Findings from the Enhancing Quality iCCM through Proprietary and Patent Medical Vendors (PPMV) and Partnerships (EQuiPP) Approach

“Can PPMVs provide quality health services in the communities where they serve?”

Michel Pacqué, Child Health Team Lead and Kate Gilroy, Senior Child Health and MMEL Technical Advisor on behalf of the Nigeria MNCH Program Child Health Team.
Outline

1. Introduction
2. Formative findings
3. EQuiPP Implementation
4. Quality of care and lessons learned
I. Introduction
Nigeria Context

- High under-five mortality
- Malaria, diarrhea and pneumonia account for large proportion of post-neonatal under-five mortality
- Inequitable coverage between rich and poor
PPMVs in Nigeria are…..

- Frequently first source for child care services and medicines
- Organized under associations such as NAPPMED
- Regulated and monitored by Pharmaceutical Council of Nigeria (PCN)
- Located in rural areas (although less so in hard-to-reach areas)
Key Project Focus

Quality Healthcare Services + Sustainability

Through collaboration with FMOH, SMOH, SPHCDA, PCN and NAPPMED to implement and test a sustainable approach to supporting PPMVs in providing high quality iCCM services to sick children.

Photo: Karen Kasmauski/MCSP
The EQuiPP Approach

Scope of Implementation:

862 PPMVs trained (total)

Kogi State
- 2 LGAs
- 366 PPMVs
- 282 Outlets

Ebonyi State
- 2 LGAs
- 496 PPMVs
- 400 Outlets

Measurement and Evaluation Throughout:
- Formative assessments
- Routine monitoring
- Documentation of promising approaches and challenges
- Assessing quality of care of PPMV practices

Engagement, coordination and advocacy
- National and state policies
- Financial & technical support
- Political will

Sustainable Systems

Quality of PPMV services
- Effective treatment of illnesses provided to sick children according to national guidelines and referral of malnutrition & severe cases

Use of PPMV services (care-seeking)

Effective coverage for treatment of simple pneumonia, malaria & diarrhea and referral of malnutrition and severe illness (danger signs)

Improved health & decrease in under-five mortality & morbidity

Partnerships: SMOH, PCN, SPHCDA, NAPPMED, CBOs

HR: PPMV recruitment & registration
Capacity development & training
Supply chain management
Quality assurance/supervision
Monitoring and data
Demand generation and social mobilization

Kogi State
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- 366 PPMVs
- 282 Outlets

Ebonyi State
- 2 LGAs
- 496 PPMVs
- 400 Outlets

Measurement and Evaluation Throughout:
- Formative assessments
- Routine monitoring
- Documentation of promising approaches and challenges
- Assessing quality of care of PPMV practices
Implementation and Study Areas

4 LGAs in Kogi and Ebonyi State

Kogi State
Idah
Okehi

Ebonyi State
Izzi
Ohaozara
How is EQuiPP Different from other PPMV Work?

• Focuses on **all iCCM conditions** (malaria, diarrhea, pneumonia and referral for danger signs)
• Co-designed with broad **partnerships** across private and public sector (SMOH, SPHCDA, PCN, NAPPMED, PPMVs)
• Built on **sustainable systems** (e.g. non-incentivized, peer supervision, non-subsidized drug supply through links to wholesalers & manufacturers)
• PPMV **data** flows into public system (LGA M&E office to DHIS2 community module, when ready) and to NAPPMED
• Training and support provided to **all eligible PPMVs** in target LGAs
• Robust assessment conducted of **quality of services** provided by PPMVs
EQuiPP Studies and Assessments

Oct-Dec 2017

Knowledge, practices and coverage (KPC) household survey

Jan-Mar 2018

Qualitative care seeking study

CARE SEEKING FORMATIVE STUDIES

Apr-Jun 2018

Baseline quality of care study with PPMVs

Midline quality of care study with PPMVs

Jul-Sep 2018

Review meeting

Review meeting

Oct-Dec 2018

Endline quality of care study with PPMVs

Jan-Dec 2019

Ongoing process documentation and quarterly after-action review meetings

IMPLEMENTATION OF THE EQuiPP APPROACH FOR iCCM WITH PPMVs

Stakeholder meetings

Success stories

Technical briefs

Conferences

Manuscript

DISSEMINATION
2. Formative Findings
Formative KPC and Care-Seeking Studies

1. To generate evidence about **levels & patterns of care-seeking** for child illness
2. To better understand **drivers & barriers to seeking care** for child illness

**Household survey:** 1,600 caregivers. Household description (assets), gender, perceptions of PPMVs, illness management and care seeking.

