Reason of referral
August	Cardiac diseases	9	Alshaabhospital	Further investigation and treatment
	Umbilical Hernia	10	Alacadimy Hospital	Further investigation and treatment
	Psychological problems	68	Allamab School clinic Health Center	For Counseling
September	Cardiac diseases	15	Alshaabhospital	Further investigation and treatment
	Umbilical Hernia	18	Alacadimy Hospital	Further investigation and treatment
	Psychological problems	210	Allamab School clinic Health Center	For Counseling
October	Cardiac diseases	6	Alshaab hospital	Further investigation and treatment
	Umbilical Hernia	3	Alacadimy Hospital	Further investigation and treatment
	Psychological problems	84	Allamab School clinic Health Center	For Counseling
November	Cardiac diseases	1	Alshaab hospital	Further investigation and treatment
	Umbilical Hernia	13	Alacadimy Hospital	Further investigation and treatment
	Psychological	195	Allamab	For Counseling

	problems		School clinic Health Center	
December	Cardiac diseases	5	Alshaab hospital	Further investigation and treatment
	Umbilical Hernia	1	Alacadimy Hospital	Further investigation and treatment
	Psychological problems	221	Allamab School clinic Health Center	For Counseling
TOTAL CASES		859		

2.5. Operation cost

(1) Distance of drive and fuel usage for each visit

Month	Total running distance	Fuel consumption (14 SDG/gallon)
July	-	-
August	1110km	80 Gallon
September	1782km	48 Gallon
October	610km	20 Gallon
November	2240km	132 Gallon
December	1920km	88 Gallon
Total	7662km	324 Gallons/ 2,916 SDG

(2) Personnel cost

1) Typical operation team composition

Staff	Number	Average cost/day	Total
Doctor	2	136SDG/day	3000SDG/month
Nutrition advisor	1	18 SDG/day	400 SDG/month
Optometrist	2	14 SDG/day	300 SDG/ month
Psychologist	1	14 SDG/day	300 SDG/month
Medical assistant	1	18 SDG/day	400 SDG/month
Nurse	1	23 SDG/day	500 SDG/month
Ultra sound technician	1	23 SDG/day	500 SDG/month
Driver	1	23 SDG/day	500 SDG/month
total	10	255 SDG/day	5,900 SDG/month

2) Actual cost for staffing

Month	Number (person-days)							Total cost (SDG)
	Doctor	Nutrition advisor	Optometrist	Psychologist	Medical assistant	Nurse	Ultra sound technician	
July								
August	8	8	16	8	8	--	--	1712 SDG
September	26	13	26	13	13	--	--	4550 SDG
October	10	5	10	5	5	--	--	1750 SDG
November	68	22	22	22	45	--	75	4300 SDG
December	136	22	22	22	22	--	62.5	5500 SDG
Total								17812 SDG

(3) Dosage and other consumables used

1) Monthly

	Medicine / Vaccine	Consumables	Other cost	
July	--	--		
August	2,414SDG	430 SDG		
September	3297 SDG	430 SDG		
October	1741 SDG	430 SDG		
November	4,594 SDG	430 SDG		
December	3,944SDG	430 SDG		
Total	15990 SDG	2150		

2) Medicine/Vaccine

Medicine	For	Unit price (SDG)	Used quantity	Total (SDG)
Amoxicillin 500g/Tab	Anti bacterial	10	60	600
Megamox 457mg/Syrup	Anti bacterial	36	54	1944
Amoxicillin 250g/Tab	Anti bacterial	6	79	474
Amibistin/syrup 100ml	allergy	5	2	10
Vitaferrol/Tab	anemia	21	13	273
Flagil250mg/Tab	Protozoa infection	3	218	654
Mebendazale/Syrup/30ml	Protozoa infection	6	5	30
Azithromycin200mg/5ml Syrup	Anti bacterial	16	147	2352
Vermorex/100mg Tab	Protozoa infection	2	48	96
Acivir/cream	antifungal	9.36	4	37.4

Medicine	For	Unit price (SDG)	Used quantity	Total (SDG)
Fusiderm/ Ointment	Anti bacterial	14	16	224
Paracitamol/Tab 500mg	antipyretic	3	74	222
Tetracycline	Anti bacterial	2	203	406
Klavax 228mg/ Syrup	Cough syrup	34	48	1632
Candid	antifungal	6	17	102
Saferon 250mg/Tab	anemia	19	11	209
Apigen Eye Drop	Eye infection	12	11	132
Amilyn Syrup 100mg	Cough syrup	7	27	189
Mebandazole Tab/ 100mg	Protozoa infection	4.8	1	5
Folic Acid Tab	anemia	1	155	155
Antihistin	allergy	6	2	12
Cefixime syrup	Anti bacterial	18	6	108
Optifuscin	Eye infection	13.8	1	14
Aciclovin	antifungal	9.36	2	9
Gentamicin	antifungal	6	6	36
Feferol	anemia	2	1	2
Oraxim Syrup	Anti bacterial	18	5	90
Amilyn Pediatric	Cough syrup	12	89	180
Tearsantural	Eye infection	18	1	18
Amrizole Syrup	Protozoa infection	4	3	12
Panadol Syrup	antipyretic	9	1	9
Histalix syrup	Cough syrup	6	4	24
Bendazole Syrup	Protozoa infection	6	3	18
Paracitamol Syrup	antipyretic	3	1	3
Total cost			10,272 SDG	

3) Other Consumables

consumables	For	Unit Price	Used Quantity	Total
Gloves	Examination	40 SDG/Box	30	1200
Tongue depressor	Throat examination	10 SDG/Box	9	90
Total				11,562 SDG

(4) Other cost

1) Car maintenance

Month		Cost
July		
August	Oil Change	150 SDG
September	Oil Change	150 SDG
October	Oil Change	150 SDG
November	Oil Change	150 SDG
December	Oil Change	150 SDG
Total cost		750 SDG

2) Other (Internet, staff lunch etc.,)

Month		Remarks
July		
August		The staff lunch is provided complementary by the school teachers
September		The staff lunch is provided complementary by the school teachers
October		The staff lunch is provided complementary by the school teachers
November		The staff lunch is provided complementary by the school teachers
December		The staff lunch is provided complementary by the school teachers
Total cost		

2.6. Self-evaluation of operation

During last year, school health activities we were able to cover 16 schools throughout the academic year from July-February, but with the Dr Car we were able to cover 12 schools from Aug-Nov alone with a total of 4730 students examined within Mayio area. In addition to 1,206 units of medicine distributed to the students.

The reason for the difference between operation plan and actual operation result.

- The difference was due to the use of only 1 doctor to give medical examination to the students.
- The three weeks Eid holidays and exams lead to change in the actual operation.

3. Issues and Challenges experienced during the of Operation

3.1. Issue1: Lack of the ultra sound and ECG technicians

(1) Description of issue

Lack of the ultra sound and ECG technicians in health centers of Jabal Awlia locality led to postponing the examination with ultra sound machine until November

(2) How to deal with the issue

The problem was solved by assigning a t echnician from Jabal Awlia locality staff for the Ultrasound and ECG and by scheduling the use of both machines to once a week.

3.2. Issue2: Use of only 1 doctor

(1) Description of issue

At the beginning of operation, only 1 doctor was used which made decreased the coverage level according to the actual plan.

(2) How to deal with the issue

Two doctors from National Service are now assigned to the Dr. Car to increase the coverage.

4. Evaluation of Dr. Car Equipment/ Facility

4.1. Dr. Car (the vehicle itself)

- Excellent equipment
- The car is fast.
- All the staff can be fit in the car.
- It has a tent suitable for health education for small group of students.
- Rooms for examination are available.
- The Dr. car in term of cost efficiency is better than the rental car.

- How Dr. Car is used
  1- Transport the team from the located points in the Morning.
  2- examination room at the schools

- How Dr. Car is useful for providing the service
  - We are planning to use the car an examination room for the ECG and Ultrasound.
  - Using of the couches attached to the car to examine the patients in the classrooms.
  - The use of the tent for health education outside the school.
  - The Dr. Car was very helpful

- Problem with driving

  Fuel Consumption 9galon /day when the AC is used. Fuel Consumption 6 gallon /day when the AC is not used

4.2. Equipment in Dr. Car (Ultrasound, ECG)

- Easiness and usefulness

  We did started using Ultrasound from November. The Ultrasound machine fails to provide the necessary diagnostic information due to:-

- Giving poorly imaging resolution.
- Bad imaging presentation.

When the Ultrasound applied on the pregnant teachers staff it failed to determine the Gestational age(GA) and Expected Date of Delivery(EDD) without using the Last Menstrual Period (LMP).There are 15 cases had done Ultrasound

10 cases complain of Anemia

2 cases complain of Glomerulonephritis.

3 cases complain of Urinary tract infection

4.3. PHR System

- Usefulness

  Very complicated and PHR system is time consuming.

  We started PHR system since the first school in Mayio area

  All the students whom examined were included in PHR system.
- Contributed to improve the efficiency of the service

  NO.
- Need for improvement

  Make it easy to use

5. Conclusions and Recommendations

5.1. Usefulness of Dr. Car for School Health Program

- The benefit of using Dr. Cars in terms of application for school health programme
  - Additional students are examined :

    An increase of 10 schools compared to last year.

    The use of the Ultra sound and ECG help in diagnosis and treatment of the sick students
  - Additional examination items that was possible thanks to the Dr. Cars

    The Ultrasound, ECG and the Dr. Car couch.
- Advantages of Dr. Car compared to the usual cars that had been used for school examinations
  1. The car is fast
  2. Well equipped
  3. Rooms for examination are available
  4. The tent is appropriate for health education
  5. The overall setting of the Dr Car. Is very good

5.2. Cost efficiency

- Advantage of using Dr. Car for school health in terms of cost efficiency

  We used to rent cars 175SDG /DAY, but with the Dr. Car, the fuel costs a maximum of 126 SDG/day with the use of AC and without the use of AC it costs 56 SDG/day.

5.3. Improvement

- Improvement of Dr. Car for the use for School health program
  1. add lab equipment
  2. Increase the length of the tent to accommodate more students for health education.
  3. Add multimedia equipment (screen) for health education programs

5.4. Application for other usage

- Possibility of using Dr. Car for other PHC services
  - Health education
  - Immunization

- Chance of Dr. Cars are to be used as "supplement" to FHUs
  It could be used as a "supplement" to FHUs if the more equipment added such as laboratory for investigation of Urine and Hemoglobin.
  And improved the Ultra Sound resolution.

  - Replacing health centers with one Dr. Car?
    It can only replace rural family health unit temporally for one catchment area.
  - Increased cost effectiveness to use Dr. Cars compared to the general cost of building / operating a health centers
    It is cost effective but it can only be used temporarily.

- Suggested ideas for use of Dr. Cars in health sector activities.
  Can be used in the reproductive health services and immunization campaigns.

Final Report of Dr. Car Operation

for

Pilot Survey for Disseminating SME's Technologies for Mobile Car Clinic (Doctor Car)

February 2016

Prepared by: Makkah Eye Hospital Khartoum

Table of Contents

Person in charge of this report preparation:
Hassan Abdallah Hussain , Computer Programmer
Al-Basar International Foundation (Makkah Eye Hospitals)

1. Operation Plan

Items	1st version (approved in the 1st Steering Committee) and Revised version (May 2015)	Actual
1. Basic Information		
Date of plan draft	2014/7/2 <Revised > 12/5/2015	
Name of organization	Al-Basar International Foundation (Makkah Eye Hospitals)	
Prepared by	Mr. Amir Yousif Abugroun – Planning and Projects General Manager <Revised > Mr. AbdElmonem Shwge Elsees – Director of the General Administration of hospitals	**Same**
Name and contact of persons in charge	• Project manager: Mr. Abobaida Mukhtar Perrey –Eye Camps Manager • Staffs 1: Hani Fathi Mohammed Tahir – • Staffs 2:Abdelaziz Seed Ahmed Ahmed Abdelaziz <Revised > Project manager: Mr. Hassan Abdallah Hussain – computer programmer • Staffs 1: mousa hamdan mousa	**Same**
Location of Dr. Car Storage after hand-over and person in charge	*Regional Directorate Office – Ryad Almus street, Build# 101 ,Block# 21 P.O box 12368, Fax 83- 220088/55* *Mr. Mohammed Awad, Mob#: 0923105193*	**Same**

Items	1st version (approved in the 1st Steering Committee) and Revised version (May 2015)	Actual
	<Revised > *Regional Directorate Office – Ryad Almus street, Build# 101 ,Block# 21 P.O box 12368, Fax 83- 220088/55* *Mr.* AbdElmonem Shwge Elsees	
2. Operation and management of Dr. Car		
Purpose of Dr. Car use	Mobile Free Eye Camps <Revised > Mobile Free Health days	**Same**
Expected period of operation	- Starting data: AUG.2014 - Ending data: May 2015	- Ending data: Dec 2015
Frequency and coverage of operation	Two Free Eye camps per week <Revised > Tree free healthy days per week	**Same**
Number of expected beneficiaries	* 4,000 beneficiaries per camp * 3 camps per month * 12 = 144,000 beneficiaries per year <Revised > * 200 beneficiaries per healthy day * 12 healthy day per month * 12 = 28,800 beneficiaries per year	**Same**
Description of expected members of staff	1 to 6 Doctors + 1 Manager + 3 to 10 Medical staff + 1 Driver	**Same**
Area of operation	Please specify the name of area / villages / medical centers / schools as much as you can identify	**Same**

Makkah Eye Hospital Khartoum

Items	1st version (approved in the 1st Steering Committee) and Revised version (May 2015)	Actual
	now <Revised> Khartoum state / villages / medical centers / schools / Universities.	
Participation to training	• Candidate 1:Mr. Ibrahim Omer Abdalrahim mansor – 0118555669 • Candidate 2:Mr. Mohammed Siddig Ali – 0911498180	**Same**
Utilization of PHR system *Use of other alternative recording system is acceptable if there is any difficulty in using PHR. The data items collected using either way, should covered at least the below; ✓ Number of patients treated/screened ✓ Diagnosis of each patient ✓ Dosage with the name of medicine, cost and amount ✓ Referral to distant doctor or hospital (use of ICT communication system)	***We use PHR system***	**Same**
Maintenance method of Dr. Car	• Method of maintenance: Dealing with Dal Company • Person in charge: mousa hamdan mousa	**Same**
Collection method of operation record *The below are the items should be covered	We use operation record software.	**Same**

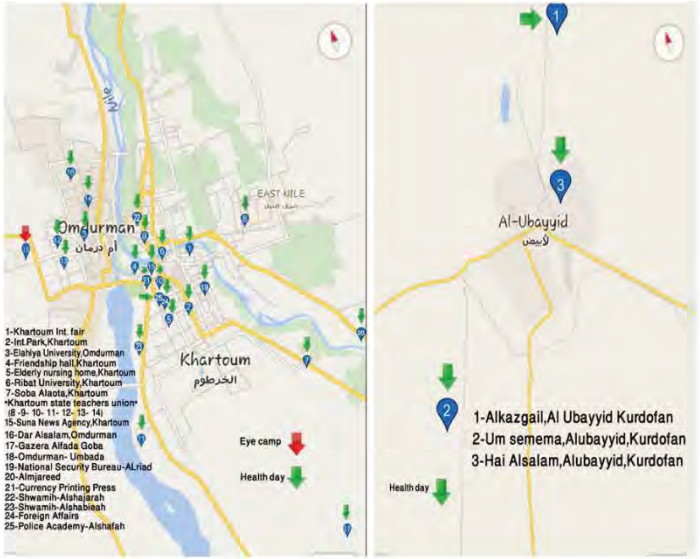
Makkah Eye Hospital Khartoum

Items	1st version (approved in the 1st Steering Committee) and Revised version (May 2015)	Actual
✓ Number of location visited (village names etc.) ✓ Number of patients at each visit ✓ Distance of drive between each visit ✓ Number of doctors and medical staff served ✓ Expenses of operation (fuel, staff cost, mobile internet, car maintenance, medicine, etc.) ✓ Findings		
Budget plan	• Expected cost required for operation: (1.308.131) sd Method of cost coverage, budget plan: By Al-Basar International Foundation.	• Expected cost required for operation: from may until oct (SDG 1,256,013.00) Method of cost coverage, budget plan: By Al-Basar International Foundation.

2. Operation Results and Conducted Activities

2.1. Summary of operation results

- Period of operation: 1 January 2015~16 November 2015
- Total days of operation: 84 days
- Total number of beneficiaries (patients):23,900 beneficiaries.
- Main service:Eye medical checkups
- Main activity areas:Khartoum

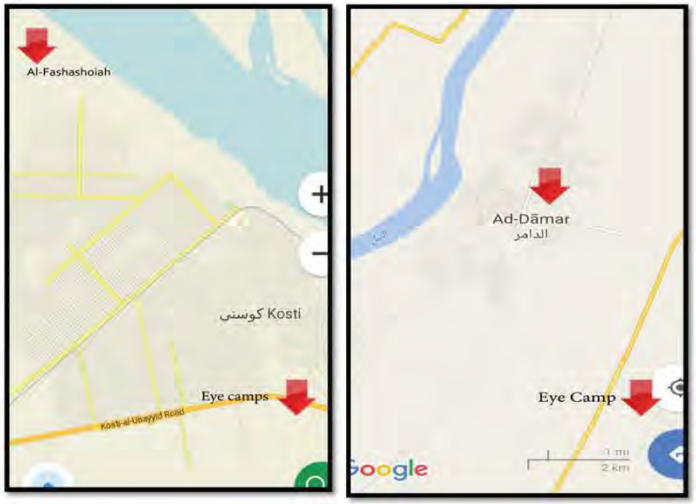


Health Days map:

#	Location name	#	Location name	#	Location name
1	**jbrah scinetific college**	14	**eed babiker**	28	**Alftihap village**
2	**Al·kalakla ·wad alagali**	15	**Customs Training Management**	29	**Kpeasha village**
3	**council of ministers**	16	**Al·Jamoeaih**	30	**Khartoum international Fair**
4	**bori al·draicah**	17	**Umm Durman Souq Libya**	31	**Al·Halfaiah**
5	**Khartoum Security Serveice Passports**	18	**Al·jeraf alslam mosque**	32	**Wad Rawah**
6	**Higher Institute of Islamic Studies**	19	**Al·Sulaymaniyah West**	33	**Khartoum Green Square**
7	**Al·Shafa·Ansar alsonah almohamadiah**	20	**Al·Yarmouk**	34	**Alti village**
8	**Genral Canter for Ansar alsonah**	21	**Customs production tax authority**	35	**Custom Authority – soba**

	almohamadiah				
9	**Wawisee Health center**	22	**Al·khojlab Health Center**	36	**Umm durman mahdi**
10	**omdurman alfath school**	23	**nile school · Al·osharah**	37	**HAC · Khartoum**
11	**Al·Laotah village**	24	**Al·Rimealah**	38	**Disabilities House·bahri**
12	**consulting services for refugees**	25	**Aljazirah qtranj**		
13	**Alfaki Hashim**	26	**Umm Durman Al·Fatih mosque**		

Eye Camps map:



#	Location name	#	Location name
1	**kosti·Alfasha shoiah**	2	**Al·Damer Camp**

2.2. Overview of the activity area

Name	Khartoum state
Population	Male: 2,800,024 , Female: 2,474,297
Location	Various locations in Khartoum state
Characteristics	Schools – villages near Khartoum – health centers – free Eye camps

2.3. Details of Activities

- From the beginning of this year until May total of 35 Healthy days and one Eye camp.
- From 07 May 2015 until 30 Oct 2015 total of 29 Healthy days and 2 free Eye camps.

