1. Executive Summary:

1. A reconnaissance visit was undertaken by Rotarians Himansu Basu and Denis Spiller on behalf of District 1120, to assess the needs and priorities for improvement of maternal and child health in Meghalaya, a state in north-east India. The visit took place from the 16th to the 21st February, 2020 including days of travel. The visit was part funded by a District Grant (DG 1920-19)

2. We met NEIGRIHMS Director, Deputy Director and other officials, Medical and Nursing/Midwifery Staff members Rotarians from the District and local clubs and other stake holders.

3. Reduction of unacceptably high maternal and child health and providing equitable health care are the Government’s and communities’ priorities.

4. We discussed details of our holistic evidence based successful programme, CALMED (https://www.calmedrotary.org) and offered to partner with NEIGRIHMS (Graduate Institution for Medical, Nursing and allied sciences) supported by the Government for implementation of a bespoke programme adapted to local needs (increase in number of skilled health workers capable of managing emergencies in childbirth) and behavioural changes (health improvement /health seeking behaviour) through a Rotary Foundation Global Grant. It has a top down, bottom up women centred approach.

5. Manpower and other Resources for training and quality improvement are readily available from Rotary, as legacies from our previous programmes in Sikkim and Bhuj, India.

2. Background – Meghalaya is a state in north-east of India with a population of 2.9million in 11 Districts. Maternal mortality ratio and Infant mortality ratio in the state continue to fall, but at 230 and 39 -these figures (2014) respectively for preventable deaths are still depressingly high, compared with SDG target (to be reached in 2030) of 70 and 25 respectively. Rotarians in Meghalaya are keen to replicate the successes of CALMED vocational training team-based pilot programmes in Sikkim and Gujarat.

Himansu Basu and Terry Kinsman were invited by local Rotarians and Government of Meghalaya (NHM) to assess the feasibility of implementing a holistic programme in target areas of Meghalaya, based on the CALMED template with evidence-based components. (https://www.calmedrotary.org) in July 2018. This had been reported previously. Subsequently, there were difficulties with the Government (National Health Mission NHM) being able to release from duties, health care professionals to attend training sessions during
the VTT visits. Also, there were no funding source to cover the travel and subsistence expenses of relevant health care staff.

3. **Change of target area** – then followed change of staffing at Government level – NHM Mission Director was replaced by another Officer and it was not possible to implement a joint programme with the degree of collaboration experienced previously in Sikkim and Bhuj (2013 to 2018). So a joint decision of the International (D 1120) and Host Rotary Districts(D 3240) was to scale down the programme covering mostly hospitals and areas adjacent to Shillong, with support from NEIGRIHMS (North East Indira Gandhi Regional Institute for Health and Medical Sciences) - a Government of India undertaking (Ministry of Health and Family Welfare) where the training will take place. A Global Grant Application GG 1988385 was in the final stages of assessment by TRF. Support from State Government Health Department and Health Ministry remained strong. NEIGRIHMS became a strong supporter of the Programme – communication developed between Rotarians in District 1120 (lead Dr. Himansu Basu), District 3240 (lead Dr. Debashish Das) and NEIGRIHMS (lead Mr. David Umdor). A new programme evolved covering a smaller target area, but with enhanced CALMED principle-based programme supported by structured training, leading to capacity development and upskilling of professional healthcare workforce.

4. **Purpose of the Visit**

1. Undertake needs assessment and potential for implementation CALMED template-based programmes, adapted to the local needs and priorities, identified by demographic data received from the now diminished target areas and discussions with stakeholders.

2. Meet Health officials, NGOs, Rotarians and community leaders to agree on a template of action involving vocational training team visits for knowledge and skills training, community awareness programmes, monitoring and evaluation, as needed for reduction of avoidable maternal and new-born mortality in selected target areas of Meghalaya.

3. Visit training venues in NEIGRIHMS and elsewhere, hospitals and hotel for assessment of suitability.

4. Meet programme committee members, Trainees including future Master Trainers and Staff members for discussion with logistical support before, during and after the training visit episodes.