**Care seeking assessment:**
In-depth interviews with parents of sick children, focus group discussions with community leaders, in-depth interviews with service providers.
**Quantitative Findings: Care-Seeking for Any Illness (fever, diarrhea, cough, pneumonia)**

<table>
<thead>
<tr>
<th></th>
<th>Ebonyi</th>
<th>Kogi</th>
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<tbody>
<tr>
<td></td>
<td>N=788</td>
<td>N=795</td>
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Sought care/treatment for any illness:

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<tbody>
<tr>
<td></td>
<td>89.3%</td>
<td>83.9%</td>
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Sought care/treatment from:

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<thead>
<tr>
<th></th>
<th>Ebonyi</th>
<th>Kogi</th>
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<tr>
<td></td>
<td>2.4%</td>
<td>25%</td>
</tr>
<tr>
<td>Hospital</td>
<td></td>
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</tr>
<tr>
<td>Health Center</td>
<td>22.1%</td>
<td>27.2%</td>
</tr>
<tr>
<td>Clinic</td>
<td>4.1%</td>
<td>11.6%</td>
</tr>
<tr>
<td>PPMV</td>
<td>65.1%</td>
<td>33.2%</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>2%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Traditional Practitioner</td>
<td>6.9%</td>
<td>4.9%</td>
</tr>
<tr>
<td>Other</td>
<td>2.5%</td>
<td>2.5%</td>
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</table>

**Quantitative Findings: Patterns of Care-Seeking: 1st Source of Care**

**Ebonyi State**

**Kogi State**
## Quantitative Findings: Factors Associated with Care-Seeking

**Characteristics of Female Caregivers Seeking Care**

<table>
<thead>
<tr>
<th>Education</th>
<th>Ebonyi State (n=788)</th>
<th>Kogi State (n=795)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Any care sought</td>
<td>Sought care from health provider</td>
</tr>
<tr>
<td>None</td>
<td>80.2%</td>
<td>11.3%</td>
</tr>
<tr>
<td>Primary</td>
<td>89.6%</td>
<td>21.2%</td>
</tr>
<tr>
<td>Secondary +</td>
<td>91.6%</td>
<td>36.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wealth quintile</th>
<th>Ebonyi State (n=788)</th>
<th>Kogi State (n=795)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest</td>
<td>83.5%</td>
<td>62.0%</td>
</tr>
<tr>
<td>Second</td>
<td>89.2%</td>
<td>68.4%</td>
</tr>
<tr>
<td>Middle</td>
<td>94.3%</td>
<td>66.9%</td>
</tr>
<tr>
<td>Fourth</td>
<td>89.9%</td>
<td>64.6%</td>
</tr>
<tr>
<td>Highest</td>
<td>89.8%</td>
<td>63.7%</td>
</tr>
</tbody>
</table>
Qualitative Findings: Patterns of Care-Seeking

- Families recognize most illness symptoms, but don’t always understand medical causes and attribute illness to spiritual causes or teething.
- Families lack terms for illness severity.
- Traditional medicine, like herbs, is often used before seeking care outside the home.
- Social and gender norms influence household decision-making on when and where to seek care.

PATHWAYS TO SEEKING CARE FOR A SICK CHILD

When a mother has a sick child she might first try herbal remedies picked from her garden, and if that doesn’t work then she will go to the drug shop (PPMV) for medicine because it’s cheaper. If the illness is more serious, or the child doesn’t get better she will go to the health center or hospital.
3. Implementation of EQuiPP

Photo credit: Karen Kasmauski/MCSP. Wandi Village, Nigeria 2018
Health Workforce: PPMV Recruitment and Registration

**EQuiPP Approach – the what**

- Coordinate with NAPPMED, PCN, SMOH for PPMV registration & selection
- Select PPMVs who are committed, literate, over 18, registered with PCN, have a permanent structure, reside in the community and be willing to document activities

**Implementation – the how**

- Mapping of PPMVs using PCN and NAPPMED lists and snowball technique; final list validated by PCN
- Orientations with PPMVs to encourage registration
- PCN attended NAPPMED meetings and set-up registration desk at the LGA level in Kogi
Health Workforce: PPMV Recruitment and Registration