(1) Health day

Health days held inside Sudan, Eye camps held inside and outside Sudan.

Health days also known as scaring days, the health days Start at 8:00 am in the most time and end's at 4:00 pm for the day, During the day be detected on patients and research on the cases can cause blindness or may be hazardous to the eye and give the patient appropriate treatment or referral to a hospital if necessary.

(2) Eye camps

Free Eye camps Last for 7 or 8 days, the difference between eye camp and health days in eye camp there's surgical operation and as know there's a Follow-up for etch Surgery To ensure its success.

(3) How was Dr. Car used (as examination room?)

If there's no peace to work in we have two ways to use Dr.car:

1: As Refraction room.

2: As a Doctor room. for Screening

3: some times as ECG room(in camps).

2.4. Operation Record

(1) Number of patients treated/screened

1) Number of patients

Month	Operation area	Operation days	Number of beneficiaries	Activity
January	Omdurman- Umbada Gazera Alfada Goba Khartoum Int. fair	12	4775	Eye Camp, Health day Khartoum Int. fair
February	Int.Park, Khartoum Friendship hall, Khartoum Elahlya University, Omdurman Elderly nursing home, Khartoum Ribat University, Khartoum	5	1294	Health day
March	Soba Alaota, Khartoum Dar Alsalam, Omdurman Khartoum state teachers union 7 centers	16	2879	Health day

Month	Operation area	Operation days	Number of beneficiaries	Activity
	Suna News Agency, Khartoum Alkazgail, Al Ubayyid , Kurdofan Um semema, Alubayyid, Kurdofan Hai Alsalam, Alubayyid, Kurdofan			
April	National Security Bureau-ALriad Almjareed Currency Printing Press	4	852	Health day
May	Shwamh-Alshabiedh Foreign Affairs Police Academy-Alshafah	3	599	Health day
	· jbrah scinetific college · council of ministers · Al-khojlab Health Center · bori al-draicah	6	1355	Health day
June	· Khartoum Security Serveice Passports · Higher Institute of Islamic Studies · Al-Shafa-Ansar alsonah almohamadiah · Genral Center for Ansar alsonah almohamadiah · Wawisee Health center · consulting services for refugees	9	2366	Health day
July				
August	· Alfaki Hashim · Eed Babiker	9	721	Health day
	· kosti-Alfasha shoiah			Eye Camp
September	· Al-Yarmouk · Customs Training Management · Uum durman Nifashqa · Al-Jamoeaih · Al-Sulaymaniyah West	5	5111	Health day
October	· Customs production tax authority	15	3948	Health day
	· Al-Damer Camp			Eye Camp
	Al-khojlab Health Center			Health day
	nile school · Al-osharah			
	Umm Durman Souq Libya			
	Al-jeraf alslam mosque			
	Al-Rimealah			
	Aljazirah qtranj			
	Umm Durman Al-Fatih			

Month	Operation area	Operation days	Number of beneficiaries	Activity
	mosque			
November	Alaftymap Village Kpeasha Village Khartoum International Fair Al-Halfaiah Wad Rawah	5	1216	Health day
December	Khartoum Green Square Alti village Customs Authority · Soba Umm durman Mahdi HAC · Khartoum disabilities House · bahri	6	1750	Health day
		Total days 95 days		Total beneficiaries 26866 patients

2) Number of patients by kind of service they received

Service type	Number of patients	Number of days
Glass	8472	54
Surgery	425	14
Total	8897 patients	68 days

3) Patients attributes

Age group	Male	Female	Total number
0-10	294	272	566
10-20	1,123	727	1,850
20-30	815	997	1,812
30-40	1,059	1,070	2,129
40-50	1,549	1,748	3,297
50-60	1,578	1,309	2,887
60-70	859	520	1,379
70-80	426	335	761
80-90	115	63	178
90-100	13	4	17
>100			0
Total	7,831	7,045	14,876

(2) Diagnosis of patients

Diagnosis	Number of patients	Note
Cataract	551	
Glaucoma	153	
Squint	290	
Others	8,995	

(3) Referral cases to distant doctor or hospital

Date	Number of patients				Referral to	Reason of referral
	Cataract	Glaucoma	Squint	Other		
07 May	1	8	4	147	Makkah Eye hospital	Required Followup
15 May	10	1	5	280	Makkah Eye hospital	Required Followup
18 May	8	7	6	613	Makkah Eye hospital	Required Followup
30 May	15	13	1	234	Makkah Eye hospital	Required Followup
03 June	2	3	10	262	Makkah Eye hospital	Required Followup
05 June	20	2	25	566	Makkah Eye hospital	Required Followup
06 June	3	1	0	193	Makkah Eye hospital	Required Followup
08 June	1	0	0	57	Makkah Eye hospital	Required Followup
09 June	8	2	3	112	Makkah Eye hospital	Required Followup
11 June	0	0	10	265	Makkah Eye hospital	Required Followup
14 June	21	6	13	535	Makkah Eye hospital	Required Followup
18 June	13	6	2	225	Makkah Eye hospital	Required Followup
08 Aug	2	0	14	218	Makkah Eye hospital	Required Followup
19 Aug	5	3	10	71	Makkah Eye hospital	Required Followup
29 Aug	2	2	14	380	Makkah Eye hospital	Required Followup
10 Sep	7	2	1	97	Makkah Eye hospital	Required Followup
18 Sep	10	5	10	175	Makkah Eye hospital	Required Followup
19 Sep	6	2	3	205	Makkah Eye hospital	Required Followup
29 Sep	21	4	20	275	Makkah Eye hospital	Required Followup
03 Oct	4	1	0	103	Makkah Eye hospital	Required Followup
09 Oct	132	22	56	1719	Makkah Eye hospital	Required Followup
11Oct	5	1	1	356	Makkah Eye hospital	Required Followup
16 Oct	16	0	27	301	Makkah Eye hospital	Required Followup
23 Oct	11	3	4	132	Makkah Eye hospital	Required Followup
26 Oct	7	4	1	88	Makkah Eye hospital	Required Followup
28 Oct	10	1	5	238	Makkah Eye hospital	Required Followup
29 Oct	20	8	9	211	Makkah Eye hospital	Required Followup
30 Oct	15	12	1	186	Makkah Eye hospital	Required Followup
07 Nov	12	5	3	60	Makkah Eye hospital	Required Followup
13 Nov	20	0	5	85	Makkah Eye hospital	Required Followup
14 Nov	8	1	1	50	Makkah Eye hospital	Required Followup
25 Nov	12	3	5	65	Makkah Eye hospital	Required Followup

Date	Number of patients				Referral to	Reason of referral
	Cataract	Glaucoma	Squint	Other		
28 Nov	25	5	5	54	Makkah Eye hospital	Required Followup
02 Dec	10	2	6	80	Makkah Eye hospital	Required Followup
05 Dec	30	5	8	145	Makkah Eye hospital	Required Followup
14 Dec	12	2	5	60	Makkah Eye hospital	Required Followup
18 Dec	9	4	4	30	Makkah Eye hospital	Required Followup
23 Dec	30	6	10	72	Makkah Eye hospital	Required Followup
27 Dec	8	2	6	50	Makkah Eye hospital	Required Followup
Total	551	153	290	8,995		
Total number of referral case					9989 cases	

2.5. Operation cost

(1) Distance of drive and fuel usage for each visit

Date	Visit location	Total number of days	Total running distance	Fuel consumption
May	4	6	648 km	840 SDG /186 Gallon
June	8	9	3080 km	3080 SDG /684 Gallon
Aug	3	9	560 km	560 SDG /124 Gallon
Sep	4	4	280 km	280 SDG /62 Gallon
Oct	9	15	5880 km	5880 SDG /1306 Gallon
Nov	5	5		
Dec	6	6		
Total	39 locations	54 days	10448 km	2962 Gallons/ 10640 SDG

In October it was a free Eye camp in Al-Damer and in June most of health days held in peripheral villages.

(2) Personnel cost

1) Typical operation team composition

Staff	Number	Average cost/day	Total
Specialist Doctor	1	900	3100 SDG / month
General Doctor	1	400	3600 SDG / month
Manager	1	400	3600 SDG / month
Refractions	2	300	2700 SDG / month
Technical	1	150	1350 SDG / month
Photographer	1	150	1350 SDG/ month
Data entry	1	150	1350 SDG/ month
Glasses official	1	100	900 SDG/ month
Driver	1	90	810 SDG/ month

total	3	2340 SDG/day	22,410SDG/month

2) Actual cost for staffing

Date (day/month)	Number									Total cost (SDG)
	Specialist Doctor	General Doctor	Manager	Technical	Refractionis	Photographer	Data entry	Glasses official	Driver	
January	12	12	12	12	24	12	12	12	12	35280 SDG
February	5	5	5	5	10	5	5	5	5	14700 SDG
March	13	13	13	13	26	13	13	13	13	38220 SDG
April	4	4	4	4	8	4	4	4	4	26460 SDG
May	9	9	9	9	18	9	9	9	9	26460 SDG
June	9	9	9	9	18	9	9	9	9	26460 SDG
July	-----	-----	-----	-----	-----	-----	-----	-----	----	-----
August	9	9	9	9	18	9	9	9	9	26460 SDG
September	4	4	4	4	8	4	4	4	4	11760 SDG
October	15	15	15	15	30	15	15	15	15	44100 SDG
November	5	5	5	5	10	5	5	5	5	11700SDG
December	6	6	6	6	12	6	6	6	6	14040SDG
Total	91	91	91	91	182	91	91	91	91	275640 SDG

(3) Dosage and other consumables used

1) Monthly

	Medicine / Vaccine	Consumables	Other cost	
May	1220	40		
June	2020	80		
July	------	-------		
August	3888	120		
September	810	40		
October	4960	170		
November	100	40		
December	100	40		

2) Medicine / Vaccine/ Glasses

Medicine	For	Unit price	Used quantity	Total
APILLERG	Eye	10.00 SDG	2525	25250.00 SDG
APICROM 4%	Eye	25.00 SDG	2295	57375.00 SDG

OPTICIN	Eye	17.75 SDG	2425	43043.75 SDG
NEODEX	Eye	25.00 SDG	2930	73250.00 SDG
BIOMYICN	Eye	10.00 SDG	2295	22950.00 SDG
PANADOL	Headache	2.00 SDG	420	840.00 SDG
PREDNISOLONE	Eye	3.00 SDG	420	1260.00 SDG
Glasses:-				
+ 0.75	Eye	35.00 SDG	1335	46725 SDG
1.25	Eye	35.00 SDG	1335	46725 SDG
+ 1.75	Eye	35.00 SDG	1335	46725 SDG
+ 2.25	Eye	35.00 SDG	1337	46795 SDG
+ 2.75	Eye	35.00 SDG	1335	46725 SDG
Total cost			457663.00 SDG	

3) Other consumables

Consumables	For	Unit price	Used quantity	Total
Gloves	Health day& camps	30 SDG	Box 30	2520.00 SDG
Bandage	camps	20 SDG	Box 7	140.00 SDG
Sterilizer	Health day& camps	60 SDG	Gallon 40	2400
Total cost			2660.00 SDG	

(4) Other cost

1) Car maintenance

Data (day/month)	Maintenance	Cost
January	Regular maintenance	600.00 SDG
February		
March		
April	Regular maintenance	600.00 SDG
May		
June		
July	Regular maintenance	600.00 SDG
August	Regular maintenance	600.00 SDG
	Change the wheel	3500.00 SDG
September		
October	Regular maintenance	600.00 SDG
November	Regular maintenance	600.00 SDG
December		
Total cost		7100.00 SDG

2) Other (Internet, staff lunch etc..)

N/A

2.6. Self-evaluation of operation

- For the large numbers of our patients the evaluation of operation until now it's good, but we have some issues it will be written in the next section.

- Our self evaluation for the overall operation is that it was efficient, the Dr. Car has helped by saving us preparation time that we before consumed in preparations for the health days and eye camps, thus covering as much areas as possible.

- Our organization plan is based on the requests we get from other parties, thus some of the differences in the operation is due to external forces. At some cases the days were cancelled while at others the Dr. Car was covering another activity and couldn't cover the planned one.

- Our organization plan is based on the requests we get from other parties, thus some of the differences in the operation is due to external forces. At some cases the days were cancelled while at others the Dr. Car was covering another activity and couldn't cover the planned one.

3. Issues and Challenges experienced during the of Operation

3.1. Issue 1: PHR usage

(1) Description of issue:

Our problem in PHR system that we can't registration all information about patients especially the diagnosis and Dosage and name of medicine because the large numbers of patients it will be Difficult to Writ all information for etch patient it will tack a lot of time.

(2) How to deal with the issue:

- To deal with the large numbers of patients we made design form used in health days and free Eye camps for Each patient :


(العنوان) (الاسم)
النوع : ذكر ☐ انثى ☐ (تاريخ الميلاد) / / (رقم الهاتف)
الحاله الاجتماعية : اعزب ☐ متزوج ☐ مطلق ☐ ارمل ☐
Specialist Name
	OD (right Eye)				OS (left Eye)			
	Sph.	Cyl.	Axis	V.A	Sph.	Cyl.	Axis	V.A
distance								
near								

Remerks
I.P.D : ☐ Cataract ☐ Glucoma ☐ Retina ☐ Pediatric ☐ Squint ☐ Cornea ☐ Others
Near

We use these function to organize patients and collection all required data about them After that we inserted in the PHR system.

4. Evaluation of Dr. Car Equipment/ Facility

4.1. Dr. Car (the vehicle itself):

We use DR. Car as a mobile clinic and it depends on patient's number and number of Dr. Car in site.

The vehicle is good, as we used in villages that had some problems in electricity and medical constriction the Dr. Car provide us a good place for work.

But there are small things need to change if it Possible:

1- The Air conditioner in the passenger's back seat.
2- The doors canter look and Electrical windows.
3- The wood cover in the back room need to be stronger.
4- The car need a front panel To increase the air flow.

2- Door center look: the door lock is so far to retch, if you want to open the door locker you well find it Difficult to reach especially win you sit in the driver seat.

4- Front panel: the car back room it's so High win we travel we face difficulty with Air dynamic and that make us use more full and lose more time.

Generally the Dr. Car mobile clinic it's Useful and effective.

4.2. Equipment in Dr. Car (Ultrasound, ECG)

The equipments in the Dr. Car it's good, but in aware medical field we use anther medical equipment and device.

4.3. PHR System

The PHR system is good to registration all medical and general information about patients, But for us it's deficit to register all information for patients like diagnosis and medical information, because it will take more time than usual and that it's not good for achievement.

5. Conclusions and Recommendations

5.1. Usefulness of Dr. Car for Eye programmed

We can say the Dr. Car give use advantage to work in villages and places that hard to reach and had poor medical attention.

- We have 100 in 10000 patients who needs surgery
- Specialist doctors are rare in remote areas.
- Lots of population has cataract, which is unnecessary blindness…. Etc…
- Sudan environment is dusty which have an impact on the eyes.

- The advantage operating with Dr. Car
  There is an overall increase in health days for Khartoum and Omdurman, but the exact comparison is difficult because our data base includes all three hospitals without differentiating the hospitals.

- the advantages of Dr. Car compared to the vehicle which Makkah has been using for health day and eye camps
  - Fuel efficiency, Car capacity, other functions etc.,
  - More service were done?(compared to the last year)

A one cabin truck was being used but it was only good for moving equipment, but the car could not protect the equipment and medicine from the rain or the sun. The car could also take only 3 staff unlike the Dr. Car.

5.2. Improvement

Add eye medical devices like (autorefractometer – projector – Ratina & Thermo scops)

5.3. Application for other usage

We can used in eye camps as surgery room if it can be larger.

Final Report of Dr. Car Operation

for

Pilot Survey for Disseminating SME's Technologies for Mobile Car Clinic (Doctor Car)

February 2016

Prepared by: Makkah Eye Hospital Gezira

Table of Contents

Person in charge of this report preparation:
Hassan Abdallah Hussain , Computer Programmer
Al-Basar International Foundation (Makkah Eye Hospitals)

Makkah Eye Hospital Gezira

1. Operation Plan

Items	1st version (approved in the 1st Steering Committee) and Revised version (May 2015)	Actual
1. Basic Information		
Date of plan draft	26.7.2015	16.11.2015
Name of organization	Al-Basar International Foundation (Makkah Eye Hospitals)	
Prepared by	Hassan Abdallah Hussain , Computer Programmer	same
Name and contact of persons in charge	• Project manager: Mr. Hassan Abdallah Hussain – computer programmer	same
Location of Dr. Car Storage after hand-over and person in charge	Makkah Eye Hospital- Madani – Airport street, Block# 277 Mr. Loay Amin	same
2. Operation and management of Dr. Car		
Purpose of Dr. Car use	To conduct Health days (Mobile clinics), Eye camps, School visitations	same
Expected period of operation	- Ending data: shall be Until December 2016.	
Frequency and coverage of operation	2days per week, 1villages per day But eye camps take around 1 week we plan to do around 2-3 camps in the coming six month. GFMP will accompany Makkah in the eye camps whenever	same

Makkah Eye Hospital Gezira

Items	1st version (approved in the 1st Steering Committee) and Revised version (May 2015)	Actual
	possible.	
Number of expected beneficiaries	Health days: 6,000 patients	same
Description of expected members of staff	2doctor + 2 Refractionist +1 technician +1 doctor assistant + 1 Glasses personnel + 1 media personnel + Project manager. 1doctor with or without 2 medical staff will join from GFMP.	same
Area of operation	El-Gaziera State	same
Participation to training	We plan to hold training sessions on how to use Dr. Car. Please show the name of candidate (at least 2 persons). Candidate 1: *Yosif mohamad noor* Candidate 2: *Obai omar hamid*	same
Utilization of PHR system *Use of other alternative recording system is acceptable if there is any difficulty in using PHR. The data items collected using either way, should covered at least the below; ✓ Number of patients treated/screened ✓ Diagnosis of each patient ✓ Dosage with the name of medicine, cost and amount ✓ Referral to distant doctor or hospital	We will use the PHR provided by AXIOHELIX	same

Makkah Eye Hospital Gezira

Items	1st version (approved in the 1st Steering Committee) and Revised version (May 2015)	Actual
(use of ICT communication system)		
Maintenance method of Dr. Car	• Method of maintenance: Regular full checkup "Monthly" • Person in charge: *Mr.* Gasim Hamad	same
Collection method of operation record *The below are the items should be covered ✓ Number of location visited (village names etc.) ✓ Number of patients at each visit ✓ Distance of drive between each visit ✓ Number of doctors and medical staff served ✓ Expenses of operation (fuel, staff cost, mobile internet, car maintenance, medicine, etc.) ✓ Findings	We use operation record software.	same

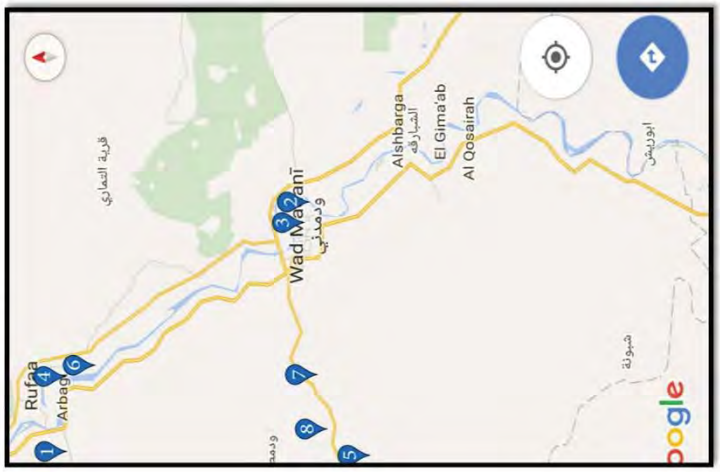
Makkah Eye Hospital Gezira

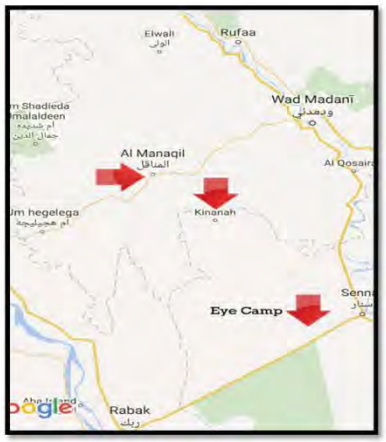
Items	1st version (approved in the 1st Steering Committee) and Revised version (May 2015)	Actual
Budget plan	<Cost bared by Makkah Hospital> Items / Amount (SDG /month/day) Personnel cost: 2250 SDG/ DAY Fuel: 250-750 SDG / DAY Regular maintenance: 850 SDG / DAY Repair and spare parts purchase: 1000 SDG / DAY Cost for Medication, consumable and equipment cost related to Makkah medical practice: 80000 SDG / DAY <Cost bared by GFMP> Items / Amount (SDG /month/day) Personnel cost: 650SD/Day Cost for Medication, consumable and equipment cost related to GFMP medical practice: 1027/day/car	Total cost : (1,205,397.5 SDG)

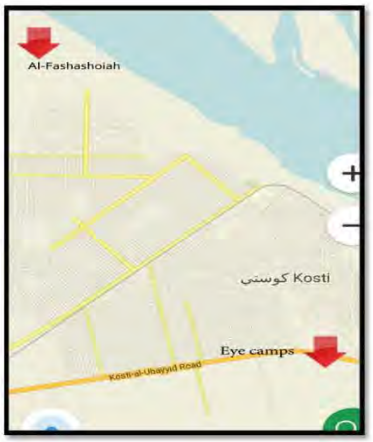
2. Operation Results and Conducted Activities

2.1. Summary of operation results

- Period of operation: 9 January 2015~15 November 2015
- Total days of operation:29
- Total number of beneficiaries (patients): **1,0614**
- Main service: Eye medical checkups
- Main activity areas: El-Gaziera State







2.2. Overview of the activity area

Name	Gezira state
Population	4,600,700 (estimation of 2015)
Location	Various locations in Gezira state
Characteristics	Villages near the Al-Gezira state and 2 free Eye camps in Al-Gezira state 1 Eye camp in Kosti.