5. **Preparatory Visit** – by Rotarian Dr. Himansu Basu (HB) and Rotarian colleague Denis Spiller (DS) (both from RI District 1120) was organised in February, 2020 supported by a District Grant, to

   a. present CALMED programme details, discuss available demographic and resource data with NEIGRIHMS officials, members of health professionals engaged in care of pregnant women and other stake holders (hospital doctors and nurses)

   b. agree on needs and priorities, and then formulate a suggested a joint action plan based on identified needs and priorities over a 3-year period
c. visit training sites, office space, administrative facilities and intended accommodation, travel and other resources needed.

d. meet community groups, other stakeholders and groups suggested by local Rotary and NEIGHRIHMS

e. establish a communication forum between the international programme committee and the host Committee in Shillong with identified/agreed pathway of communication and sharing of progress reports.

f. prepare a timed resource Rotary led action plan (road map) for joint action following anticipated approval of Rotary Global Grant (GG 1988385) application.

We travelled (by separate airline routes) from London to Guwahati airport (Assam) where we met on the 17th February, 2020. Our host Dr. Debashish Das, DG, Dist. 3240 kindly took care of our transfer to Shillong (Meghalaya) a distance of about 110 Km. We were housed at the Hotel Polo Towers in Shillong until our departure on the 20th February, 2020 (Denis Spiller left on the 21st February, 2020).

Visits

A. A meeting between Rotary members and NEIGHRIHMS (A Medical College - undergraduate and postgraduate institution with associated hospital facilities) took place on the 18th February, 2020 at the Training Centre, NEIGHRIHMS

Present were: Prof. D.M. Thappa (DT), Director, NEIGHRIHMS, Mr. David Umdor (DU), Deputy Director, NEIGHRIHMS, Prof. Dr. Noor Tapno (NT), Medical Superintendent, Himansu Basu, (CALMED Programme Director), Denis Spiller (Past President of Rotary Great Britain and Ireland), Staff members and Master Trainers chosen for proposed CALMED Training.
Notes from the meeting –
Denis Spiller and Himansu Basu met David Umdor at his office and discussed details of CALMED structured training programme and related preparatory work in Meghalaya prior to implementation through VTT visits. The meeting then moved on to a training venue where the trainees (future Master Trainers) met us. There were interactive discussions about the programme with particular emphasis on training details, preparatory logistics, retention of skills and implementation through practice changes.

B. Meeting the Master Trainers - Current visit reaffirmed previous observations that a number of problems associated with high rates of maternal and child mortality in the state including medical/nursing manpower shortage and poor access to hospital/delivery facilities especially from some tribal areas, can be improved through training based on CALMED programme.
Discussion on training models continued - the Master Trainers (9 out of 10 listed) welcomed the opportunity for skills training but felt that the programme should cover all underserved areas within the three-year period of the Grant.
At the meeting with Master Trainers, Director Professor Thappa and Medical Superintendent Prof Noor Tapno indicated the need for capacity development and support for a CALMED structured training programme. HB highlighted the challenges presented by medical staff shortages and uneven distribution of resources. All agreed that a strategic timed and resourced action plan is needed.
The question of Tele Medicine and distance learning to cover staff shortages, was raised.

Innovative Solutions!

HB suggested that mentoring groups supported by tele medicine coverage, may be a good solution to pilot here. Also, there is the possibility of resuscitation training and use of motor bike ambulances in some remote off-road areas. These would be better than the existing ‘white cab’ scheme (different colours here e.g. white / pink) whereby some taxis are designated for the use of carrying patients without serious medical emergencies.

C. Lecture Hall - We also visited the lecture theatres where lectures and breakout sessions would be organised. We visited the Outpatients Department - the areas we visited were well laid out and spacious.
There were potential difficulties identified in staging breakout sessions. The Lecture Halls were tiered with fixed chairs, making these unsuitable for locating a hospital bed or rearranging chairs. DS thought that the spacious entrance hall before the Lecture Hall could house three breakout sessions.
Government (NHM) officials were away from Shillong on account of Corona Virus emergencies - so the issue of target area cover and number of basic trainees to be trained (goal approximately 40) could not be discussed. This in turn depends on the timing and availability of the training venue in NEIGRIHMS.
DS visited examination halls. The hospital is extremely well equipped with training rooms and lecture theatres. It is essential that enough space is found for three interdependent working groups to train including tables and a hospital bed for use with the simulators. Initially we looked at an open area outside the lecture theatres that could be partitioned to make it semiprivate, however, it would be open to passing pedestrians too, which was not suitable. There is however, the large examination hall spread over two levels was found to be suitable in which the three spaces could be established in privacy from the hospital general traffic. The following photographs illustrate these rooms which have now been secured for our use in the second half of September 2020. We need to ensure availability of internet, projection facilities and mini lecturn in these rooms.
Missed items from visit and discussion- due to time constraints, we were not able to see suitable office accommodation and staff areas which will be needed during the training days (office space, reception, registration area, internet cover, copying, scanning facilities and support by two full-time admin. staff)- these will be topics for ongoing discussion between the UK and Meghalaya teams.