Learning

• Importance of PCN registration recognized by PPMVs
• Difficult to track PPMV registration within PCN structures
• On-going tension between PCN & NAPPMED in Kogi is challenge
• Payment of PCN fees is difficult for some PPMVs ($50 new registration - $30 renewal - $15 continuing education)
### Health Workforce: Training of PPMVs in iCCM

#### EQuiPP Approach
- Used the FMOH iCCM curriculum and PCN continuing education
- Added Logistics Management Information System training module (based on PCN)
- Added module on community health management information system (CHMIS)

#### Implementation
- FMOH iCCM master trainers trained State trainers
- State trainers trained LGA trainers (PCN, tutors from schools of health technology and nursing) - non-residential
- 30 PPMVs per class and 5 trainers per class - 6 full training days in communities close to PPMVs
- Clinical practices at PHC and hospital
Health Workforce: Training of PPMVs in iCCM

**Results**

**Ebonyi**
- 472 iCCM certified PPMVs at 400 outlets

**Kogi**
- 361 iCCM certified PPMVs at 282 outlets

**Learning**

- Low literacy PPMVs can be asked to get someone else from their shop => another PPMV from shop certified
- Overall a large percent of trained PPMVs were certified (95% in Ebonyi & 98% in Kogi)
- In some training sessions were in local languages (especially to describe illness/symptom terminology)
- More emphasis/time should be placed on data management (LMIS & CHMIS) in training
Quality Assurance and Supervision

**EQuiPP Approach**

- Introduce mixed supervision model: NAPPMED peer-supervisors (private) paired with PHC (govt) supervisors
  - Each supervisory pair responsible for 10 PPMVs
- Monthly supervision visit to improve quality (complete supervision checklist) and ensure service provision data reporting

**Implementation**

- iCCM trainers identified candidates for PPMV peer supervisors based on iCCM performance during training
  - Some PPMVs agreed, some did not agree
- PHC supervisors selected from 1 PHC per ward (trained in IMCI)
  - 1 day orientation on iCCM
- PHC and PPMV supervisors trained in iCCM supervision and data management (together in residence) for 3 days
- **NO INCENTIVES GIVEN**
Quality Assurance and Supervision

• Stakeholders found supervision model acceptable
  • PCN strongly recommends that community pharmacists should be included in the model
  • FMOH/SMOH and SPHCDA supportive of PHC supervision of PPMV/private sector

• Lower levels of supervision than planned in the model (**No incentives were given**)  
  • Solutions proposed:  
    • Explore sustainable incentives (e.g. from drug revolving fund or RBF for PHC supervision)
    • Increase number of supervisors (in hard to supervise areas – e.g. more than 10 PPMVs in area and/or long distances between PPMVs) However, sometimes only one health worker per PHC, etc.
    • Executive secretary of SPHCDA Ebonyi asked for names of PHC health workers not supervising
    • Explore mentoring at NAPPMED meeting
    • Supervision added as quarterly task to PCN-led PPMV committee at state level
**Medicines and Health Supplies**

**EQuiPP Approach**

- PCN’s approved NEML for PPMVs (including Amox-DT) disseminated*
- Linkages between local manufacturers, wholesalers, distributors and PPMVs facilitated to ensure access to affordable, quality medical supplies/drugs
- Improve inventory management through tools developed based on PCN materials

**Implementation**

- Identify local manufacturers and distributors with high quality product (pre-qualifications) and encourage them to participate in NAPPMED meetings
- Continuous engagement with these manufacturers, distributors, CP and stakeholders (to ensure product availability)
  - Wholesalers sent distributors to NAPPMED meetings to sell
- PPMVs trained on and provided with inventory management tools (tally cards, purchase booklets, daily sales registers)
- Stock-keeping included in the supervision checklist

*MCSP collaborated with the FMoH and NEML advisory committee to facilitate inclusion of Amox-DT on 6th edition of NEML*
Medicines and Health Supplies

- Increase affordability and availability of high quality medicines
  - Ebonyi NAPPMED provided low-interest loans to members to buy commodities
  - mRDTs are imported and expensive
    - Negotiate prices with importers; encourage local production; explore other qualified brands of RDTs
  - Amox-DT and ACTs are relatively expensive
    - Scale up iCCM => increase demand may drive cost reduction