2.3. Details of Activities

From the beginning of this year until May it was created 35 treatment day and one Eye camp.

From 04 Aug 2015 until 19 Oct 2015 total of 8 health days and 3 Eye camps

- Details of health day and camp, with typical time schedule

- Health days and camps were determined within the annual plan of the Foundation.
  Health days held inside Sudan, Eye camps held inside and outside Sudan.
  Health days also known as scaring days, the health days Start at 8:00 am in the most time and end's at 4:00 pm for the day, During the day be detected on patients and research on the cases

can cause blindness or may be hazardous to the eye and give the patient appropriate treatment or referral to a hospital if necessary.

- Free Eye camps Last for 7 or 8 days, the difference between eye camp and health days in eye camp there's surgical operation and as know there's a Follow-up for etch Surgery To ensure its success.

- How Dr. Car was used

- If there's no peace to work in we have two ways to use Dr.car:
  1: As Refraction room.
  2: As a Doctor room. for scaring.
  3: some times as ECG room (in camps).

- GFMP doctors work with us in 3 location (alkraba 07Aug – alhedeba 14 Aug - wad –alfadni 11Sept).

(1) Health day

(2) Eye Camp

2.4. Operation Record

(1) Number of patients treated/screened

1) Number of patients

Month	Operation area	Operation days	Number of beneficiaries	Activity
July				
August	• abo shinab • alkraba • alhedeba • alsharafa-baracat	11	2,644	Health day
	• kosti-alfasha shoiah(a)			Eye camp
September	• abo roos • wad –alfadni • fadacy	10	5,020	
	• kenana			Eye camp
October	• algeregreb	8	2,950	
	• algorashi-24			Eye camp
November				
December				
		Total days 29days		Total beneficiaries **10,614** patients

2) Number of patients by kind of service they received

Service type	Number of patients	Number of days
Glass	5,810	29
Surgery	1,000	21
Total	6810 patients	Total 29 days

3) Patients attributes

Age group	Male	Female	Total number
0-10	168	182	350
10-20	638	818	1,456
20-30	418	533	951
30-40	506	816	1,322
40-50	890	1,305	2,195
50-60	1,257	1,058	2,315
60-70	778	589	1,367
70-80	534	352	886
80-90	91	68	159
90-100	5	6	11
>100	1	1	2
Total	5,286	5,728	11,014

(2) Diagnosis of patients

Diagnosis	Number of patients	Note
Cataract	1920	
Glaucoma	70	

Squint	110	
Others	**8517**	

(3) Referral cases to distant doctor or hospital

Date (day/month)	Number of patients				Referral to	Reason of referral
	Cataract	Chaucoma	Squint	Other		
04 Aug	7	1	6	271	Makkah Eyehospital	Required Followup
07Aug	15	6	3	330	Makkah Eyehospital	Required Followup
14 Aug	8	6	3	527	Makkah Eyehospital	Required Followup
19 Aug	520	6	35	497	Makkah Eyehospital	Required Followup
04 Sep	5	2	0	235	Makkah Eyehospital	Required Followup
11 Sep	10	4	0	319	Makkah Eyehospital	Required Followup
18Sep	11	7	15	510	Makkah Eyehospital	Required Followup
30Sep	710	18	26	2948	Makkah Eyehospital	Required Followup
16 Oct	4	5	10	431	Makkah Eyehospital	Required Followup
19Oct	620	14	8	1858	Makkah Eyehospital	Required Followup
Total	1910	69	106	8,126		
Total number of referral case					10,211 cases	

2.5. Operation cost

(1) Distance of drive and fuel usage for each visit

Date (day/month)	Visit location	Total running distance	Fuel consumption
04 Aug	abo shinab	65 km	5 Gallon/70 SDG
07 Aug	alkraba	10 km	0Gallon/0 SDG
14 Aug	alhedeba	40 km	5Gallon/70 SDG
19 Aug	kosti-alfasha shoiah(a)	870 km	66Gallon/840 SDG
28 Aug	alsharafa-baracat	30 km	5Gallon/70 SDG
04 Sep	abo roos	115 km	10Gallon/140SDG
11 Sep	wad -alfadni	45 km	0Gallon/0 SDG
18 Sep	fadacy	22 km	5Gallon/70 SDG
30 Sep	kenana	20415 km	88Gallon/1120 SDG
16 Oct	algeregreb	40 km	5Gallon/70 SDG
19 Oct	algorashi-24	10755 km	88Gallon/1120 SDG
Total	28 days	32407 km	277 Gallons/ 3570 SDG

30 Sep and 19 Oct there was a Free Eye camp kenana and algorashi 7days for etch one including Travel from Al- Gezira to Khartoum To take equipment and from hotel to the work side every day.

(2) Personnel cost

1) Typical operation team composition

Staff	Number	Average cost/day	Total
Specialist Doctor	1	900	5400 SDG/month
General Doctor	1	400	2400SDG/month

Manager	1	400	2400 SDG/month
Refractions	2	300	1800 SDG/month
Technical	1	150	900 SDG/month
Photographer	1	150	900 SDG/month
Data entry	1	150	900SDG/month
Glasses official	1	100	600 SDG/month
Driver	1	90	540 SDG/month
total	8	2340 SDG/day	

2) Actual cost for staffing

Date (day/month)	Number									Total cost (SDG)
	Specialist Doctor	General Doctor	Manager	Technical	Refractions	Photographer	Data entry	Glasses official	Driver	
July										
August	11	11	11	11	22	11	11	11	11	25740 SDG
September	10	10	10	10	20	10	10	10	10	23400 SDG
October	8	8	8	8	16	8	8	8	8	18720 SDG
November										
December										
Total	29	29	29	29	58	29	29	29	29	67860sdg

(3) Dosage and other consumables used

1) Monthly

	Medicine / Vaccine	Consumables	Other cost	
August	4528	260		
September	4870	260		
October	690	40		

2) Medicine / Vaccine/ Glasses

Medicine	For	Unit price	Used quantity	Total
APILLERG	Eye	10.00 SDG	1850	18500.00 SDG
APICROM 4%	Eye	25.00 SDG	1600	40000.00 SDG
OPTICIN	Eye	17.75 SDG	1850	32837.5 SDG
NEODEX	Eye	25.00 SDG	2900	72500.00 SDG
BIOMYICN	Eye	10.00 SDG	1850	18500.00 SDG
PANADOL	Headache	2.00 SDG	290	580.00 SDG
PREDNISOLONE	Eye	3.00 SDG	290	870.00 SDG
Glasses:-				
+ 0.75	Eye	35.00 SDG	1162	40670.00 SDG
+ 1.25	Eye	35.00 SDG	1162	40670.00 SDG
+ 1.75	Eye	35.00 SDG	1162	40670.00 SDG
+ 2.25	Eye	35.00 SDG	1162	40670.00 SDG
+ 2.75	Eye	35.00 SDG	1162	40670.00 SDG
Total cost			387,137.5 SDG	

3) Other consumables

Consumables	For	Unit price	Used quantity	Total
Gloves	Health day& camps	30 SDG	Box 15	450.00 SDG
Bandage	camps	20 SDG	Box 5	100.00 SDG
Sterilizer	Health day& camps	60 SDG	Gallon 7	420 SDG
Total cost			970.00 SDG	

(4) Other cost

1) Car maintenance

Data (day/month)	Maintenance	Cost
August	Regular maintenance	960.00 SDG
September	Regular maintenance	960.00 SDG
October	Regular maintenance	960.00 SDG
November		
December		
Total cost		2880 SDG

2) Other (Internet, staff lunch etc.,)

N/A

2.6. Self-evaluation of operation

- For the large numbers of our patients the evaluation of operation until now it's good, but we have some issues it will be written in the next section.
- Our self-evaluation for the overall operation is that it was efficient, the Dr. Car has helped by saving us preparation time that we before consumed in preparations for the health days and eye camps, thus covering as much areas as possible.
- Our organization plan is based on the requests we get from other parties, thus some of the differences in the operation is due to external forces. At some cases the days were cancelled while at others the Dr. Car was covering another activity and couldn't cover the planned one.
- Dr. Car can saving us preparation time because most of health days and Eye camp held in Villages and places that have Issues in electricity and our Equipment depend on electricity if there's no electricity we will lose time.

3. Issues and Challenges experienced during the of Operation

3.1. Issue 1: PHR usage

(1) Description of issue:

Our problem in PHR system that we can't registration all information about patients especially the diagnosis and Dosage and name of medicine because the large numbers of patients it will be Difficult to Writ all information for etch patient it will tack a lot of time.

(2) How to deal with the issue:

To deal with the large numbers of patients we made design form used in health days and free Eye camps for each patient:

We use these function to organize patients and collection all required data about them After that we inserted in the PHR system.

4. Evaluation of Dr. Car Equipment/ Facility

4.1. Dr. Car (the vehicle itself):

We use Dr Car as a mobile clinic and it depends on patient's number and number of Dr. Car in site. The vehicle is good, as we used in villages that had some problems in electricity and medical constriction the Dr. Car provide us a good place for work. But here are small things need to change if it Possible:

1- The Air conditioner in the passenger's back seat.
2- The doors canter look and Electrical windows.
3- The wood cover in the back room need to be stronger.
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2- Door center look: the door lock is so far to retch, if you want to open the door locker you well find it Difficult to reach especially win you sit in the driver seat.

4- Front panel: the car back room it's so High win we travel we face difficulty with Air dynamic and that make us use more full and lose more time.

Generally the Dr. Car mobile clinic it's Useful and effective.

4.2. Equipment in Dr. Car (Ultrasound, ECG)

N/A

4.3. PHR System

The PHR system is good to registration all medical and general information about patients. But for us its deficit to register all information for patients like diagnosis and medical information, because it will take more time than usual and that it's not good for achievement.

5. Conclusions and Recommendations

5.1. Usefulness of Dr. Car for Eye programme

We can say the Dr. Car give use advantage to work in villages and places that hard to Reach and had poor medical attention.

5.2. Improvement

Add eye medical devices like (autoreferactometer – projector – Ratina & Thermo scops.)

5.3. Application for other usage

We can used in eye camps as surgery room if it can be more larger.

Final Report of Dr. Car Operation

for

Pilot Survey for Disseminating SME's Technologies for Mobile Car Clinic (Doctor Car)

February 2016

Prepared by: Makkah Eye Hospital Kasala

Table of Contents

Person in charge of this report preparation:

Hassan Abdallah Hussain , Computer Programmer

Al-Basar International Foundation (Makkah Eye Hospitals)

1. Operation Plan

Items	1st version (approved in the 1st Steering Committee) and Revised version (May 2015)	Actual
1. Basic Information		
Date of plan draft	2014/7/2 <Revised > 12/5/2015	16/11/2015
Name of organization	Al-Basar International Foundation (Makkah Eye Hospitals)	
Prepared by	Hassan Abdallah Hussain , Computer Programmer <Revised > Mr. AbdElmonem Shwge Elsees – Director of the General Administration of hospitals	same
Name and contact of persons in charge	Project manager: shawgi abdallah ahmed : manager • Staffs 1:wael mohamad Othman • Staffs2:mohamad awad	• same
Location of Dr. Car Storage after hand-over and person in charge	Address or name of location where Dr. Car will be stored when not used: Makkah kasala Name of person in charge of : ebrahim mohmad abdalhalim – driver	same
2. Operation and management of Dr. Car		
Purpose of Dr. Car use	Health days in Kasala state / villages / medical centers / schools	same
Expected period of operation	- Starting data: in AUG 2015.	same

Items	1st version (approved in the 1st Steering Committee) and Revised version (May 2015)	Actual
	- Ending data DEC 2015.	
Frequency and coverage of operation	Health days: 1days/ week, 1 villages per week School Health: 1school/week	same
Number of expected beneficiaries	Health days: 4,760 patients "Please see Appendix I" School health: 350students/day/week*12days = 4200 Total number= 8960	same
Description of expected members of staff	1driver + 1 media personnel + 2 refractionist + 1 medical assistant + 1 inventory personnel + 1 doctor	same
Area of operation	Kasala State.	same
Participation to training	• Candidate 1: alamaldin saifaldin • Candidate 2: ahlam edris altahir	same
Utilization of PHR system *Use of other alternative recording system is acceptable if there is any difficulty in using PHR. The data items collected using either way, should covered at least the below: ✓ Number of patients treated/screened ✓ Diagnosis of each patient	We will use the PHR provided by AXIOHELIX	***same***

Makkah Eye Hospital Kasala

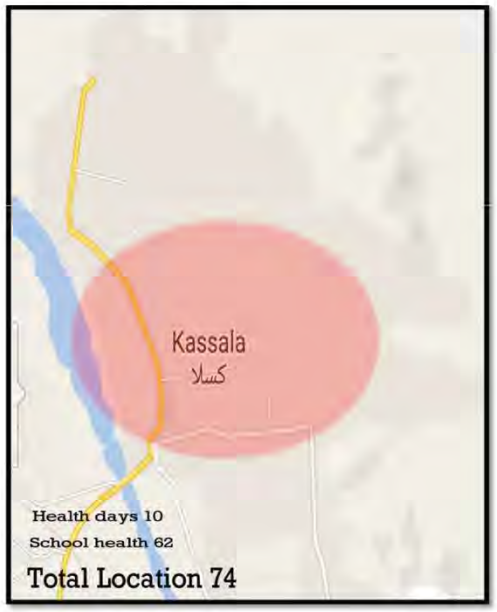
Items	1st version (approved in the 1st Steering Committee) and Revised version (May 2015)	Actual
✓ Dosage with the name of medicine, cost and amount ✓ Referral to distant doctor or hospital (use of ICT communication system)		
Maintenance method of Dr. Car	• Method of maintenance: periodic maintenance • Person in charge: ebrahim mohmad abdalhalim	• same
Collection method of operation record *The below are the items should be covered ✓ Number of location visited (village names etc.) ✓ Number of patients at each visit ✓ Distance of drive between each visit ✓ Number of doctors and medical staff served ✓ Expenses of operation (fuel, staff cost, mobile internet, car maintenance, medicine, etc.) ✓ Findings	We use operation record software.	same
Budget plan		(1,177,957.00 SDG)

Makkah Eye Hospital Kasala

2. Operation Results and Conducted Activities

2.1. Summary of operation results

- Period of operation: 30 July 2015~ 13 November 2015
- Total days of operation:28 days
- Total number of beneficiaries (patients): 10871 patients
- Main service: free Eye Health days
- Main activity areas: **Kasala state**



2.2. Overview of the activity area

Name	Kassal State
Population	2,283,054 (2015 projection by CBS)
Location	XXX km from Khartoum center, Y hours by car
Characteristics	Residential areas (peripheral) - Health centers – schools – Villages.

2.3. Details of Activities

From the beginning of this year until May it was created 35 treatment day and one Eye camp.

- Health days and camps were determined within the annual plan of the Foundation.

(1) Health day

Health days held inside Sudan, Eye camps held inside and outside Sudan.

Health days also known as scaring days, the health days Start at 8:00 am in the most time and end's at 4:00 pm for the day, During the day be detected on patients and research on the cases can cause blindness or may be hazardous to the eye and give the patient appropriate treatment or referral to a hospital if necessary.

(2) Eye camps

Free Eye camps Last for 7 or 8 days, the difference between eye camp and health days in eye camp there's surgical operation and as know there's a Follow-up for etch Surgery To ensure its success.

(3) School health

- We have a program Called **School Health** these program Targets all elementary schools. The first and fourth seventh grades, until now we finished 70 schools and we hope the remaining 75 school finished in the end of these year.

(4) How was Dr. Car used (as examination room?)

If there's no peace to work in we have two ways to use Dr. Car:

1: As Refraction room.
2: As a Doctor room for scaring.
3: some times as ECG room (in camps).