D. Engagement with Shillong Rotarians. We attended Club meetings of RC Orchid City Shillong (Tuesday) and Shillong Heritage (Wednesday – a new Club). It is suggested that the three Rotary Clubs in Shillong remain engaged with this programme throughout its life cycle. Rotarian members could be invited to join the relevant Committees (please see below) and take action to correct infrastructure deficiencies. (see below) – there was agreement with suggestion from DD and DU.
E. Potential for help from the Rotary Clubs - Infrastructure deficiencies contribute to maternal and perinatal deaths too – these can be improved by joint action initiated and supported by the three Rotary Clubs.

Lack of mobile phone network coverage is a big barrier to putting digital technology (Tele Medicine etc.) at the community level especially outside the towns. As well as limited access to phone network and internet they have a problem uploading data – need to capture data and upload periodically when next within network coverage. They are looking at the use of ‘tablet’ technology for data collection and handling.

Transport can be difficult especially in the remote hilly areas. The woman or baby is often already in poor state when mother gets to hospital – cases of misdirection prior to treatment rather than her arriving at the treatment point where she needs to be.

M.E.R.N. (Maternity Emergency Response Network)-Training in resuscitation at the community level is a necessity (HB)– please visit https://www.calmedrotary.org/papers-resources/

Action - NEIGRIHMS authorities and Rotarians agree to work together towards a timed resourced implementation plan based on CALMED to improve maternal and child health in underserved areas of Meghalaya, through capacity development in resources including manpower and improved health seeking behaviour. Support from State Government remains important.
Opportunities for new partnership and collaboration are evolving

F. Indian Institute of Public Health (IIPH) Shillong

Through lack of time, HB met Dr. Rajiv Sarkar (RS) from IIPH and DS visited Genes Das Hospital and met a few staff members.

HB was not able to meet Prof Sandra Albert – head of the department- she was away. HB met Dr Rajiv Sarkar (RS), a Faculty member. HB discussed major public health issues affecting maternal and child mortality in Meghalaya. Problems persist with nearly 50 per cent home births by untrained TBAs, inadequate birth registration or death notification. A comprehensive approach covering demand and supply side with capacity development is needed.

RS outlined their work with community empowerment and health issues, specially related to raising awareness through work of ASHAs and community women’s health groups (Mahila Samaj Arogya Sameeti – MSAS) and Village Health Sanitation Nutrition Committee. In view of lesser engagement with NHM, HB suggested collaboration with IIPH and possibly the Tele Medicine Team, amendments to our community awareness training programme, with introduction of M.E.R.N (Maternity Emergency Response Network) programme and enhanced monitoring and evaluation.

A comprehensive coverage of villages (Sub Centres, PHC, CHC and FRU coverage) in a 3-year cycle with seamless transition of training into practice and recording/evaluation of that change is possible with help and guidance from IIPH.

If the programme is implemented, we believe that the IIPH would be a good partner and collaborator in areas of studying morbidity pattern, community mobilisation, health processes/infrastructure and data handling. IIPH would be a good support to measure outcome from the VTT improvement of behavioural changes and changes (improvements) in practice.

Action Ongoing discussions with IIPH and collaborative action will be helpful.

IN SITU TRAINING!

G. Hospitals- Ganesh Das Hospital, Children’s Hospital –DS visited this district Hospital with a high case load – it is a First Referral Unit and receives many special cases from other District hospitals – over 10,000 deliveries a year. The hospital is understaffed in relation to medical and nursing/midwifery staffing. Community health facilities are understaffed too. DS met Dr. Mrinal Barthakur, a retired senior staff member of the Hospital. This hospital is over 100 years old, and in need of some restoration, but the staff are very proud of it. It has a dedicated skills lab where they have some small spaces for training equipped with some simulators and other equipment. Dr Barthakur would make a very good team member, specially linking the Skills Lab for IN-situ training and allied programmes. Below are some photographs of the skills lab which sadly does not offer the space or convenience suitable for our purposes. But engagement with the staff and shared deployment of facilities will add strength to the
CALMED structured training programme. Action is needed, specially to enhance In-Situ Training Programmes.
REPORT ON A RECONNAISSANCE VISIT TO MEGHALAYA FOR PLANNING A MATERNAL AND CHILD MORTALITY REDUCTION PROGRAMME

In Meghalaya, rural areas have PHCs – which should be (but not always) staffed by a doctor. Then there are Sub Centres staffed by Auxiliary nurse and / or ANM (Auxiliary Nurse Midwife). Mothers go to PHC for ante natal care. It would be a challenging task to establish links and care pathways for maternity related emergencies covering large population areas, but a start covering a population of 0.5 to 1.5 million can be a practical option.