- Inventory management practices still need improvement
  - Inventory tools could be distributed at PCN registration
  - Training and supervision should emphasize practical data use and how the tools can improve business (and profits)
Information Systems

EQuiPP Approach

• Use FMOH iCCM data tools
• Build on data structure and flow developed for iCCM/CHMIS in both states
  • PPMV -> PHC -> LGA -> State -> National (HMIS data only)
• Leverage NAPPMED meetings for data validation and reporting
• Feedback through existing structures & iCCM supervisors’ meeting
• Pilot FMOH CHMIS tools on DHIS2 platform

Implementation

• iCCM & CHMIS tools printed in triplicate (1 for PPMV, 1 for NAPPMED/MCSP, and 1 for PHC)
• PPMVs trained on data management at iCCM training
• iCCM supervisors trained on data management
• Data summaries collected during supervision visits and NAPPMED meetings
• Review overall implementation (and results) and discuss data quality at iCCM supervisors’ meetings, child health technical working group and core technical committee meetings
• Community-based information can be collected with relatively high rates of reporting
  • Sustaining reporting without MCSP support will increase burden on LGA M&E Officer

• iCCM and CHMIS tools
  • PPMVs had challenges completing sections of the CHMIS that were not directly iCCM related (e.g. human resources) ➔ Mid-course correction to amend CHMIS tool
  • Age grouping in the iCCM daily register does not exactly conform with those in the CHMIS (for instance the age category 0-28 days is not in the daily CORPS register but captured on the CHMIS MSF)

• PPMVs did not use the data at their level
Referral

• There is a gap for referrals in cases where secondary health facilities are further away than PHCs – (when/if there is a need to skip a level in the referral process)
  • Consider two kinds of referrals (one for illnesses that PHCs can manage and others that require higher levels)
  • Incorporating the private hospitals as referral centers by training them on IMCI
4. Quality of care findings and lessons learned
Findings: Proportion of PPMVs with Stock on Day of Visit (Kogi and Ebonyi states)

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Baseline Audit (March 2018)</th>
<th>Endline Audit (November 2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORS</td>
<td>38%</td>
<td>87%</td>
</tr>
<tr>
<td>Zinc</td>
<td>41%</td>
<td>93%</td>
</tr>
<tr>
<td>AmoxDT</td>
<td>2%</td>
<td>93%</td>
</tr>
<tr>
<td>ACT</td>
<td>73%</td>
<td>93%</td>
</tr>
<tr>
<td>mRDT</td>
<td>30%</td>
<td>83%</td>
</tr>
</tbody>
</table>

ORS: Oral Rehydration Solution; Amox DT: Amoxicillin DT; ACT: Artemisinin Combination Therapy (for malaria); RDT: Rapid Diagnostic Test (for malaria)
Findings from QoC Assessments: Classification
Quality of assessment for sick children U5 at 176 PPMVs before, during and after EQuiPP implementation (MCSP Nigeria program data from 88 PPMVs in Kogi and Ebonyi states)

Proportion of children whose classification is consistent with the assessment of the PPMV

Proportion of sick children assessed for immunization status

Proportion of sick children assessed for malnutrition

Proportion of sick children assessed for physical danger signs

Proportion of children assessed for presence of fast breathing through counting of respiratory rates

Proportion of children checked for all general danger signs (unable to drink/BF, vomits everything, had convulsions/lethargy)
Findings from QoC Assessments: Treatment & Counseling
Quality of treatment and counseling for sick children U5 at 176 PPMVs before, during and after EQuiPP implementation (MCSP Nigeria program data from 88 PPMVs in Kogi and Ebonyi states)

EBONYI STATE

Proportion of children with diarrhea whose caretakers are advised to give extra fluids and continue feeding
- Baseline (Mar. 2018): 27.3%
- Midline (Jul. 2018): 50.0%
- Endline (Nov. 2018): 20.2%

Proportion of children who need Amox DT, ORS or zinc, and/or antimalarial who receive the correct first dose in presence of PPMV
- Baseline (Mar. 2018): 12.0%
- Midline (Jul. 2018): 68.0%
- Endline (Nov. 2018): 13.8%

Proportion of sick children treated and/or referred correctly for all illness classifications
- Baseline (Mar. 2018): 61.2%
- Midline (Jul. 2018): 57.0%
- Endline (Nov. 2018): 20.8%