2.4. Operation Record

(1) Number of patients treated/screened

1) Number of patients

Month	Operation area	Operation days	Number of beneficiaries	Activity
July	El Halanga Center	1	288	Health day
August	New Halfa Sugar factory	4	1637	Health day
	Kassala-Aroma			
	Kassala - Wed Ahalio			
	Kassala - Akarmth			
September	Kassala - Tlecoq	2	704	Health day
	Kassala - Wad Sharifi			
October	Aweis El-garni School	12	4646	School Health
	ALsadaga School Girls			
	Almirgania School For Boys			
	The garrison - Kassala			
	El Amireya School			
	School Lubaabah			
	Anas bin Malik School			
	Arwa School			
	Ahahiqh School			
	School almazad			
	School 41Infantry brigade Boys			
	41Infantry Brigade School Girls			
	Kassala Amara			Health day
	ELrahma School			School Health
	School Dar El Salaam			
	School Umm Al Qura			
	Ameriya School Girls			
	School Mokram Boys			
	School Amna Bilal Issa			
	School Taka Boys			
	Umm Salaym School			
	El Hassan ibn Ali School			
	EL Sebtin School			
	Shahid School Babiker Ali Faki			
	Salam Middle School			
	School Dar El Naim Girls			
	El Shaheed Okasha School			
	School El Khamsa			
	Umm Ayman School			
	Huzaifah Ibn El Yaman School			
	Khawla bent El Azwar School			
	Salah El deen Elayoubi School			
	Abdel Radi Abdul Ghani School			
	Jafar El balangi School			
	Yahya Ali Yahya School			

Month	Operation area	Operation days	Number of beneficiaries	Activity
November	Abu Bakr El Siddiq School	13	4667	School Health
	Sumaya bent El Khayat School			
	School Ibn Khaldun			
	Firdous School			
	Ahmad ebn hanbal school			
	Alzahra school			
	Abo mousa alashari school			
	Abo hothifa school			
	Jewariah school			
	Alraian school			
	Umu kalthom school			
	Asiah bint mozahim school			
	Mehira bint ahod school			
	Ahmad abdalwhab school			
	Kmal moustafa school			
	Umm almumnin school			
	Bilal bin rbah school			
	Alsabil west school			
	Suhaib alromi school			
	Hajer school			
	Mastorah school			
	Alshahid Othman school			
	Alomda babeker school			
	Rabha abdaljalil school			
	Ali bin abi talib school			
	Umm sfrot school			
	Thwibah school			
	Abo dojanah school			
	Dar altaqwa school			
	Almahda school			
	Hafsah bint omar school			
	Alshahid org			Health day
	Perry any Alberno			
	Wd Sharifi Khalawi			
	Algirba			
	Zahra School			
	School Wd Sharifi (b) Girls			
	School Wd Sharifi (b) boys			
	School and Wd Sharifi (a) boys			
	Ed Ksi Boys			
	That almitagin School			
December	Alchikrah School Girls	17	1988	Health day
	School Sbdarat boys			
	Sbdarat School Girls			
	fato Mixed School			
	Omhat al,umenin School			
	Osama bin Zaid School			
	Vdasyit Boys			

Month	Operation area	Operation days	Number of beneficiaries	Activity
	Vdnayit School Girls			
	Qlsa School Girls			
	Tlawat ed Moussa School			
	Abu Bakr Siddiq School			
	Awwadat			
	Tajoj mixed			
	Ed Agulwb			
	Al Jazeera			
	Slekiaa Damer			
	Slekiaa east			
	Awad boys			
	Awadh Girls			
	Ed Master Rahim			
	Dblari Alhmdap boys			
	Dblari Alhmdap Girls			
	Umm safri			
	jmam School boys			
	Jmam School Girls			
	Macle Boys			
	Macle School Girls			
	Deghin School Boys			
	Deghin School Girls			
	'Umar ibn al-Khattab School			
	Tandalti School boys			
	Tandalti School Girls			
	Alfagr School			
	Albert akla School			
	School akla station			
	Um Karokab			
	Tagili alsoq			
	Prince Osman Digna			
	Zulnoran			
	Tandalti School boys			
	Ahmed Ali Abu Tamar			
	Um Salim Ansari			
	That alntagin			
	Umm Almomnin			
	Alhomira			
	Martyr Al-Zubair			
	Thamba			
	Mixed Rashaida			
	Farouk School Girls			
	Alshtain School			
	Shaimaa School			
	School Abu Bakr			
	Tmamtaa School East			
	School thirst			
	Tmamtaa School West			
	Hdalia Boys			
	Hdalia School Girls			

Month	Operation area	Operation days	Number of beneficiaries	Activity
	School 18 Haj Issa			
	Mtatib Boys			
	Mtatib School Girls			
	Shaimaa (b)			
	kalho school			
	Saboon School			
	Aweb School boys			
	Aweb School Girls			
	Masgi 18 School			
		Total days 49 days		Total beneficiaries 14,163 patients

2) Number of patients by kind of service they received

Service type	Number of patients	Number of days
Glass	7330	28 days
Surgery	744	28 days
Total	7904 patients	28 days

3) Patients attributes

Age group	Male	Female	Total number
0-10	239	305	544
10-20	614	607	1,221
20-30	129	129	258
30-40	203	198	401
40-50	325	322	647
50-60	408	204	612
60-70	238	120	358
70-80	156	58	214
80-90	33	14	47
90-100	5	2	7
>100	1	0	1
Total	2,351	1,959	4,310

(2) Diagnosis of patients

Diagnosis	Number of patients	Note
Cataract	208	
Glaucoma	49	
Squint	535	
Others	8,621	

(3) Referral cases to distant doctor or hospital

Date	Number of patients				Referral to	Reason of referral
	Cataract	Glaucoma	Squint	Other		
31 Jul	19	4	2	263	Makkah Eye hospital	Required Followup
Aug7	8	3	1	443	Makkah Eye hospital	Required Followup
Aug14	2	5	3	390	Makkah Eye hospital	Required Followup

Date	Number of patients				Referral to	Reason of referral
	Cataract	Glaucoma	Squint	Other		
Aug21	6	0	1	385	Makkah Eye hospital	Required Followup
Aug28	10	1	0	379	Makkah Eye hospital	Required Followup
Sep4	9	5	9	206	Makkah Eye hospital	Required Followup
Sep11	21	7	9	438	Makkah Eye hospital	Required Followup
Oct12	0	0	20	141	Makkah Eye hospital	Required Followup
Oct13	0	0	2	165	Makkah Eye hospital	Required Followup
Oct14	0	0	0	100	Makkah Eye hospital	Required Followup
Oct17	7	4	1	202	Makkah Eye hospital	Required Followup
Oct18	3	1	4	108	Makkah Eye hospital	Required Followup
Oct18	2	0	9	179	Makkah Eye hospital	Required Followup
Oct19	0	0	0	150	Makkah Eye hospital	Required Followup
Oct19	2	0	2	247	Makkah Eye hospital	Required Followup
Oct19	0	0	0	30	Makkah Eye hospital	Required Followup
Oct20	0	0	0	50	Makkah Eye hospital	Required Followup
Oct20	1	0	0	20	Makkah Eye hospital	Required Followup
Oct20	0	0	0	10	Makkah Eye hospital	Required Followup
Oct23	3	1	3	100	Makkah Eye hospital	Required Followup
Oct25	0	0	0	50	Makkah Eye hospital	Required Followup
Oct25	1	0	2	30	Makkah Eye hospital	Required Followup
Oct25	0	0	0	15	Makkah Eye hospital	Required Followup
Oct26	0	0	0	5	Makkah Eye hospital	Required Followup
Oct26	1	0	5	50	Makkah Eye hospital	Required Followup
Oct26	3	1	1	60	Makkah Eye hospital	Required Followup
Oct26	0	0	0	10	Makkah Eye hospital	Required Followup
Oct27	0	0	0	20	Makkah Eye hospital	Required Followup
Oct27	0	0	0	12	Makkah Eye hospital	Required Followup
Oct27	0	0	2	30	Makkah Eye hospital	Required Followup
Oct27	3	0	3	11	Makkah Eye hospital	Required Followup
Oct27	0	0	0	2	Makkah Eye hospital	Required Followup
Oct27	1	0	2	4	Makkah Eye hospital	Required Followup
Oct28	0	0	0	22	Makkah Eye hospital	Required Followup
Oct28	0	0	10	7	Makkah Eye hospital	Required Followup
Oct28	5	1	2	50	Makkah Eye hospital	Required Followup
Oct28	0	0	0	10	Makkah Eye hospital	Required Followup
29 Oct	0	0	0	4	Makkah Eye hospital	Required Followup
29 Oct	0	0	12	0	Makkah Eye hospital	Required Followup
29 Oct	4	0	1	22	Makkah Eye hospital	Required Followup
29 Oct	0	0	2	44	Makkah Eye hospital	Required Followup
29 Oct	0	0	0	0	Makkah Eye hospital	Required Followup
1 Nov	1	2	22	100	Makkah Eye hospital	Required Followup
1 Nov	0	0	23	150	Makkah Eye hospital	Required Followup
1 Nov	0	0	0	0	Makkah Eye hospital	Required Followup
1 Nov	2	0	0	5	Makkah Eye hospital	Required Followup
2 Nov	0	0	0	0	Makkah Eye hospital	Required Followup
2 Nov	0	0	0	5	Makkah Eye hospital	Required Followup
2 Nov	2	0	2	9	Makkah Eye hospital	Required Followup
4 Nov	2	0	5	25	Makkah Eye hospital	Required Followup
4 Nov	0	0	10	20	Makkah Eye hospital	Required Followup
4 Nov	3	0	0	90	Makkah Eye hospital	Required Followup
4 Nov	5	1	6	100	Makkah Eye hospital	Required Followup

Date	Number of patients				Referral to	Reason of referral
	Cataract	Glaucoma	Squint	Other		
8 Nov	0	0	20	50	Makkah Eye hospital	Required Followup
8 Nov	3	0	2	120	Makkah Eye hospital	Required Followup
8 Nov	0	1	22	24	Makkah Eye hospital	Required Followup
8 Nov	0	0	0	3	Makkah Eye hospital	Required Followup
9 Nov	0	0	0	15	Makkah Eye hospital	Required Followup
9 Nov	0	0	20	22	Makkah Eye hospital	Required Followup
9 Nov	0	0	1	2	Makkah Eye hospital	Required Followup
9 Nov	2	1	0	5	Makkah Eye hospital	Required Followup
9 Nov	5	0	10	40	Makkah Eye hospital	Required Followup
10 Nov	0	0	0	10	Makkah Eye hospital	Required Followup
10 Nov	0	0	5	13	Makkah Eye hospital	Required Followup
10 Nov	2	0	2	4	Makkah Eye hospital	Required Followup
10 Nov	0	0	0	0	Makkah Eye hospital	Required Followup
10 Nov	0	0	5	10	Makkah Eye hospital	Required Followup
11 Nov	4	1	1	50	Makkah Eye hospital	Required Followup
11 Nov	0	0	40	11	Makkah Eye hospital	Required Followup
11 Nov	0	0	11	27	Makkah Eye hospital	Required Followup
11 Nov	3	0	13	50	Makkah Eye hospital	Required Followup
12 Nov	2	1	2	100	Makkah Eye hospital	Required Followup
12 Nov	1	0	1	90	Makkah Eye hospital	Required Followup
13 Nov	2	2	0	156	Makkah Eye hospital	Required Followup
23 Nov	3	1	6	180	Makkah Eye hospital	Required Followup
25 Nov	5	0	4	191	Makkah Eye hospital	Required Followup
27 Nov	20	6	12	512	Makkah Eye hospital	Required Followup
30 Nov	0	0	3	10	Makkah Eye hospital	Required Followup
30 Nov	0	0	0	12	Makkah Eye hospital	Required Followup
30 Nov	1	0	3	22	Makkah Eye hospital	Required Followup
30 Nov	0	0	0	12	Makkah Eye hospital	Required Followup
30 Nov	0	0	0	14	Makkah Eye hospital	Required Followup
30 Nov	0	0	0	15	Makkah Eye hospital	Required Followup
1 Dec	1	0	6	93	Makkah Eye hospital	Required Followup
1 Dec	0	0	0	36	Makkah Eye hospital	Required Followup
1 Dec	1	0	10	87	Makkah Eye hospital	Required Followup
1 Dec	0	0	0	23	Makkah Eye hospital	Required Followup
2 Dec	2	0	1	61	Makkah Eye hospital	Required Followup
2 Dec	0	0	0	37	Makkah Eye hospital	Required Followup
2 Dec	1	0	3	34	Makkah Eye hospital	Required Followup
2 Dec	0	0	0	23	Makkah Eye hospital	Required Followup
3 Dec	0	0	0	26	Makkah Eye hospital	Required Followup
3 Dec	0	0	3	52	Makkah Eye hospital	Required Followup
3 Dec	1	0	0	41	Makkah Eye hospital	Required Followup
6 Dec	0	0	0	26	Makkah Eye hospital	Required Followup
6 Dec	0	0	1	21	Makkah Eye hospital	Required Followup
6 Dec	1	0	1	18	Makkah Eye hospital	Required Followup
6 Dec	0	0	0	16	Makkah Eye hospital	Required Followup
7 Dec	1	0	5	24	Makkah Eye hospital	Required Followup
7 Dec	0	0	0	30	Makkah Eye hospital	Required Followup
7 Dec	0	0	2	29	Makkah Eye hospital	Required Followup
7 Dec	0	0	0	25	Makkah Eye hospital	Required Followup
7 Dec	0	0	0	30	Makkah Eye hospital	Required Followup

Date	Number of patients				Referral to	Reason of referral
	Cataract	Glaucoma	Squint	Other		
8 Dec	0	0	0	19	Makkah Eye hospital	Required Followup
8 Dec	1	0	6	28	Makkah Eye hospital	Required Followup
8 Dec	0	0	2	18	Makkah Eye hospital	Required Followup
9 Dec	0	0	0	13	Makkah Eye hospital	Required Followup
9 Dec	2	0	2	41	Makkah Eye hospital	Required Followup
9 Dec	0	0	5	21	Makkah Eye hospital	Required Followup
9 Dec	1	0	10	52	Makkah Eye hospital	Required Followup
10 Dec	0	0	2	46	Makkah Eye hospital	Required Followup
10 Dec	0	0	0	12	Makkah Eye hospital	Required Followup
10 Dec	0	0	0	26	Makkah Eye hospital	Required Followup
10 Dec	1	0	1	54	Makkah Eye hospital	Required Followup
10 Dec	0	0	6	50	Makkah Eye hospital	Required Followup
10 Dec	0	0	0	38	Makkah Eye hospital	Required Followup
13 Dec	0	0	0	26	Makkah Eye hospital	Required Followup
13 Dec	3	0	3	28	Makkah Eye hospital	Required Followup
13 Dec	1	0	2	23	Makkah Eye hospital	Required Followup
13 Dec	0	0	0	20	Makkah Eye hospital	Required Followup
14 Dec	2	0	1	43	Makkah Eye hospital	Required Followup
14 Dec	0	0	6	62	Makkah Eye hospital	Required Followup
14 Dec	1	0	1	46	Makkah Eye hospital	Required Followup
14 Dec	2	0	2	49	Makkah Eye hospital	Required Followup
15 Dec	0	0	0	26	Makkah Eye hospital	Required Followup
15 Dec	0	0	0	12	Makkah Eye hospital	Required Followup
15 Dec	0	0	1	28	Makkah Eye hospital	Required Followup
15 Dec	0	0	3	20	Makkah Eye hospital	Required Followup
16 Dec	0	0	0	26	Makkah Eye hospital	Required Followup
16 Dec	2	1	5	38	Makkah Eye hospital	Required Followup
17 Dec	0	0	0	14	Makkah Eye hospital	Required Followup
17 Dec	0	0	1	14	Makkah Eye hospital	Required Followup
17 Dec	0	0	5	30	Makkah Eye hospital	Required Followup
17 Dec	0	0	0	31	Makkah Eye hospital	Required Followup
20 Dec	0	0	0	18	Makkah Eye hospital	Required Followup
20 Dec	0	0	0	20	Makkah Eye hospital	Required Followup
20 Dec	0	0	2	15	Makkah Eye hospital	Required Followup
20 Dec	0	0	1	13	Makkah Eye hospital	Required Followup
20 Dec	1	0	2	27	Makkah Eye hospital	Required Followup
20 Dec	1	1	4	33	Makkah Eye hospital	Required Followup
21 Dec	0	0	0	45	Makkah Eye hospital	Required Followup
21 Dec	0	0	10	28	Makkah Eye hospital	Required Followup
21 Dec	1	0	3	38	Makkah Eye hospital	Required Followup
22 Dec	3	0	0	32	Makkah Eye hospital	Required Followup
22 Dec	0	0	0	27	Makkah Eye hospital	Required Followup
23 Dec	2	0	3	36	Makkah Eye hospital	Required Followup
23 Dec	0	0	0	20	Makkah Eye hospital	Required Followup
23 Dec	0	0	1	22	Makkah Eye hospital	Required Followup
Total number of referral case						9541 cases

2.5. Operation cost

(1) Distance of drive and fuel usage for each visit

Date	Visit location	Total running distance	Fuel consumption
July	1	2 km	70 SDG/ 5gallon
August	4	246 km	70 SDG/ 5gallon
September	2	118 km	00 Gallon
October	13	67 km	70 SDG/ 5gallon
November	41	200 km	70 SDG/ 5gallon
December	66	200 km	70 SDG/ 5gallon
Total	51days	772 km	25 Gallons/ 350 SDG

*200 km for Nov. and Dec. is approximate.

(2) Personnel cost

1) Typical operation team composition

Staff	Number	Average cost/day	Total
Specialist Doctor	1	900	3600 SDG / month
General Doctor	1	400	1600 SDG / month
Manager	1	400	1600 SDG / month
Refractions	2	300	1200 SDG / month
Technical	1	150	600 SDG / month
Photographer	1	150	600 SDG/ month
Data entry	1	150	600 SDG/ month
Glasses official	1	100	400 SDG/ month
Driver	1	90	360 SDG/ month
total	8	2340 SDG/day	10560 SDG/month

2) Actual cost for staffing

Date	Number									Total cost (SDG)
	Specialist Doctor	General Doctor	Manager	Technical	Refractions	Photographer	Data entry	Glasses official	Driver	
July	1	1	1	1	2	1	1	1	1	2340 SDG
August	4	4	4	4	8	4	4	4	4	9360 SDG
September	2	2	2	2	4	2	2	2	2	4680SDG
October	13	13	13	13	26	13	13	13	13	30420 SDG
November	13	13	13	13	26	13	13	13	13	30420SDG
December	17	17	17	17	34	17	17	17	17	39780SDG
Total	50	50	50	50	92	50	50	50	50	117000 SDG

(3) Dosage and other consumables used

1) Monthly

	Medicine / Vaccine	Consumables	Other cost	
July	310	20		
August	1390	80		
September	660	40		
October	4726	684		
November	3837	548		
December	4200	600		

2) Medicine / Vaccine/ Glasses

Medicine	For	Unit price	Used quantity	Total
APILLERG	Eye	10.00 SDG	2205	2215.00 SDG
APICROM 4%	Eye	25.00 SDG	1977	49425.00 SDG
OPTICIN	Eye	17.75 SDG	2222	39440.5 SDG
NEODEX	Eye	25.00 SDG	3347	83675.00 SDG
BIOMYICN	Eye	10.00 SDG	1972	1982.00 SDG
PANADOL	Headache	2.00 SDG	686	1372.00 SDG
PREDNISOLONE	Eye	3.00 SDG	686	2058.00 SDG
Glasses:-				
+ 0.75	Eye	35.00 SDG	1466	51310.00 SDG
+ 1.25	Eye	35.00 SDG	1466	51310.00 SDG
+ 1.75	Eye	35.00 SDG	1466	51310.00 SDG
+ 2.25	Eye	35.00 SDG	1466	51310.00 SDG
+ 2.75	Eye	35.00 SDG	1466	51310.00 SDG
Total cost			346707.00 SDG	

3) Other consumables

Consumables	For	Unit price	Used quantity	Total
Gloves	Health day	30 SDG	Box 2	60.00 SDG
Sterilizer	Health day	60 SDG	Gallon 2	120.00 SDG
Total cost			180 SDG	

(4) Other cost

1) Car maintenance

Data (day/month)	Maintenance	Cost
July	Regular maintenance	980 SDG
August		
September		
October	Regular maintenance	980SDG
November		
December	Regular maintenance	980SDG
Total cost		2940 SDG

2) Other (Internet, staff lunch etc..)