Children’s Hospital – The team met Dr. Das all throughout the visit and was briefed about support for structured training from members of staff. HB also met Ms Lorina Richmond, a dedicated member of the Staff who assured us of her and team’s support specially in community awareness programmes and acting as a liaison between the Meghalaya team and VTT members, specially during the preparatory phase. Lorina Richmond would join a small team of other specialists (Drs Rosina Ksoo, Wansalan Shullai, and Star Pala) from Shillong to enhance preparatory work for training through support of logistics, equipment procurement and technical expertise transfer. HB will support and guide this important group facilitating a seamless transition from strategy to action.

H. Tele Medicine Department – We visited the Tele Medicine Dept and met Head of the Department Prof Prithwis Bhattacharya, Dr. Jaseng Sangma (Tura Civil Hospital, West Garo Hills), Dr. Newstar Syiemiong (Nongpoh Civil Hospital), Hemajit Singh, Regional Resource Centre Consultant, and Sameer Sewa (Network Administrator).
Prof Bhattacharya spoke enthusiastically about incorporating telemedicine and mentoring framework linking a care pathway from the subcentre level to the District General Hospital level (First Referral Unit – FRU). They have plans to use distance training (and learning) as well as delivery of medicines and blood using medium range drones. We agreed to continue discussions about possible collaboration and programme enhancement using digital technology and distance learning. It would also be important to measure the output and outcome of distance learning based on Tele Medicine.

I. Hotel Accommodation -

**Common requirements:** We do need to have Wi-Fi internet facilities for team members, and some photocopy facilities in whichever hotel is chosen. A reasonable restaurant in the hotel for both breakfast and dinner is essential. It is also helpful to have public areas (meeting rooms) where the team can meet as a whole – they need to sit and relax, and discuss the day’s activities together. The distance from the training facilities which are chosen should also be considered – we need to get the whole team to the training venue for an early start each day.

We looked at 2 Hotels recommended by previous report.

Polo Towers Hotel

Pinewood Hotel

**Our recommendation:**

Our clear choice would be for the Polo Towers

Polo Towers Hotel annexe, adjacent to the main hotel, have enough rooms together to accommodate all eight of us. We were looking at the mid-price range of rooms (super deluxe, semi deluxe and deluxe rooms).

The big plus of the Pinewood Hotel was space to stroll and a lovely outlook in a high area of town with a look out over the land below. But in winter especially in the evening, the need to walk through grounds which were uneven in places and sometimes unlit, posed problems to return to bedrooms from common areas such as dining or meeting.

Polo Towers offered all facilities of a business hotel as a package with a central location. There is a meeting room and service is good without being exemplary.

We did not enquire too closely about price, we only judged based on quality and facilities. We felt that Polo Towers offers a convenient location for the training days, whereas Pinewood would be good for the days of rest.

Shillong Rotarians would be better placed to assess the financial viability of these choices, to confirm availability and to drive the best deal – there may well be other hotels which we did not see which could be worthy of consideration.

6. **Suggested Follow on Action Plan** – on an agreed timeframe

1. Programme Leadership Team selection in District 3240 and 1120.
3. Selection of Target areas with coverage for Master Trainers, Trainees and ASHA Training -numbers
4. Selection of Vocational Training Team (VTT) on the assumption that skills shortage is a priority – 3-year plan
5. Considering additional module – Tele Medicine, MERN, decision at top level
6. Implementation of 3-year framework of Programme coverage of the target area- selection of mentoring groups