Proportion of children with fever who were tested using a RDT
- Baseline (Mar. 2018): 81.4%
- Midline (Jul. 2018): 0.0%
- Endline (Nov. 2018): 27.3%

Proportion of children with cough and fast breathing who are prescribed Amox DT correctly
- Baseline (Mar. 2018): 58.6%
- Midline (Jul. 2018): 0.0%
- Endline (Nov. 2018): 73.3%

KOGI STATE

Proportion of children without cough and fast breathing who leave the PPMV without having received an antibiotic
- Baseline (Mar. 2018): 73.3%
- Midline (Jul. 2018): 64.0%
- Endline (Nov. 2018): 31.4%

Proportion of children who need Amox DT, ORS or zinc, and/or antimalarial who receive the correct first dose in presence of PPMV
- Baseline (Mar. 2018): 4.5%
- Midline (Jul. 2018): 74.7%
- Endline (Nov. 2018): 1.8%

Proportion of sick children treated and/or referred correctly for all illness classifications
- Baseline (Mar. 2018): 81.0%
- Midline (Jul. 2018): 10.8%
- Endline (Nov. 2018): 90.0%

Proportion of children with fever who were tested using a RDT
- Baseline (Mar. 2018): 0.0%
- Midline (Jul. 2018): 0.0%
- Endline (Nov. 2018): 73.3%

Findings from QoC Assessments: Treatment & Counseling
Quality of treatment and counseling for sick children U5 at 176 PPMVs before, during and after EQuiPP implementation (MCSP Nigeria program data from 88 PPMVs in Kogi and Ebonyi states)
End of Program Handover Workshop
### Service Delivery

#### Kogi: Next steps towards improvement and sustainability

<table>
<thead>
<tr>
<th>Gap</th>
<th>Actions</th>
<th>Timelines</th>
<th>Responsible persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor service delivery at community level</td>
<td><strong>Scale –up to 4 more LGAs</strong></td>
<td>2019</td>
<td>State and Local Govt, NAPPMED and PCN</td>
</tr>
<tr>
<td>Lack of budgetary allocation for iCCM in 2019</td>
<td>Leverage on IMCI budget allocation for 2019 iCCM activities</td>
<td>2019</td>
<td>SMoH and SPHCDA</td>
</tr>
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</table>

#### Ebonyi: Next steps towards improvement and sustainability

<table>
<thead>
<tr>
<th>Gaps Identified</th>
<th>Actions</th>
<th>Timelines</th>
<th>Responsible Persons</th>
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<tbody>
<tr>
<td>Non-Institutionalization of EQuiPP Approach</td>
<td>Institutionalize EQuiPP approach in the SMoH and capture it in SPHCDA Budget</td>
<td>July 2019</td>
<td>ES SPHCDA</td>
</tr>
<tr>
<td>Funding gap for the sustainability and scale of the EQuiPP approach due exit of MCSP</td>
<td>Advocacy to other Implementing partners in the State to key into the EQuiPP Approach</td>
<td>Jan 2019</td>
<td>Director Public Health</td>
</tr>
</tbody>
</table>
Not Planned for “Success”

• Local manufacturer gets involved from the training period
  • One local manufacturer’s (NEMEL) head is son of a PPMV went to pharmacy school “paid for by the income of a PPMV shop” and is now a champion and supporter of PPMVs
  • NEMEL supported iCCM training in 1 LGA
  • NEMEL has approval from PCN registrar to scale-up iCCM (still need support from FMoH)
Overall Challenges

• Short time frame
• No population based endline household survey
• Delays in approval by USAID, but gave us time to:
  • Have full team on board and more time for design
  • For adding design meeting with stakeholders about what exists and how to build on it
  • No seed stock worked in favor of sustainability oriented thinking/planning
• Tension between regulators and PPMVs
Lessons Learned

• EQuiPP-trained PPMVs showed promise for:
  • Providing quality child health services
  • Conducting routine iCCM data reporting using the National HMIS grid
• The joint supervision model can be supported and made to work.
• Effective stakeholders involvement (including NAPPMED, SPHCDA, LGA and State IMCI and HMIS unit) is key for sustainability of service delivery and iCCM data reporting through PPMVs
Questions?
For more information, please visit
www.mcsprogram.org

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