N/A

2.6. Self-evaluation of operation

- For the large numbers of our patients the evaluation of operation until now it's good, but we have some issues it will be written in the next section.
- Our self evaluation for the overall operation is that it was efficient, the Dr. Car has helped by saving us preparation time that we before consumed in preparations for the health days and eye camps, thus covering as much areas as possible.

  Dr. Car can saving preparation time because most of health days and Eye camp held in Villages and places that have Issues in electricity and our Equipments depend on electricity if there's no electricity we will lose time.

- Our organization plan is based on the requests we get from other parties, thus some of the differences in the operation is due to external forces. At some cases the days were cancelled while at others the Dr. Car was covering another activity and couldn't cover the planned one.

3. Issues and Challenges experienced during the of Operation

3.1. Issue 1: PHR usage

3.2. Description of issue:

Our problem in PHR system that we can't registration all information about patients especially the diagnosis and Dosage and name of medicine because the large numbers of patients it will be Difficult to Writ all information for etch patient it will tack a lot of time.

(1) How to deal with the issue:

To deal with the large numbers of patients we made design form used in health days and free Eye camps for each patient:

We use these function to organize patients and collection all required data about them After that we inserted in the PHR system.

4. Evaluation of Dr. Car Equipment/ Facility

4.1. Dr. Car (the vehicle itself):

We use DR. Car as a mobile clinic and it depends on patient's number and number of Dr. Car in site. The vehicle is good, as we used in villages that had some problems in electricity and medical constriction the Dr. Car provide us a good place for work.

But there are small things need to change if it Possible:

1- The Air conditioner in the passenger's back seat.
2- The doors canter look and Electrical windows.
3- The wood cover in the back room need to be stronger
4- The car need a front panel To increase the air flow.

2- Door center look: the door lock is so far to retch, if you want to open the door locker you well find it Difficult to reach especially win you sit in the driver seat.
4- Front panel: as you know the car back room it's so High win we travel we face difficulty with Air dynamic and that make us use more full and lose more time.

Generally the Dr. Car mobile clinic it's Useful and effective.

4.2. Equipment in Dr. Car (Ultrasound, ECG)

Have not been used

4.3. PHR System

The PHR system is good to registration all medical and general information about patients. But for us it's deficit to register all information for patients like diagnosis and medical information, because it will take more time than usual and that it's not good for achievement.

5. Conclusions and Recommendations

5.1. Usefulness of Dr. Car for Eye programme

We can say the Dr. Car give use advantage to work in villages and places that hard to reach and had poor medical attention.

- Importance of Dr. Car for eye care

- We have approximately100 in 10,000 patients who needs surgery
- Specialist doctors are rare in remote areas.
- Lots of population has cataract, which is unnecessary blindness…. Etc….
- Sudan environment is dusty which have an impact on the eyes

- The advantage operating with Dr. Car

With the Dr. Car there was an increase in the number of health days. But the exact comparison of attributes is difficult because our data base includes all three hospitals without differentiating the hospitals.

- Advantages of Dr. Car compared to the vehicle which Makkah has been using for health day and eye camps

The same one cabin truck that was being used in Khartoum was used in Kassala State but it was only good for moving equipment, but the car could not protect the equipment and medicine from the rain or the sun. The car could also take only 3 staff unlike the Dr. Car.

5.2. Improvement

Add eye medical devices like (autoreferactometer - projector - Ratina & Thermo scops)

5.3. Application for other usage

We can used in eye camps as surgery room if it can be larger.

Final Report of Dr. Car Operation

for

Pilot Survey for Disseminating SME's Technologies for Mobile Car Clinic (Doctor Car)

December 2015

Prepared by: Gezira Family Medicine Project

Table of Contents

Person in charge of this report preparation:
Rana Samir Mahmoud, Family Physician
Gezira Family Medicine Program

1. Operation Plan

Items	1st version (approved in the 1st Steering Committee) and Revised version	Actual Operation
1. Basic Information		
Date of plan draft	8th August 2014 Revised on 14th May 2014	16th November 2015
Name of organization	Gezira family medicine project	
Prepared by	Dr.Sameh Aiash Talab <Revised> Dr. Rana Samir Mahmoud	Dr. Rana Samir Mahmoud
Name and contact of persons in charge	Project Manager:Dr.Abdelnasir Ahmed Abuzeid <Revised> Project Manager:Dr.Abdelnasir Ahmed Abuzeid	same
Location of Dr. Car Storage after hand-over and person in charge	Ministry of health/Malaria Program Building	2 canter at Makkah eye hospital (gezira) 1 canter at Alsaiem eye hospital (gezira) 1 HiAce at NCI (National Cancer Institute) Madani Cancer Hospital
2. Operation and management of Dr. Car		
Purpose of Dr. Car use	Dr.Car will be involved in conducting the following activities · Mobile Clinics · Home Visits	Same **Plus** • Eye care mobile clinics and camps

Items	1st version (approved in the 1st Steering Committee) and Revised version	Actual Operation
	· School health activities · Health Education Campaign	• Blood donation campaigns
Expected period of operation	Operation period will be 9 month staring from the 1st of September 2014 – 30th may 2015 <Revised> - Starting date:1st of June 2015 - Ending date :31st of December 2015	- Starting date:4th of November 2014 - Ending date :31st of December 2015
Frequency and coverage of operation	Working days will be 4 days per week covering 1 village per day . It is difficult to work on more than one village a day due to fall season, bad roads and large number of people who need to be covered with service. <Revised> Working days will be 3 days / week Working at 1village /day	Working days are 2 - 11 days / month Working at one village or one location per day
Number of expected beneficiaries	Expected number of people who will benefit from the service will be 4,000 person/ week. Total number of expected beneficiaries in 9month will be 36,000 people/ car <Revised> Expected number of beneficiaries are: • 50-100 person/day/car • 600-1200 person/week	Actual number of beneficiaries are: **Mobile clinics** • 20 - 400 Person/day/car • 50-1600 Person/month **Home visits** • 3-15 person/day/car • 10-70 person /month Note: Joined clinics (medical + eye care clinics)

Items	1st version (approved in the 1st Steering Committee) and Revised version	Actual Operation
	• 4,200-8,400 people/car/ in 7 month	beneficiaries reached up to 667 person /day/car
Description of expected members of staff	The four operating team(s),will consist of 2 doctors, 2 medical staff and 1 driver	• Doctors (1-4) • Medical staff (2-3) • Driver (1) • Clerk (1)
Area of operation	Dr. Car will operate in the 8 localities of gezira state. The name of localities, and health centers.	Mobile clinics have operated in four localities of gezira state
Participation to training	1. Dr:Sameh Aiash Talab Email :sameh.aiash@hotmail.com Tel: +291123826900 2. Dr. Rana Samir Mahmoud Email:familymed52@gmail.com Tel:+294902544564	same
Utilization of PHR system *Use of other alternative recording system is acceptable if there is any difficulty in using PHR. The data items collected using either way, should covered at least the below; ✓ Number of patients treated/screened ✓ Diagnosis of each patient	*We will use the PHR system*	*PHR + Patients Forms*

Items	1st version (approved in the 1st Steering Committee) and Revised version	Actual Operation
✓ Dosage with the name of medicine, cost and amount ✓ Referral to distant doctor or hospital (use of ICT communication system)		
Maintenance method of Dr. Car	• Method of maintenance: • Person in charge:	
Collection method of operation record *The below are the items should be covered ✓ Number of location visited (village names etc.) ✓ Number of patients at each visit ✓ Distance of drive between each visit ✓ Number of doctors and medical staff served ✓ Expenses of operation (fuel, staff cost, mobile internet, car maintenance, medicine, etc.) ✓ Findings	*We will use operation record software and Excel sheet.*	PHR and Excel sheet

Items	1st version (approved in the 1st Steering Committee) and Revised version	Actual Operation
Budget plan	・ Expected cost required for operation: 90,808 SG to operate 5 cars for 1 month ・ Method of cost coverage, budget plan: To cover our budget expenses we plan to do the following: 1. Use tickets for doctors appointment and lab test (10 SG & 5 SG) 2. Use the profit margin from selling the drugs to keep the project running 3. Conduct clinics activities in coordination with other organizations and Local health departments.	• Estimated cost for running Dr. car is 22,000 SG/ Car/ month

Map of operation (this is a map of suggested areas for operation outside the center of gezira state)

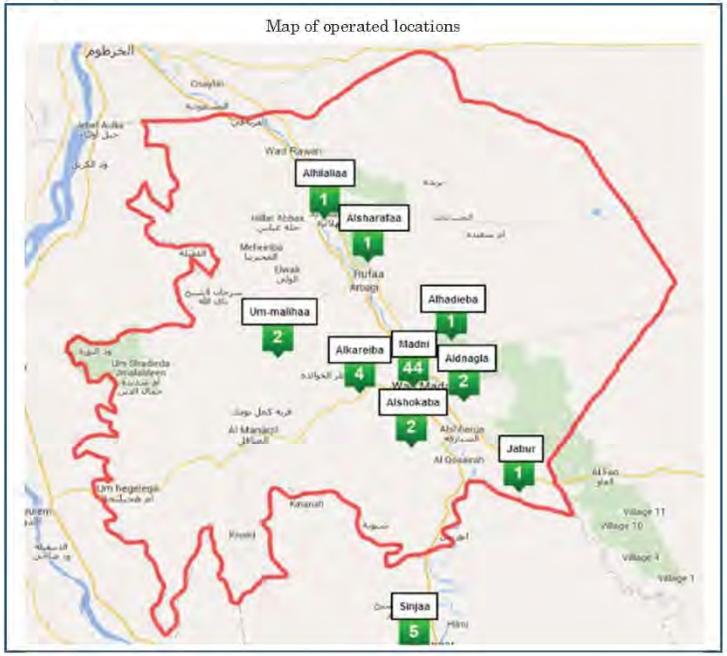
2. Operation Progress and Conducted Activities

2.1. Summary of operation Results

- Period of operation: **4th** of November 2014~ **31st** December 2015
- Total days of operation: **64 days**
- Total number of beneficiaries (patients): **5,765 person**
- Main service: Mobile clinics and home visits
- Main activity areas: Great Wad Madani, East and south gezira, Alhasahisa

This is a map of the actual operational areas which are located around the center of gezira state, the difference is justified by the changes we made on operational plans to overcome the challenges we faced and the budget limitation.

Map of operated locations



2.2. Overview of the activity area

Name	Gezira state
Population	4,600,700 (2015 estimation)
Location	Different locations (Great Wad Madani, East and south gezira, Alhasahisa)
Characteristics of the area	Wad Medani center, residential area villages

2.3. Details of Activities

- Mobile clinics conducted in 58 areas in coordination with different organizations

(1) Mobile Clinics

Mobile clinics activities are planned to be conducted mainly in rural areas where the basic health care services are lacking. GFMP plan was to operate in the eight localities of gezira state in coordination with the local health departments. The plan has specific steps

- Data collection and community assessment in each locality (no of villages, total no of population, age sex register, presence of health care facilities and staff)
- Planning of service
- Implementation of service
- Data analysis and evaluation of results

Data collection was not successful therefore the plan was changed and we requested from each locality a list of suggested areas to operate. Unfortunately and due to fund issues we did work only in four localities in coordination with local health departments, the community and local organizations to minimize our expenses and keep the project running.

1) Details of mobile clinics activities

- Mobile clinics activities represents about 31.7% of all Dr. car activities in gezira state
- Clinics work include routine checkup, Some bedside tests and free medications
- The number of operating team differ according to location, type of activity and allocated budget for the activity.
- The mobile clinic is also used for
  1. Fitness check up for pilgrims
  2. campaign for testing , treat and health educate school children about malaria
  3. In a collaboration with Mycetoma hospital Dr car is used to increase public awareness about Mycetoma and encourage patients to seek help.
- All mobile clinics activity conduced during operation period are free of charge.

To minimize the running cost of operating Dr.car and to increase the number of beneficiaries a collaboration agreement was signed between GFMP and three hospitals (Makkah eye hospital, Alsaiem eye hospital and the National cancer institute).

Working with Makkah eye hospital was very effective and the total number of beneficiaries was more than expected and reach about 400-600/day. The objective was to deliver a more comprehensive services with a possibility of onsite referrals.

- Some of mobile clinics activities were conducted for publicity and getting political and community support like participation in public events where there is big crowds (IFK, Celebrating the president visit to gezira, States information and communication gathering at kassala and some other government gatherings.

People waiting for registration and consultation

People waiting for registration and consultation inside a health center

The Clinics

Mobile clinics on the road inside and out side the city

Patients review in side Dr.Car by GPs and eye care team

Patients review by eye care team inside a health center

Registration of patients Data in the PHR system

Children waiting for review and getting check up by Dr. car team

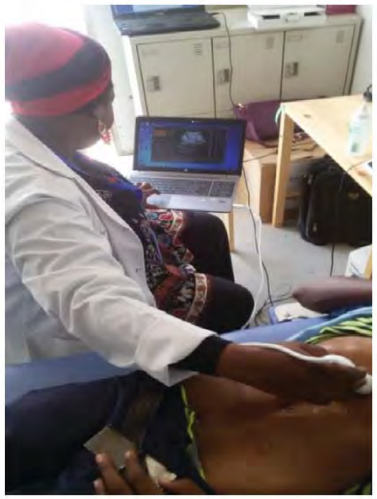
Test patients for blood glucose and Malaria by the treating Physician in side Dr.Car




Doing ECG for a young patient in side Dr Car.

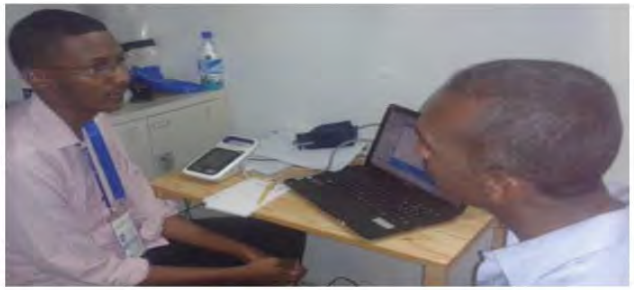

Writing a patient prescription by mobile clinic staff


Use of Dr.Car equipments (ultrasound) for patient assessment

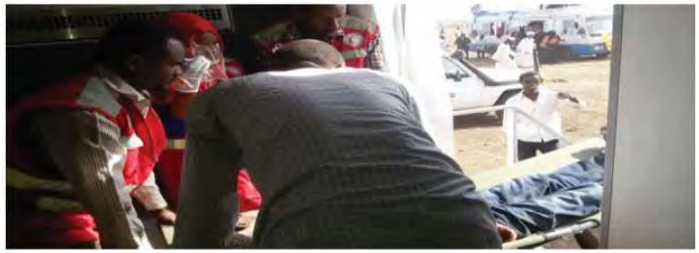


Participation in public events

Khartoum International Fair (Jan 2015)

Giving acute care to the crowd celebrating the president visit to Gezira State (Alkareiba 2015)



Participation in the 13th informatics Forum (kassala2015)

Caring for school children's during routine clinics days

(2) Home visits

Are conducted as part of tow running programs

1) GEZIRA GERIATRICS CARE PROGRAM (GGCP)

Gezira Geriatrics care program (GGCP) is an outreach program focuses mainly on providing preventive,

promotive and curative home based, primary care services to the seniors at gezira state. It aims to improve the quality of health care services provided to the elderly at primary care level. To achieve this goal a module for geriatrics care was developed by GFMP to train family medicine residents on how to care for the elderly and a soft copy was made available to the residents for use at GFMP web site. The service is physician conducted home visits provided to the target population (the geriatrics) free of charge.

The target age group are 65 y of age and older. Those who need the service are selected by family medicine residents from a list of all the seniors in the catchment area. Type of service is based on clients needs.

Services provided are routine history taking and physical examination, medication review , some bed side test like (RBS, ICT MALARIA,ECG,U/S and URINE TEST FOR SUGER AND ACETON) in addition to specialist referrals and psychosocial evaluation using a check list.

Patients can get the service either by

- Directly by contacting GFMP office through the free number1360, the office usually contact the GP working in the area to review the patient and assess the need for home visit using Dr Car.
- Family medicine residents already have a list of all the seniors in the area, from the list and through routine clinic work they know who is in need of the service. Sometimes the doctors are reached by relatives or the head of local committee (especially to provide the for elderly who live alone)

Importance

The value of this program came as a result of the great changes in the health system and the introduction of family medicine program, the number of geriatrician in the area is limited and there is a shift towards family medicine as the base of primary care services at gezira state, this means caring for older people in the community will be the responsibility of family physicians through in office and out hours visits

Use of Dr.Car was a cornerstone for implementation of the program

Home visits photos from inside and outside the city

2) ***CANCER PATIENTS HOME CARE PROGRAM***

This program is the product of collaboration between GFMP and National Cancer Institute (NCI) on use of Dr. Car. The objectives of this Program are

- To provide palliative care services to terminal cancer patients at home
- To minimize the burden and patients load on cancer hospital.
- To train family medicine residents on palliative care

A home care team was selected by NCI to operate under the Palliative Care Unit and cases which need home care are referred to the team by the treating oncologist, the team consist of a physician, Nurse, other medical staff (nutritionist, psychologist and social worker) and car driver. Services provided are routine care, pain killer medications, Dressing, Psychosocial evaluation and counseling and health education.

In coordination with gezira university students society and NCI a blood donation campaign was conducted and they collect blood for cancer patients from 48 donors (especially for patients with rare blood group type).