7. ASSESSMENT OF NEEDS AND PRIORITIES IN MEGHALAYA – REDUCING DELAYS IN ACCESSING EMERGENCY CARE

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<tr>
<th>Indicators</th>
<th>Problems</th>
<th>Solutions</th>
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<tr>
<td>First delay in care - in the community</td>
<td>Lack of awareness in the community, of maternity and child care matters, and family planning</td>
<td>Training/Empowerment programme of community women’s groups through pictorial charts, videos with subtitles in local language -helped by ASHAs</td>
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<tr>
<td>Second delay in care - transport</td>
<td>Lack of emergency transport</td>
<td>Low cost ambulance – E-ranger bike (where ordinary ambulance service does not exist) Maternity Emergency Response Network (MERN) – resuscitation /stabilisation prior to fast track ambulance transfer “Golden hour” concept</td>
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<tr>
<td>Second delay in care - transport</td>
<td>Lack of understanding re: basic resuscitation facilities at community/primary care level, before ambulance transfer</td>
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<td>Third delay in care- in hospital facilities</td>
<td>Lack of trained professionals in hospital</td>
<td>BEmONC (WHO) training, through training the trainer model, aiming an extended skills trained workforce; Regular retraining, Improved availability/supervision by senior doctors Telemedicine /Telehealth</td>
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<td>Third delay in care- in hospital facilities</td>
<td>Lack of supervision on site by trained seniors.</td>
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<tr>
<td>Dysfunctional hospital/Clinic</td>
<td>Lack of water, Lack of electricity, Lack of medicines, lack of functioning equipment</td>
<td>Infrastructure restoration, Obstetric Quality Assurance and correction</td>
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<td>Lack of governance, discipline, accountability, persistent failure of programmes</td>
<td>Preventable maternal and perinatal deaths</td>
<td>Training /implementation of MPDSR in partnership with Government and hospital providers, correction of deficiencies -regular feed back</td>
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<td>Inequities in outcome in individual areas</td>
<td>Complacency/ignorance /lack of good data</td>
<td>Partnership with govt., regular review, MCH programme manager -remunerated with remit for universal health coverage</td>
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8. Suggested Team Work in Shillong -

A suggested teamwork based on our previous contacts and those we met at this visit could be as follows – the group need to act in collaboration with District 1120 team and modify working arrangements as needed. Additional members can be co-opted.

Team Leader: DG Rtn. Dr. Debashish Das

Deputy Leader: President David Umdor

Project Management: Rtn. Ashim Das (Rtd. DHS) and Rtn. Bedarius Shylla

Finance: Rtn. Amit Sharma

Hotel / Training accommodation / Transport: Rtn. Ajay Gupta and Rtn. Vishal Amarnani

Local Cttee Foundation Chair: Rtn. Sarad Bawri

Printing and Media: Rtn. Sunil Arora and Ms. Lorina Richmond

CALMED Programme Liaison: Lorina Richmond, Dr. Star Pala, Dr. Rosina Ksoo, Dr. Wansalan Karu Shullai

9. Ongoing Communications and joint action plan – the visit and meetings were helpful, but more work needed to be done, to meet the anticipated date of first VTT visit in September or November 2020. We attach an action strategy and plan (Appendix) – these should be topics of ongoing discussion and agreement.

10. Concluding Remarks – The planned programme must overcome many challenges including lack of staffing at many levels, difficult transport and communication. But there is strong support from NEIGRIHMS, great teamwork amongst Rotarians and opportunities to bring digital technology and public health expertise of a high order – we anticipate that the programme will be successful in achieving its objectives and possibly bring in new standards in Rotary Vocational Training Team programmes

11. Acknowledgements – We are grateful to NEIGRIHMS Director Prof D. Thappa, DG Don Soppitt, DRFC Ray Dixon, DG Dr. Debashish Das, President David Umdor, Rotarian Tetsuzo Fukuda (District 2760), Ms. Lorina Richmond, Dr. Star Pala, CALMED advisers, Collaborators, and many Rotarians in District 3240 and 1120, Rotary Clubs of Shillong, Orchid City Shillong, and Shillong Heritage, Prof Prithwis Bhattacharya, Senior leaders of Department of Tele Medicine, NEIGRIHMS, Dr. Mrinal Barthakur, Ganes Das Hospital, Prof Sandra Albert, Dr. Rajiv Sarkar, Indian Institute of Public Health and all others mentioned in this report. The visit was part funded by a Rotary 1120 District Grant (2019-20). We are grateful to District Governor and DRFC of District 1120, 3240, 1145 and 2760 for funding support for GG 1988385. We acknowledge the assistance and support from our programme collaborators.
REPORT ON A RECONNAISSANCE VISIT TO MEGHALAYA FOR PLANNING A MATERNAL AND CHILD MORTALITY REDUCTION PROGRAMME

CALMED PROGRAMME COLLABORATORS

https://www.calmedrotary.org

PDG Dr. Himansu Basu
Calmed Founder/Programme Director
Past Rotary GBI President Denis Spiller
RI District 1120
March 2020