Home Care of cancer patients by NCI team(from palliative care unit)

Gezira university students donating blood for Cancer Patients at NCI

2.4. Operation Record

(1) Number of patients treated/screened

1) Number of patients

Month	Operation area	Operation days	Number of beneficiaries	Activity
November	Alshukaba Shaa Aldein Aldanaglla	2	130	Mobile Clinic
December	Hilat Rudwan Hilat Rudwan Alandalus	3	139	Mobile Clinic
January	Sinjaa Jabur Alhilaliaa Alhilaliaa IFK (Khm)	5	394	Mobile Clinic
February	Alhawaraa Komr Algaliein Alkareiba	3	91	Mobile Clinic
March	WadAlashaa Um-malihaa	2	288	Mobile Clinic
April	Dardeg Fadasi alhalimab Maringan Alomal Gazirat Alfeel Shakreen Umsunot	6	34	Home Visit
May	Alzamalek Arkaweet Abd alfadeel Awoodaa AboHaraz garib	11	138	Home Visits Mobile clinic

Month	Operation area	Operation days	Number of beneficiaries	Activity
	Fadasi Alamraab Mayo 40 Aldanagla Alkareiba Alaeribab			
June	Banat Alshukaba Madani	11	1,623	Home Visits Mobile clinic
July	-	0	0	
August	Alkarieba Alhadieba	2	192	Mobile clinics
September	Wad-Shigidi Wad Alfadni Althoura Mobi Fadasi	4	242	Mobile clinics
October	Madani Gezira University Campus	3	51	Home visit Mobile clinic
November	Madani Mayo Altikelat Gazirat Alfeel Aladawia (Madani center) Alhila algadida	6	1,294	Home visits Mobile clinics
December	Algisira Sabreen Alremetab	6	1,149	
	Total days	64 days	Total beneficiaries	5,765 patients

2) Number of patients by kind of service they received

Service type	Number of patients	Number of days
Geriatrics care (home visits to the elderly)	131	19
Home visits for cancer patients	10	3
Blood donation campaigns (for cancer patients)	48 (donors)	2
School Health (test for malaria, free drugs for malaria and health education on prevention of malaria)	55	1
Eye care clinics	2,283	9
Medical fitness check up for pilgrim	1,600	8
Mobile clinics	1,618	21
Screening for Mycetoma (in collaboration with Mycetoma hospital)	20	1
Total	5,765 patients	64 days

3) Patients attributes

Age group	Male	Female	Total
0-4	32	53	85

5-9	39	78	117
10-14	14	73	87
15-19	53	62	115
20-24	99	169	268
25-29	93	132	225
30-34	90	126	216
35-39	103	162	265
40-44	112	212	324
45-49	156	322	478
50-54	81	258	339
55-59	122	366	488
60-64	110	110	220
65+	139	115	254
Total	1243	2238	3481

The data from Alsaiem eye hospital is not included in this age - sex register (No=2,283 patients)

(2) Diagnosis of patients

1) Home visits Report

Diagnosis	female	male	Total
Malaria	1	0	1
Glaucoma	2	1	3
Gallstone	1	1	2
Dementia	1	0	1
Stroke	8	11	19
BPH	0	10	10
Blindness	3	2	5
Cancer	6	4	10
Bone fracture	2	0	2
HTN	41	22	63
DM	14	6	20
others	2	3	5
total	81	60	141

2) Mobile clinics report

Diagnosis	Number of patients	Note
DM	720	The majority of treated patients suffer from chronic diseases like Diabetes and Hypertension this is an important indicator for the comm. diseases in the area
HTN	717	
Arthritis and joints pain	702	
Malaria	470	
Antenatal care	226	
Bronchial Asthma	70	
Chest infection	110	
IHD	43	
Tonsillitis	50	
Renal stone	14	
Skin rash	15	
Conjunctivitis	13	
others	191	
Total	3341	

3) *Alsaiem eye hospital Report*

Diagnosis	Number of patients	Note
Poor vision	896	• 25 patients are registered for cataract sugary • 100 patients are referred to Alsaiem hospital for further assessment • 689 eye glasses distributed to patients for free. • 42 operations (22 minors and 20 major) are done during Alreimitab camp
Allergy	531	
Cataract	105	
Infection	191	
Glaucoma	65	
Squint	66	
Other	293	
Normal	136	
Total	2,283	

(1) Referral cases to distant doctor or hospital

There is no clear referral data in the records the only accurate records was from Alsaiem hospital

Date (day/month)	Diagnosis	Referral to	Reason of referral
16/10/2015	Glaucoma, Diabetes Poor vision	Alsaiem hosp.	• For surgery (25)patients for cataract surgery) • For further assessment (20)
12/11/2015	Poor vision Allergy Squint Conjunctivitis cataract	Alsaiem hosp	• To specialized clinics (Glaucoma and pediatrics clinic) • About 20 patients
13/11/2015	Glaucoma, Diabetes Poor vision	Alsaiem hosp	• 35 patients are referred for further assessment and specialist review
28-31 of dec 2015	Cataract Glaucoma		• 12 pt for cataract surgery at Alsaiem hospital • 25 pt to the specialized clinics (retina and glaucoma clinics)
Total number of referral case			137 cases

2.5. Operation cost

(1) Distance of drive and fuel usage

N/A

(2) Personnel cost

1) Typical operation team composition

Please modify staff list according to your situation

Staff	Number	Average cost/day	Total
Mobile Clinics Team			
Doctor	1-2	200 SDG/day	Depend on the number of working days / month e.g if team operate 12 days /
Laboratory technician	1	150	

Pharmacist	1	150	month the total will be 12,000 SDG/ month
Nurse	1	100	
Administrator	1	150	
Driver	1	100	
IT staff	1	100	
Clerk	1	50	
	7-8	1000 SDG/day	
Home visits Team (GEMP)			
Doctors	1	60 SDG/day	720
Social worker	1	40SDG/day	480
Driver	1	30 SDG/day	360
Total	2	130 SDG/day	1,560

Regarding the NCI and Alsaiem hospital the team operating Dr.Car are hospital employee they are already paid a monthly salary but for the overtime (mobile clinics and house calls) they get incentives(not included in this report we didn't get the amount from the hospital officials)

2) Actual cost for staffing

Date (month)	Number (person-days)			Total cost (SDG)
	Doctor	Medical staff	other	
November	1-2	1-3	1-3	For 42 mobile clinics cost for staffing is estimated to be 42,000 SDG For home visits the estimated cost for the average of three staff for the operated 22 days is 2,860 SDG
December				
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				
Total				**44,860 SDG**

(3) Dosage and other consumables used

1) Monthly

	Medicine / Vaccine	Consumables
November	Drugs and vaccines are excluded from the budget to minimize the running cost	The estimated cost for daily consumable is 500SDG/day for mobile clinics and 100 SDG for home visits the total will be 23,200
December		
January		
February		
March		
April		
May		
June		
July		
August		

September			
October			
November			
December			
Total			

2) Medicine / Vaccine

N/A

3) Other consumables

Consumables	For	Unit price	Total
Gloves	1 box	35	35
Alcohol swap	1 box	10	10
Cotton roll	1 roll	10	7
Safety box	2 box	40=20*2	40
Tongue depressor	1 box	20	20
slides	1 box	8	8
lancet	1 box	9	9
Urine strips	1 box	25	25
Glucose Strips	25	100	100
ICT malaria	1 box	150	150
urine containers	25	12.5=0.5*25	13
Stool containers	25	25	25
Pregnancy test strips	25	25	25
Total			467

(4) Other cost

1) Car maintenance

Month	Maintenance	Cost
November	Actually the only maintenance cars needed was oil change .	it cost 300 SDG for each car /month
December		
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		
Total cost		4,200 SDG / CAR

2) Other (Internet, staff lunch etc..)

N/A

2.6. Self-evaluation of operation

Four parameters should be considered

- **Quantity**: the expected number of beneficiaries was below the estimated numbers. the main reason for that was the budget issues. The other reason is the target for some activities e.g home visits is limited (5-15 /day), this factor was not considered in the original plan.
- **Quality** : GFMP mange to provide different types of health care service to the public through mobile clinics, and reach those who are neglected or cannot be reached by the system through the home care visits and working with other parties. Additional activities were added (e.g joined clinics activities with Makkah eye hospital, home care for cancer patients, blood donation campaigns and screening and care of Mycetoma patients) to help to deliver a more comprehensive health care services by using Dr.car.
- **Collaboration and partnership** : Now we have good partnership with eye hospitals , NCI, and Mycetoma hospital, which provide a training opportunity to our candidates through training courses and field work. (a training course will be held in gezira state to train family medicine residents on palliative care will be coordinated by NCI hosp.)
- **Experience** : operating Dr.Car in gezira state was challenging, being able to overcome the problems we had, planning our activities and reaching the community added a new perspective to our activities.

- The reason for the difference between operation plan and actual operation result.
  - Lack of fund
  - Lack of political support
  - High expectations of the community (free service, free drugs)

3. Issues and Challenges experienced during the of Operation

Challenges	Proposed Solutions	Comments
1. Budget	1. Operating mobile clinics with minimal fees (5 &10 SG)	• Approved by ministry of health gezira state. But fail because of 1. Lack of fund to start operating the mobile clinics until the ticket money is enough to cover the daily expenses. 2. The political and governmental changes in the state.
	2.Conduct mobile clinic activities with coordination with local communities. charity and local organizations and Local health departments	• These organizations have their own fund working with them is very effective, they can provide service to the public or target population for free (through their own connections we can get fuel, free drugs and lab supplies at no cost)
	3.Work in Coordination with Medical schools (Gezira University and other private schools) to participate in training and providing service at rural areas	• Working with other parties was the most reliable solution for operating Dr Car it was proved to be effective especially through a collaboration

	4.Look for other parties to be sponsors of the project e.g telecommunication companies and Health Insurance Fund(By add their logo to sponsor group)	with an existing hospitals (Makkah, Alsaiem and the national cancer institute which have the capacity and man power to fund, run and sponsor such a project.
2.Shortage of Staff	• Recruit doctors to join GFMP and spend their national service period working at the mobile clinics. • Other option is to get the staff locally from each geographic locality (2 doctors, 1 lab technician ,1 pharmacy assistant and 1 nurse)	• They will be nominated and recruited by local health departments. • We overcome this challenge by working with the local staff in the operation area, so the main staff needed in Dr car will be a doctor or a nurse plus the car driver
3.Drugs	There will be small pharmacy at each mobile clinic, clients can buy their own medications from it. The marginal profit we get from selling the drugs will be used to keep the project running	• The only exception is free medications provided by ministry of health for free e.g antimalarial and some drugs for under five children. • There will be no pharmacy in mobile clinics. Except for the free drugs we get from ministry of health otherwise the patients will have to get their medications on their own.
Community expectations	Joined clinics will be the perfect solution where people can get part of the service for free and pay for the rest.	• People expect to get the service for free (consultations, lab tests and medications).

4. Evaluation of Dr. Car Equipment/ Facility

4.1. Dr. Car (the vehicle itself)

Dr car is used in two ways as a clinic by itself. Or if the number of the working team is many part of the team will operate inside Dr car the rest will use a pre existing health facility. So it is used as a clinic and as a mean of transport for the working staff and their equipments.

It is suitable for rural areas where bad roads are big problem especially during rainy season where some of the areas are cutoff because of the rain and getting health service is a real challenge. The only problem with the H1 Ace is that it is not roomy that's why it cannot accommodate a large number of staff and their equipment, and it can stuck easily in bad roads

4.2. Equipment in Dr. Car (Ultrasound, ECG)

- Regarding the ECG device any slight movement from the patient or the vehicle itself affect the reading (reporting irregular heart rhythm).
- The only problem with the ultrasound device was the device resolution in the first model, but the quality of the new equipment is improved. It has a better resolution than the former one.

4.3. PHR System

The PHR is very important for keeping records and track of Dr car operation and if it's used properly in field it is cost effective and can reduce the use of paper work.

- For mass work it will be better for the system to be more simple and focus on the basic Information following the basic clinical format.
- Now we have multiple partners and each provide a different type of service, therefore the system cannot be uniform it should be customized according to scope of service each organization provide.
- There should be a way for the operator to extract the informations and analyze the data if possible

4.3. Other

All the doctors worked in Dr.Car didn't get formal training in Ultrasound use, will it be possible to provide on line training for them, if not at least manuals of basics of ultrasound + atlas (soft copy is preferred)

5. Conclusions and Recommendations

5.1. Usefulness of Dr. Car for family medicine programmes

Since 2010 the main goal of family medicine program was to improve the quality of health care services provided at primary care, GFMP is a training organization, train family physicians through enrolment in two years residency program, the use of Dr car added a new dimension to the program by using the mobile clinics in outreach programs (home visits, mobile clinics at rural areas) and training family medicine residents by participating in Dr car activities.

What make the vehicles so valuable is the modifications in the cars and the equipments which meets the basic needs of the staff and for providing primary care service in and out the city.

Therefore it can be used for (in addition to the a/m activities)

- Vaccinations campaigns
- Screening programs and conducting a disease survey
- Collecting test samples (e.g blood samples, stool samples from school children to test for bilharzias , etc)
- Antenatal care (e.g doing u/s for a group of pregnant women in areas lacking the service)
- Disaster management (by being part of the acute response team)
- School health
- Health education campaigns
- Any outreach program which target the public (or specific target group)

- **Potential of increasing the number of Dr. Car**

  Our experience with dr. car have shown how useful the cars are. There are many health sectors and organizations in Gezira state with a well established programs which have the basic resources but lack the means to conduct their activities, use of Dr. car will be of great value for them this include (but not limited to)

- Vaccination program
- Eye hospitals (Makkah & Alsaiem hospitals)
- Primary health care Directorate
- National Cancer Institute (NCI)
- Gezira University (Students rural area residency program)

All of the above mentioned organizations have a running programs which deliver health service to the public all over gezira state, in regard to the type and importance of health services they provide and the difficulties they have to reach those who live in remote areas I think increasing the number of operating Dr.car is a necessity.

5.2. Collaboration with different operators

One of the new approach in operating Dr.car was to work in collaboration with different organizations, the aim was to minimize the running cost and daily expenses. Fortunate to us a new opportunities revealed itself through this collaboration which include:

- Delivery of a more comprehensive services through working as a one team or two operating teams with the possibility of onsite referrals (GFMP +Makkah eye hospital).Actually there was some cases which are referred to the medical team in the field for review but are not documented in the papers.
- Working with the National Cancer Institute (NCI) was different in a good way which can be summarized into two main points

Training opportunity

- NCI will be responsible for training of the doctors working in the clinic and they will offer a training opportunity for family medicine residents (Batch 3) on palliative care and how to care for cancer patients at home.

Quality of service

- The service is more comprehensive and for the first time a doctor presence is not necessary at every visit, the team include a well-trained nurse, nutritionist, Psychologist and social workers. There is direct Interventions like giving pain medication at home, do wound dressing at home, Psychoanalysis and counseling and social support.
- Alsaiem eye hospital is a government hospital and it is where family medicine residents are getting their training in eye care and they are well known for providing eye care to the public through camps and eye care/ health days for free.

5.3. Cost effectiveness

- Running Dr car is very costly, but the use of Dr car by a well trained personnel is very cost effective and can save both time and money, either directly or indirectly.

Directly

A well trained doctor can treat patients and by using the equipments available in the car can save the cost of additional staff and the time, money and effort spend on referrals.

Indirectly

The use of Dr car for home visits and in mobile clinics in and out the city help to discover, treat and health educate the patients and their carers about a lot of health problems. By doing so a lot of money is saved for the families by getting the service where they live and to the health system and to the government by saving the cost spend on hospitals due to diseases complications and patients overload.

5.4. Improvement

- ✓ Provide BP machine with batteries so it will be easy to use inside the car and for home visits
- ✓ The first ECG model is preferred by most of the doctors
- ✓ Sound insulators AC is better and helps in patients' examination.
- ✓ Change PHR format following the medicals files format and order
- ✓ Weighing Scale for weight and height measurement.
- ✓ Oxygen is needed

5.5. Application for other usage

- ✓ There is a mother and child care initiative program in the state they aim to minimize the mortality rate a among pregnant women, they are training doctors working at primary care (Health Centers and Rural Hospitals) on emergency obstetric care (EmOC). Our residents are included in the training program we plan to train them further on Ultra sound especially for pregnant women (by gathering women needs u/s all on one day and u/s for them) so they are able to do it to pregnant women as part of antenatal care especially in remote areas.
- ✓ Disaster management by being part of the acute response team
- ✓ Dr. Car has a lot of potentials it is use cannot be limited to the above mentioned activities but include any community outreach program and health care services to the public in which the use of Dr.Car is applicable.

添付資料 5:本邦受入活動参加者報告書

Name	ASIM OSMAN MOHAMED
Organization and title	MOH Khartoum state

1. Findings and what learned from the training

(1) Okinawa children's hospital(2/1):

- Well equipped ambulance with qualified paramedical staff.
- Very clean and well organized hospital.
- Cooperative staff.
- Comprehensive care.
- Brief and informative report about perinatal health and medical system in Okinawa prefecture.
- Okinawa perinatal transfer system
- Okinawa health system.
- Good health system and its effect on reduction of the maternal mortality in the last 25 years.
- Population problem in Japan (fewer children and aging society) represents a major part in the health policies.

(2) Learning how to do the maintenance of ECG and Ultrasound- generic (2/2):

- Visit to Tougou medical centre, private clinic with divisions providing primary care to people within a catchment area of about 16 km diameter.
- Good paper-based and computer- based patient's filing system.
- Demonstration of the normal appearance and position of the abdominal organs in the ultrasound.
- Other uses of the ultrasound (e.g.: breast, carotids and the heart).
- Demonstration of the usage of the iris technology in medical records in doctor car.

(3) Lecture on distance medical communication system (2/2):

(not done)

(4) Learning how to do the maintenance of ECG and Ultrasound- Advance (2/3):

- A visit to Okinawa prefectural Chubu hospital.
- Measurement of the abdominal organs in the ultrasound
- A new method of measurement of the internal abdominal bleeding.
- Dissection about textbooks and manuals of ultrasound.

(5) Okinawa clinical simulation centre (2/3):

- Well established and highly equipped centre.
- Presentation on telemedicine activities done through the centre.

(6) Health system and the role of the medical institutions in Japan (2/4):

- A visit to Minami Machida hospital.
- Emergency room system in the hospital.

- Health insurance system in Japan.

(7) Visiting medical examination(home medical care) practice in Japan (2/5):

- Attending of four home visits.
- Members and equipments of the home visit team.
- Records and services.
- Discussion about health system in Japan.

(8) Wrap-up dissection (2/5):

- Doctor car experience in Gezira state.
- What should be done in Khartoum state in the coming period.

2. Ideas about use of Dr. Car

-Replacement of the village mobile clinics working now in Khartoum state providing only preventive services by introducing a doctor, lab technician and pharmacist to provide curative services with fees or under insurance umbrella.
-School health program.
-Homecare visits.
- Screening and research programs.

3. Ideas about use of Ultrasound and ECG:

- In the mobile clinics.
- Remote and rural health centres through family doctors, health visitors and medical assistants.

4. Other

- Good time management
- Comfortable accommodation
- Expectedly kind care.

5. Comments:

- Shortage of time was a problem led to difficulties in makes use of some visit.
- training of the ECG.
- Language barrier represented mainly in the use of the medical records, manuals and textbooks.

Name	RANA SAMIR MAHMOUD MOHAMMED
Organization and Title	FAMILY PHYSICIAN at GFMP

1.Findings and what learned from the training

The bulk of the training was centered around two main areas, practical sessions on how to use the equipments available in Dr.Car and visits to some health facilities and patients at home.

The training was very valuable. What I learned from it can be summarized in tow points:

1. I learned technical skills on proper use of U/S, PHR system and use of iris technology.
2. The visits to the health facilities and patients home was enlightening and I learned a lot on Personal level. I learned the
   - Value of team work
   - Proper and efficient use of technology in medical field is very useful method for medical training
   - The proper use of EMR and the exchange of informations and patients data between the different health department in the system is time saving, save effort and definitely lives.
   - Political support is very valuable for health care system development
   - The high quality of health service provided and the great value of human life was very obvious in each hospital and health facility we visited
   - The home visits service was comprehensive and very effective method to provide care to the elderly.
   - From the wrap-up discussion I learned how to address fund raising issues and how to come up with solution for every challenge we face.

2.Ideas about use of Dr.Car

DR. Car can be used in different ways to improve medical situation in Sudan, which include:

- *Mobile Clinics* to remote areas where basic health services are lacking
- *Home Visits* to the elderly as part of geriatric care programe
- *School health activities* (e.g to do annual checkups for elementary school students , to provide health service and health education sessions to the students in areas where there is existing health problems like e.g bilharzias, Trachoma and Scabies)
- *Health Education Campaign* (to increase public awareness about chronic diseases and common health problems in the area)
- *Disaster management(e.g during floods*)
- Training of Family medicine residents and medical students through active participation on Dr. Car activities especially working in rural areas.

3.Ideas about use of Ultrasound and ECG

The use of ultrasound and ECG is basic and very useful method in detecting a lot of health problems especially if used by a well trained personnel. I believe every primary health care center should have this equipments, and all the health care providers who use it should have proper training and provided with modules or guidelines to guide them in practice.

4.OTHER

During our visit to Okinawa prefectural chubu hospital we met Dr.Matsumoto, a well-known expert on Ultrasound. He wrote a very useful book on how to use ultrasound on clinical diagnosis, unfortunately to us the book was in Japanese, I suggest Since GFMP has an agreement and collaboration with next generation university which provide free on line training to our residents in family medicine to link Dr.Matsumoto with them to make an updated version of his book and to use it as a guideline for ultrasound use not only in gezira but in Sudan as general if he approve and agree to help.

I have already made a contact with Dr. Erica Frank the founder and president of next Generation University and she is ready to help.

5.Comment

The main challenge we had was the time factor and the language barrier in communicating with the experts we met especially in practical sessions like the use of ultrasound. I suggest if you are planning to conduct such training in the future to

- To train the staff on how to use the equipment available in Dr car model locally (e.g on line training + use of modules)
- Allow them to address the difficulties they have using it
- ON practical sessions in the training you can address this practical points again and make sure they use the equipments properly
- Make sure the candidates you select for the training have the basic knowledge on use of ultrasound so that they will be able to benefit from the advanced sessions properly.(through the use of for ex on line training and availability of related guidelines and modules)

添付資料 6:Dr.カー普及用資料

Introduction of Dr. Car and the Results of Activity

Axiohelix. Co. Ltd, Japan

April, 2016

AXIOHELIX

Contents

1. What is Dr. Car?
2. Usefulness of Dr. Car in different cases
3. Result in numbers
4. Possibility of Dr. Car as infrastructure for health service provision
5. Proposal for utilising Dr. Car for public health sector
6. Sales information

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Dr. Car standard composition

Vehicle-2 types

Canter-based: 4WD,
diesel engine

Hi-Ace-based: 4WD,
gasoline engine

Medical Equipment



ECG, Ultrasound, Blood pressure gauge

ICT system

PHR system
with Iris identification

TV conference system

Utility

Power generator, tables, stretchers, cabinets etc.,

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The Vehicle and the interior (Canter)

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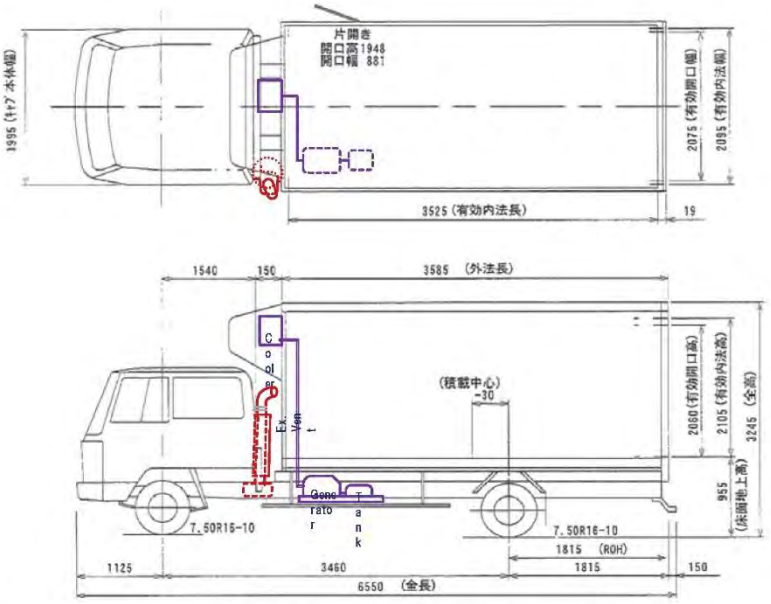
Plan and elevation (Canter)



Base model: FG83PE6WLGS (Mitsubishi Fuso Truck and Bus)

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Medical Equipment (all made in Japan)

- Ultrasound
  - USD 1,500~ per unit
  - Used with USB
  - Connected to tablet PC

- ECG
  - USD 300 ~ per unit
  - Mobile

- Blood pressure gauge

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PHR system

Cloud-based primary health-care record system.
Paper-based patients information can be attached as picture data too.

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Utility and other

- Power generator with inverter
- Air conditioner
- PC and monitor
- Examination chairs, tables, foldable beds, tents
- Cabinets, water server, refrigerator

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2. Usefulness of Dr. Car in different cases

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Pilot Project

- Funded by JICA, it was conducted for verification of effectiveness of Dr. Car for Sudanese health sector from December 2014~December 2015
- Seven Dr. Cars were operated by Sudanese organizations
- Collaboration with local medical providers in Khartoum, Gezira and Kasala state

JICA

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Case 1: Use for School Health

Photo:
KMoH, PHC
School health

"Now we can see more students, and provide advanced check-up on site, where many kids from underprivileged family couldn't go to referral hospitals even we found suspicious cases"

- Service Location: Mayio camp in Khartoum (17km from central Khartoum)
- Beneficiaries: 4,730 students in 60 days (110 students/day)
- Service provided: mass-screening, free medicine, eye check-ups, nutrition, and mental counseling

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Case 2. Specialty medical service

Photo:
Makkah hospital
Eye camps

"With a decent car, we had more patients coming to our service. Dr. Car is very useful especially in remote villages; with Dr. Car, we don't have to worry about electricity that is essential for medical equipment we need."

- Service Location: Many locations in Khartoum, Gezira and Kasala state
- Beneficiaries: 48,667 patients in 162 days (300 patients/day)
- Service provided: mass-screening, free medicine and glasses, on-site surgery, eye check-ups at schools

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Case 3. Household health survey

Photo:
Alzaim Alazhari University

"Dr. Car helps to win the credibility of villagers. It is suitable to train medical students and conduct surveys on sites. We plan to expand this survey model to more medical schools in Sudan."

- Service Location: Alkadora village, Khartoum
- Beneficiaries: 2,877 patients in 40 days (72 patients/day)
- Service provided: Interview related health, Awareness about NCD

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Case 4. Grass-roots and diverse health care service

Photo:
GFMP geriatrics care

"We found use of Dr. car in collaboration with various partners very useful providing PHC care, special care, education and etc.,."

- Service Location: various places in Gezira state
- Beneficiaries: 5,765 patients in 64 days (90 patients/day)
- Service provided: Mobile clinic (school health, blood donation, service to pilgrims, Mycetoma care), Home visits (geriatrics care, terminal patients' care), mobile eye-clinic

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3. Results in numbers

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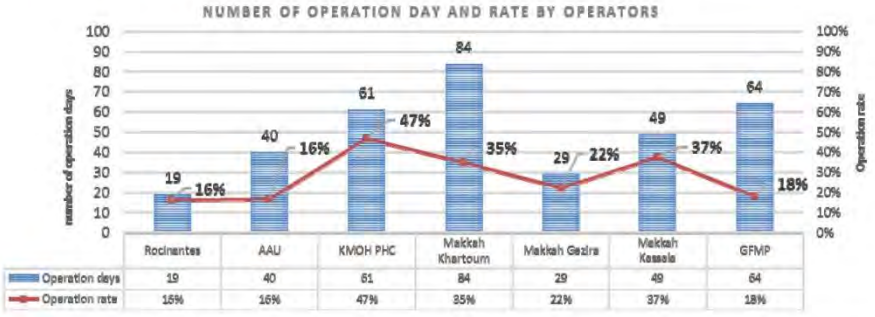
Overall results



Operator	Period	days held	Operation days	Operation rate	beneficiary number	Running distance(km)
Rocinantes	Dec 2014 - May 2015	117	19	16%	1,959	2,738
AAU	Dec. 2014 - Dec. 2015	243	40	16%	2,877	1,164
KMOH PHC	May 2015- Dec. 2015	131	61	47%	4,730	7,662
Makkah Khartoum	Dec. 2014 - Dec. 2015	243	84	35%	23,900	10,448
Makkah Gezira	May 2015- Dec. 2015	131	29	22%	10,614	32,407
Makkah Kassala	May 2015- Dec. 2015	131	49	37%	14,163	3,194
GFMP	2Cars : Dec. 2014 - Dec. 2015 2Cars : Dec 2014 - May 2015	355	64	18%	5,765	N/A
Total/average		1,351	346	26%	64,008	57,613

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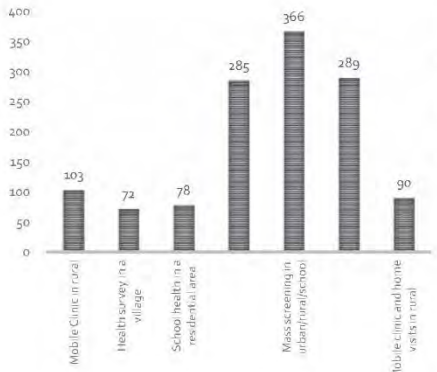
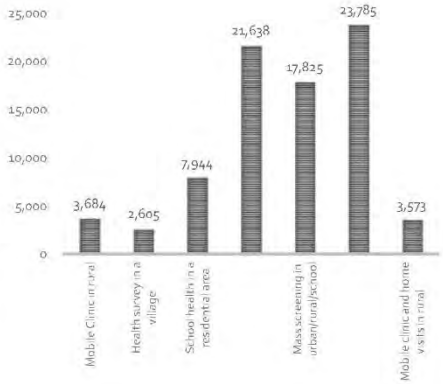
From the results; beneficiary number

Number of patients per day



Projected Number of patients per year



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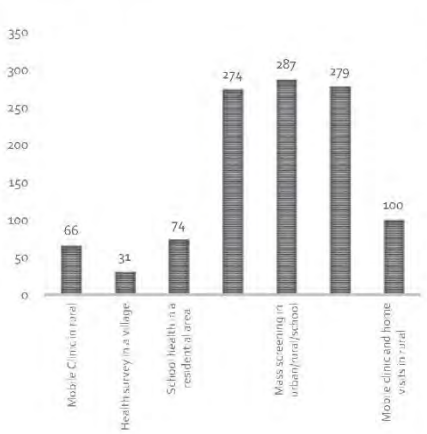
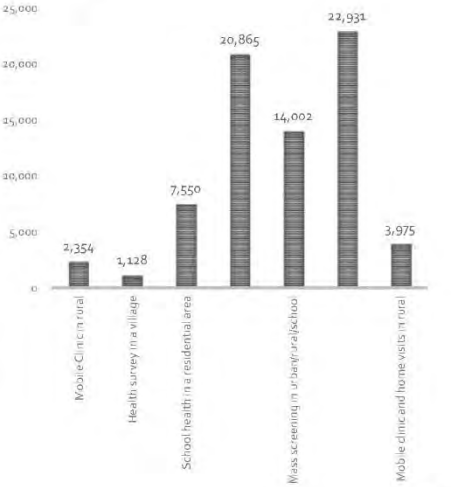
From the results; Operation cost

Operation cost per day (USD)



Projected Operation cost per year (USD)



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Cost composition

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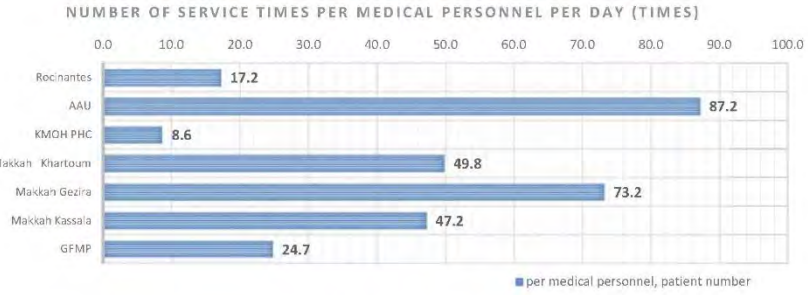
Human resource requirement



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From the results; summary

Use example	Beneficiary number per day	Operation cost per patient (USD)		Operation cost per day (USD)	Service number per medical personnel (patients/man-day)	Medical personnel per 100 patients (man-day/100 patients)
		Not incl. initial cost	Incl. initial cost			
Mobile Clinic in rural (Rocinantes)	103	0.6	3.0	66	17.2	6.8
Health survey in a village (AAU)	72	0.4	3.8	31	87.2	12.7
School health in a residential area (KMoH PHC)	78	1.0	2.0	74	8.6	11.6
Mass screening in urban/rural/school (Makkah hospital)	285	1.0	1.4	274	49.8	3.0
	366	0.8	1.3	287	73.2	2.2
	289	1.0	1.3	279	47.2	3.2
Mobile clinic and home visits in rural (GFMP)	90	1.1	3.6	100	24.7	7.0
Average	185	0.9	1.6	159	34.5	4.5

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4. Possibility of Dr. Car as infrastructure for health service provision

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Main idea

- **Fixed Health facility** is the ultimate and most desirable mode of health service infrastructure for providing access to health service to all the population.
- **Dr. Car** can be only "temporal " infrastructure, but it can move around wherever needed, therefore it's possibility is **"mobile infrastructure"** which can....
  - cover population spread over larger area
  - with limited number of cadres and resource

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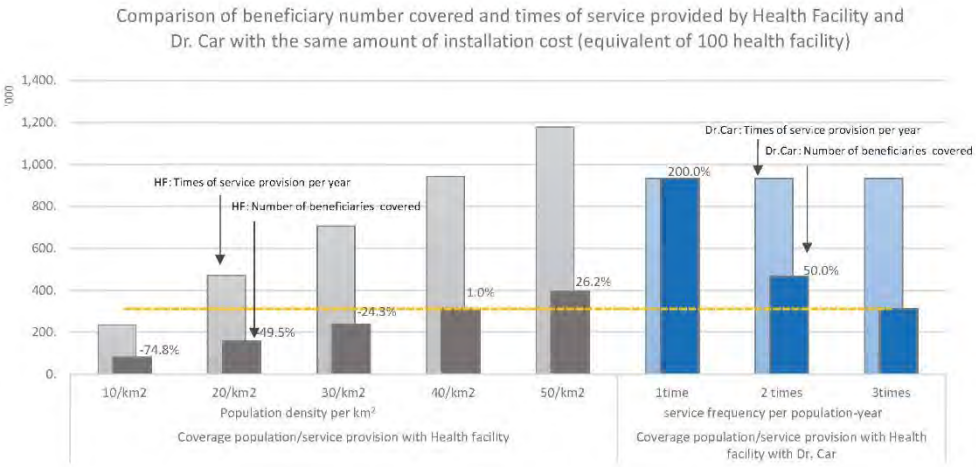
Comparison: What is the potential coverage?



Dr. Car can cover more population and provide more service compared to health facility with same amount of budget when population density is below 40/sqkm.

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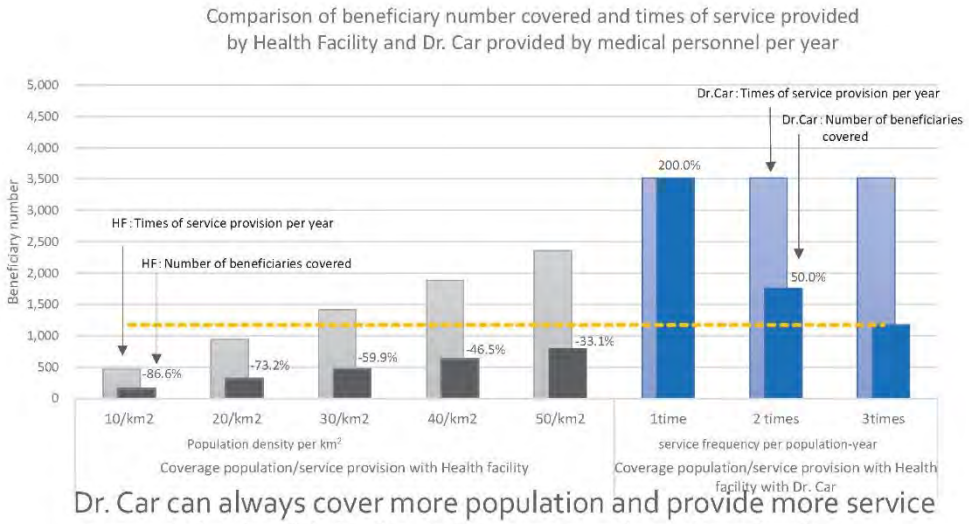
Comparison: What is the efficiency of human resource?



Dr. Car can always cover more population and provide more service compared to health facility with same number of medical personnel.

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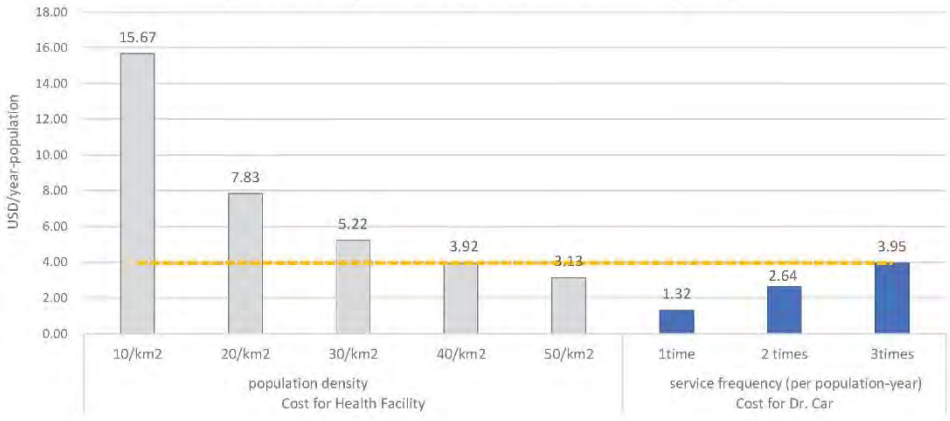
Comparison: What is the cost effectiveness?



Dr. Car will be more cost effective compared to health facility when population density is below 40/sqkm.

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Advantage, Limitation and suitable usage: Dr. Car and Health Facility

	Dr. Car	Health facility
Advantage	• Facility and human resource can by efficiency utilised even in areas with low population density (i.e. <40 people/sqkm) • Can provide health service to areas without infrastructure even temporarily or periodically • Quick response to suddenly arising needs for health service in the event of natural disaster etc. • Can be used for different health service provision by changing the medical equipment	• Can provide permanent service infrastructure
Limitation	• Temporal means of providing service, such as "mobile clinic", but not a permanent means • Requires renewal after usable years of vehicle	• Facility and human resource utilisation is low in low-populated areas • Requires certain time of period for construction
Suitable usage	• Temporal service provision infrastructure as mobile clinic in doctorless villages, disaster affected areas, etc., • Specialised service provision in mobile clinic (eye-care, school health) • Periodical health service, such as mother and child health, vaccination	• Ultimately to-be-achieved means of health provision infrastructure for PHC (i.e. every population has HF in 5km, at least 1 HF for 5,000 population/HF, FMoH)

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5. Proposal for utilising Dr. Car for public health sector

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The need for health facility

- Of 38.4 million population, **15.4% or 5.9million** has no access to health facility (NHSSP II, 2011)
- Assuming the population growth and that the same level of coverage is kept, **7.7 million** people will have no access in 2025.
- Then, **3,700+ more health facilities** should be newly needed to cover the population with no access to health facility

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How to respond to the needs?

- It is targeted that 100% people has access to health facility, i.e. PHC facility, like Family Health Centers
- But the Sudanese population reside in the **large territory in varying density**; only 3.2/sqkm in Northern state to 476.3/sqkm in Khartoum state
- The number of **doctors and medical cadres are limited** too

Using Dr. Car as "mobile clinic" can be a solution

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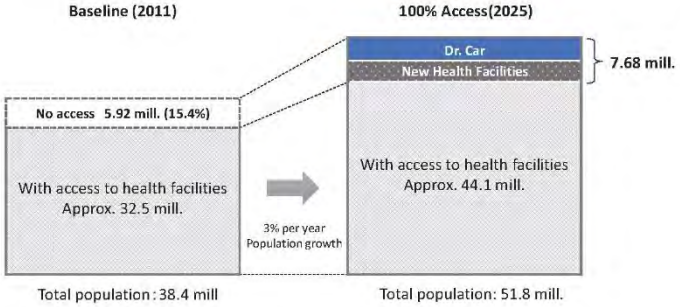
Proposal: using Dr. Car to complement fixed health facilities

- Installation of fixed health facilities is the ultimately desirable mode of health service infrastructure; which will require 3,700 health facilities for 7.7million population
- But with the limitations, Dr. Car can help to achieve higher access rate to health service infrastructure when utilised in combination with health facilities



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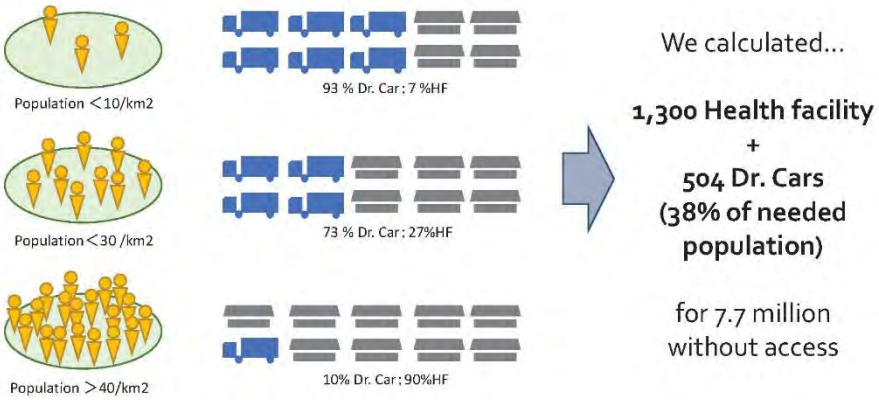
Proposal: using Dr. Car to complement to health facilities

- What about utilising Dr. Car to complement the need, depending on the population density?



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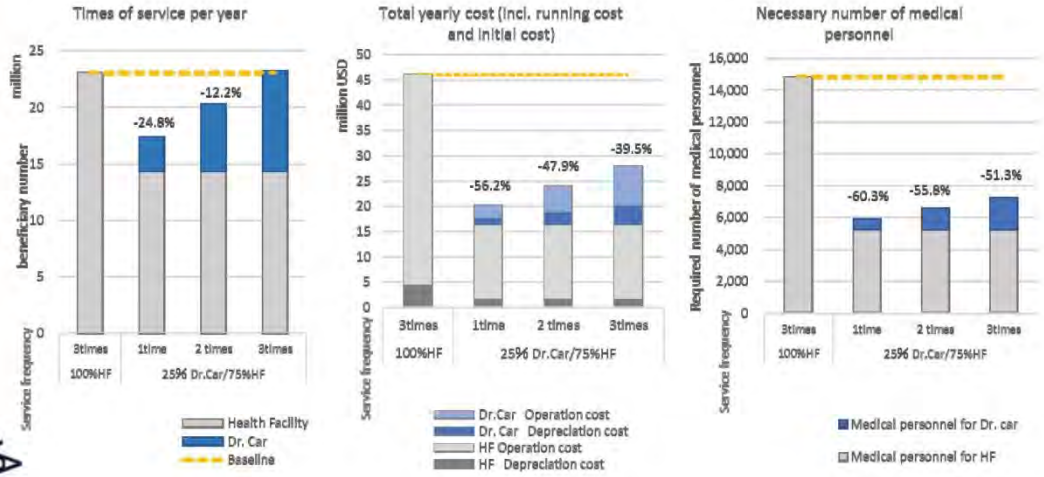
Cost and Benefit



For providing same times of service to 7.7 million people, by using 504 Dr. Car, the cost requirement can be reduced by 51.3% or 17 million USD, and medical personnel demand by 51.3 % or 7,000.

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Other usages

- Temporary clinic or Mobile clinic in camp of migrants, disaster affected areas
- Vaccination car
- Blood donation car
- Maternal and child health care car
- Mobile clinic for nomads

And so on…

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(Reference) condition for Dr. Car/HF comparison

	Dr. Car*1	HF *1	Note
Beneficiary			
Maximum population coverage per 1 unit	5,867	5,000	Assuming average 3 times/year of service frequency for Dr. Car and HF,
Maximum times of service provision per unit	17,600	15,000	Target population should be within 80sqkm for HF, within 7,900 for Dr. car
Initial cost	USD	USD	
Dr. Car/Health facility building	51,000	14,500	Durable years：Dr. Car 7years, HF：25 years
Medical equipment	2,200	2,200	Durable years：Medical equipment 5 years
Ultrasound	1,500	1,500	
ECG	500	500	
Blood Pressure gauge	200	200	
Total cost per unit	**53,200**	**16,700**	
Yearly cost	USD	USD	
Depreciation per year	7,726	1,020	
Human resource cost	12,480	11,280	
Doctor *1	3,600	3,600	USD300/month×1×12 months
Technician *1	3,000	3,000	USD25/month×1×12 months
Nurse *1	1,800	1,800	USD150/month×1×12 months
Medical assistant *2	2,880	2,880	USD120/month×2×12 months
Driver *1	1,200	0	USD100/month×1×12 months
Fuel and maintenance cost	2,994	0	According to pilot project results with Canter based car
Total yearly cost per unit	**23,200**	**12,300**	

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(Reference) Calculation of Dr. Car/HF combination

States	Population		Access to HF		Population to be reached with Dr. Car		Necessary number of Dr. Car by frequency of service			Number of HF
							1 time/year	2 time/year	3 time/year	
	A	B	C	D=A*C	E	F=D*E	I=F*1/17,600	J=F*2/17,600	K=F*3/17,600	
	Projected population in 2025	population density	Population without access to HF	Population without access to HF	percentage of population served with Dr. Car	Number of population served with Dr. Car	Number of Dr. Car	Number of Dr. Car	Number of Dr. Car	
	(persons)	(persons/sqkm)	(%)	(persons)	(%)	(persons)	(Units)	(Units)	(Units)	(Units)
Northern	1,132,059	3.2	0.1%	1,132	94%	1,059	1	1	1	0
River Nile	1,837,729	15.0	2.1%	38,592	84%	32,443	2	4	6	5
Red Sea	1,654,794	7.6	25.5%	421,973	94%	394,868	23	45	68	46
Kassala	3,166,031	86.2	16.0%	506,565	10%	50,656	3	6	9	91
Al Gedarif	3,063,764	40.7	9.7%	297,185	60%	179,727	11	21	31	37
Khartoum	10,546,561	476.3	8.9%	938,644	10%	93,864	6	11	16	169
Al Gezira	6,473,190	277.0	2.0%	129,464	10%	12,946	1	2	3	23
White Nile	3,185,623	104.8	13.9%	442,802	10%	44,280	3	6	8	80
Sinnar	2,506,050	66.2	15.5%	388,438	10%	38,844	3	5	7	70
Blue Nile	1,337,328	29.2	3.6%	48,144	73%	35,093	2	4	6	6
North Kordofan	3,294,121	17.8	20.0%	658,824	84%	553,852	32	63	95	75
South Kordofan	2,599,962	32.7	6.0%	155,998	60%	94,342	6	11	17	24
North Darfur	2,389,017	8.1	22.0%	525,584	94%	491,824	28	56	84	53
West Darfur	2,180,377	27.4	42.3%	922,299	73%	672,280	39	77	115	116
South Darfur	6,394,889	50.2	34.5%	2,206,237	10%	220,624	13	26	38	504
Sudan	**51,761,495**	**28.1**	**15.4%**	**7,681,879**	**38%**	**2,916,704**	**173**	**338**	**504**	**1,299**

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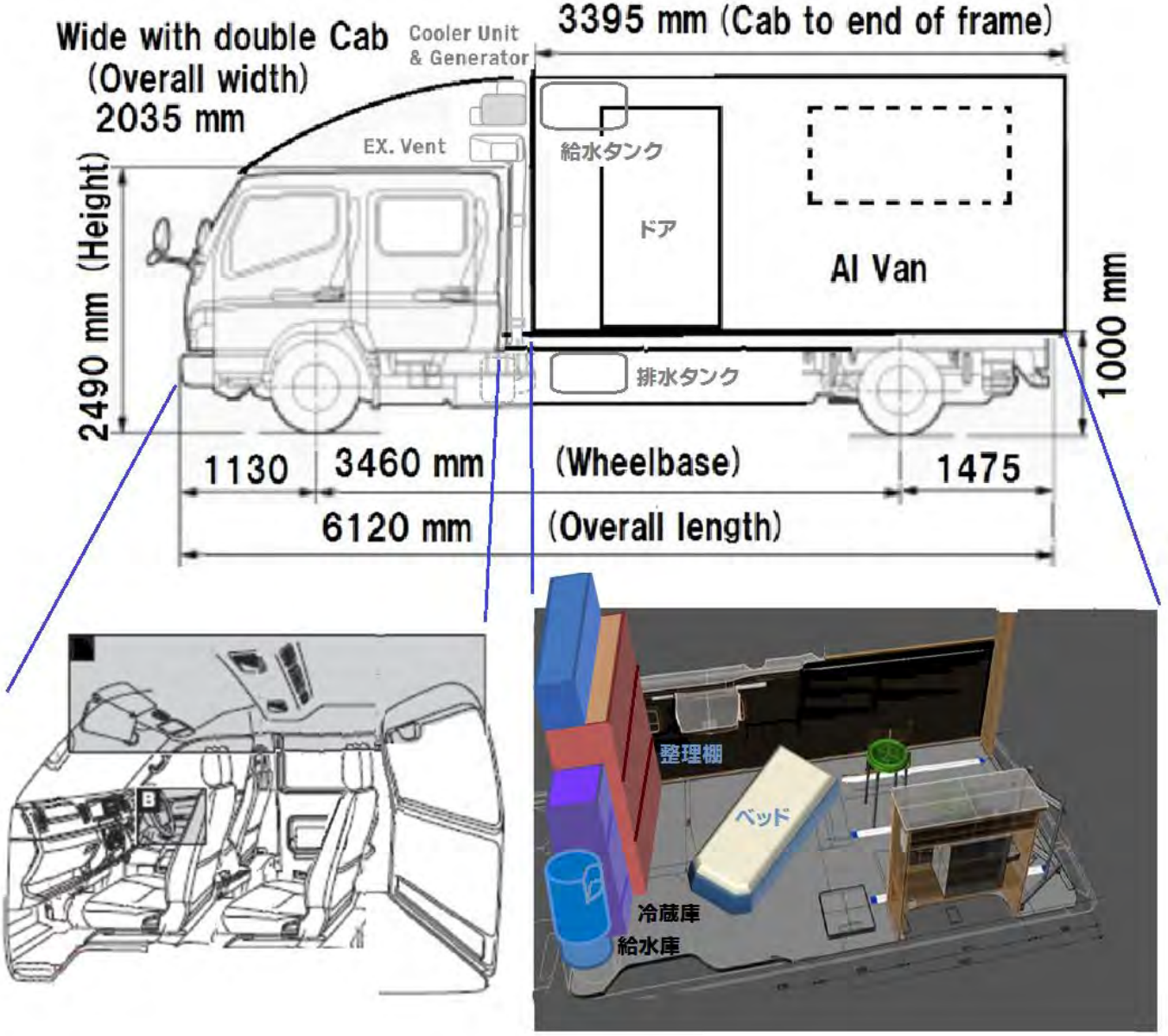
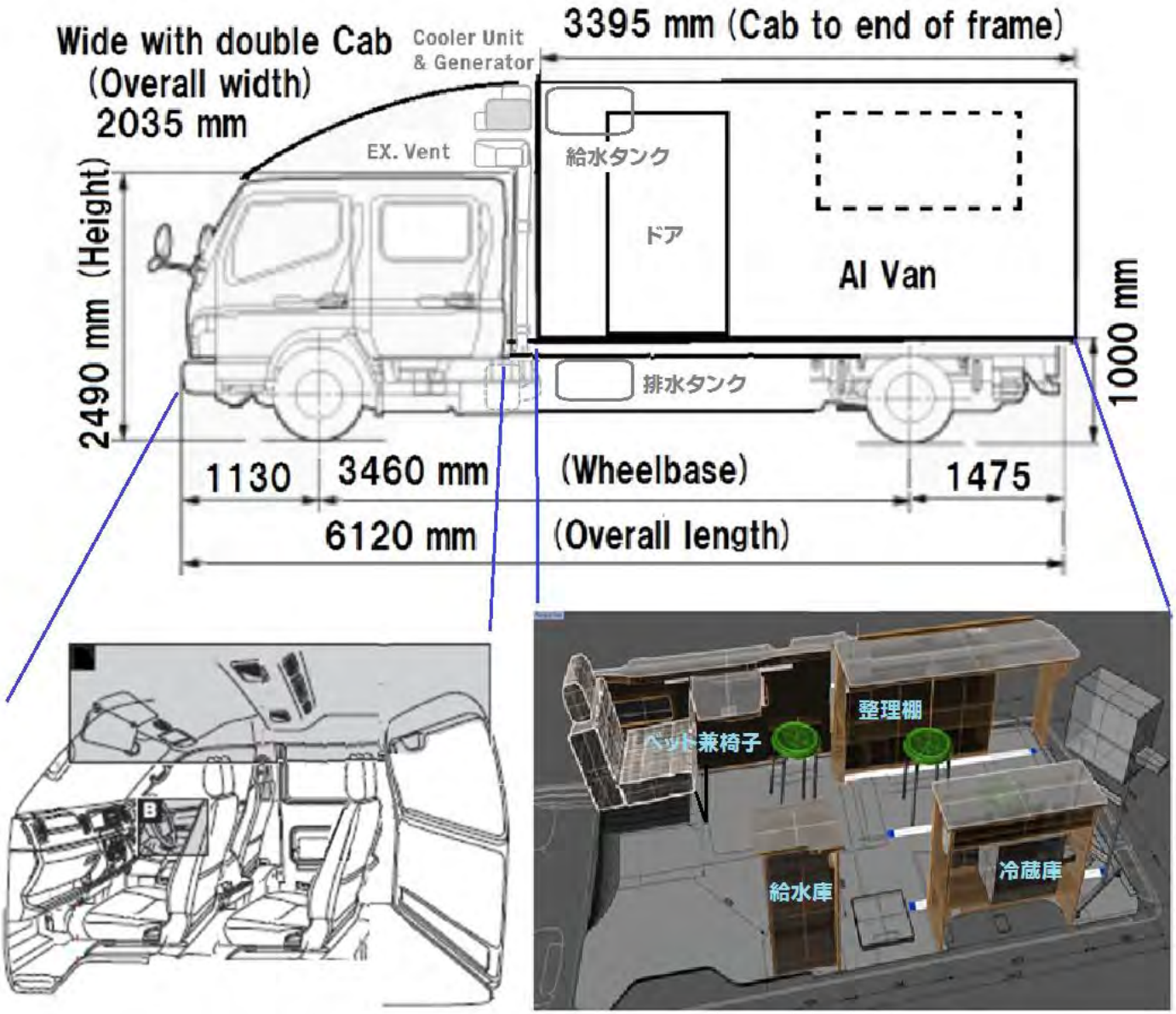
AXIOHELIX

添付資料７:Dr.カー図面　小型トラック（キャンター）ベースモデル

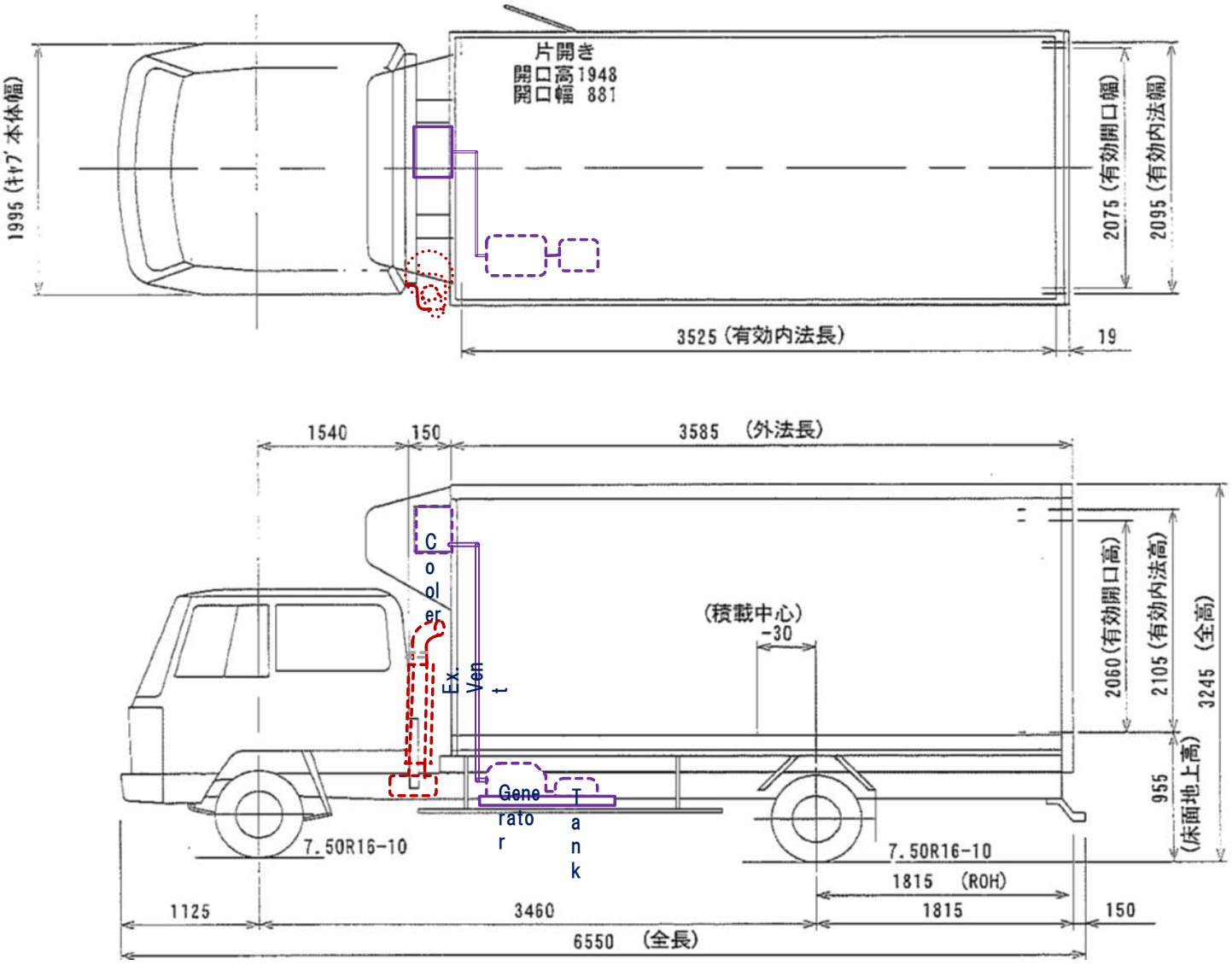
（内装イメージ）改良案１



（内装イメージ）改良案２


Wide with double Cab
(Overall width)
2035 mm
Cooler Unit
& Generator
3395 mm (Cab to end of frame)
EX. Vent
給水タンク
ドア
Al Van
2490 mm (Height)
1000 mm
排水タンク
1130
3460 mm
(Wheelbase)
1475
6120 mm
(Overall length)
整理棚
ベッド兼椅子
給水庫
冷蔵庫

（外装）外装、空調システム改良案



Base model: FG83PE6WLGS (Mitsubishi Fuso Truck and Bus)